HDAVS Motorized Vari-focal IR Waterproof Fixed Camera

User’s Manual

Version 1.0.0

Table of Contents

Welcome

Thank you for purchasing our HDAVS camera!

This user’s manual is designed to be a reference tool for your system.

Please read the following safeguard and warnings carefully before you use this series product!

Please keep this user’s manual well for future reference!

Important Safeguards and Warnings

1．Electrical safety

All installation and operation here should conform to your local electrical safety codes.
The power shall conform to the requirement in the SELV (Safety Extra Low Voltage) and the Limited power source is rated 12V DC in the IEC60950-1.
We assume no liability or responsibility for all the fires or electrical shock caused by improper handling or installation.

2．Transportation security

Heavy stress, violent vibration or water splash are not allowed during transportation, storage and installation.

3．Installation

Do not apply power to the camera before completing installation.
Please install the proper power cut-off device during the installation connection.
Always follow the instruction guide the manufacturer recommended.
If this product is installed in the ceiling, please make sure the installation position can sustain the min 50N.

4．Qualified engineers needed

All the examination and repair work should be done by the qualified service engineers.
We are not liable for any problems caused by unauthorized modifications or attempted repair.

5．Environment

This series HDAVS camera should be installed in a cool, dry place away from direct sunlight or strong light, inflammable, explosive substances and etc.
This series camera shall work on the specified working temperature. Please keep it away from the electromagnetic radiation object and environment.
Please make sure the CMOS component is out of the radiation of the laser beam device. Otherwise it may result in CMOS optical component damage.
Please keep the sound ventilation.
Do not allow the water and other liquid falling into the camera.

6. Accessories

Be sure to use all the accessories recommended by manufacturer.
Before installation, please open the package and check all the components are included.
Contact your local retailer ASAP if something is broken in your package.

7. Daily Maintenance

Please shut down the device and then unplug the power cable before you begin daily maintenance work.

Use the dry soft cloth to clean the device. If there is too much dust, please use the water to dilute the mild detergent first and then use it to clean the device. Finally use the dry cloth to clean the device.

Please put the dustproof cap to protect the CMOS component when you do not use the camera.

Applicable model

This manual can be applied to the following model:

HD2-B27-M

1 General Introduction

1.1 Overview

This series HDAVS camera conforms to the HDAVS standard. It supports video signal high-speed long distance transmission without any delay. It can be controlled by the DVR conforming to the HDAVS.

1.2 Features

- High-performance CMOS image sensor, megapixel definition.
- Restore clear and vivid video.
- Default motorized vari-focal lens, support coaxial control lens zoom and focus.
- Support external audio source input.
- Support 1 channel external alarm signal input, 1 channel alarm output.
- Support audio, control and video coaxial transmission.
- For 720P series, support 75-3 coaxial cable transmission without any loss. The distance is over 500m. For 1080P series, support 75-3 coaxial cable transmission without any loss. The distance is over 300m. High speed, long distance real-time transmission.
- Support HDAVSHD and analog SD switch output.
- Support high performance 3D noise reduction.
- Support intelligent IR function, max IR distance 50m.
- Support ICR switch to realize surveillance both in the daytime and at night.
- Support OSD (on-screen display) menu to adjust parameters.
- Support privacy tampering, AWB, AE, auto aperture and other functions.
- Support DC12V/AC24V power supplying.
- Support IP66 protection level.
- Can be applied to finance, supermarket, telecommunication, government, school, airport, factory, hotel and other places which need HD video.

2 Device Framework

2.1 Framework and Dimension

Please refer to the figure2-1 for dimension information. The unit is mm.

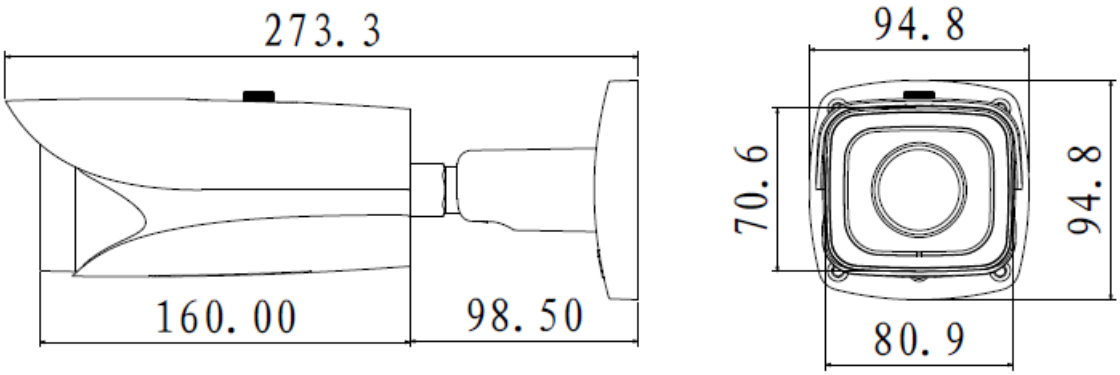

Figure 2-1

2.2 Structure Component

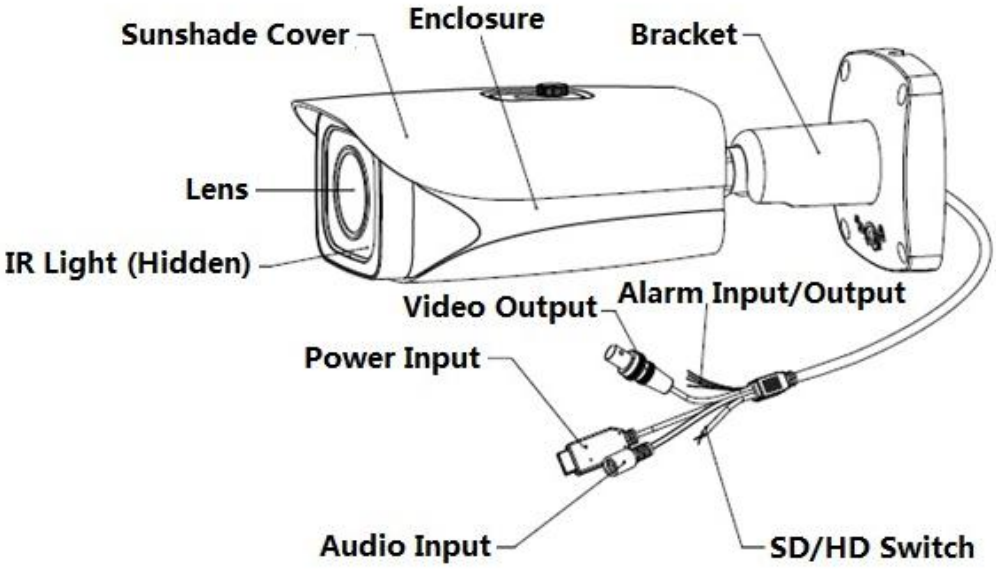

Figure 2-2

See Sheet 2-1 for more details about ports.

SN	Cable Color	Port Name	Function
1	Green	ALARM_NO	On-off alarm output end.
2	Orange	ALARM_NC	On-off alarm output end.
3	Red	ALARM_IN	Alarm signal input end.
4	Black	ALARM_GND	Alarm signal input GND.
5	Brown, White	SD/HD Switch Control Cable	It can realize the switch from HD video output to SD video output when it is short circuit SD/HD switch control cable. On the contrary, the open circuit control cable will switch back to HD video output.
6	/	Audio Input Port	External Audio Source Input. Note: You need to set the camera's "Audio Mode" as "External Audio" when using external audio source input.
7	/	Video Output Port	In the HD output mode, it sends video stream according to HDAVS standard, and supports the transmission of audio stream and control data stream at the same time, and the back-end needs to connect to HCVR to control; it transmits video signal via CVBS signal in SD output mode.
8	/	Power Input Port	Input DC12V/AC 24V.

Sheet 2-1

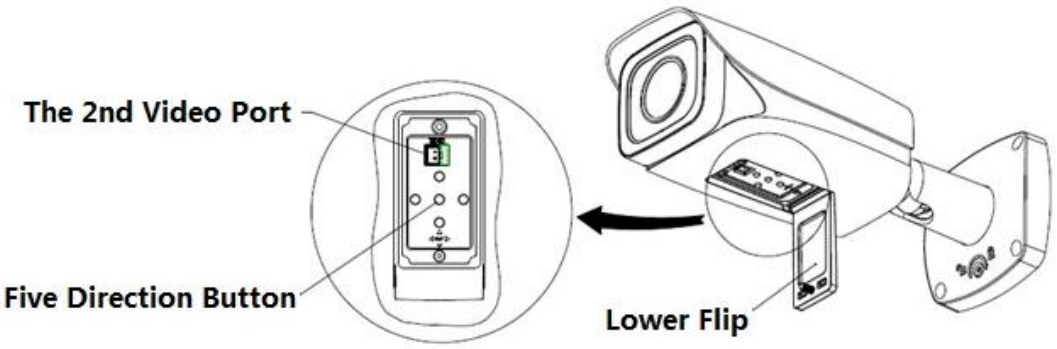

Figure 2-3

2.3 Lens Zoom Adjustment

Users can coaxial control lens zoom and focus via back-end HCVR device, it can also be realized by pressing up, down, left and right buttons, pressing up button means focus +, pressing down button means focus -, pressing left button means zoom out, pressing right button means zoom in.

Note:

Users need to operate again after exiting OSD menu when left and right buttons failed to realize zoom function during OSD menu operation.

3 Installation

Important

- **Before the installation, please make sure the installation surface can sustain at least 3X weight of the bracket and the camera.**

Step 1 Select installation mode, install camera bracket according to the exact installation mode.
Note:
First please pull the cable through exit hole on the installation surface or the bracket before installing the bracket.

Users need to install expansion bolt first if the surface is cement (need to stick an installation position map on the wall first to keep accordance between the installation hole of the expansion bolt and the bracket), then install the bracket, as shown in Figure 3-1.

Users can skip the first step if the surface is wooden, and use self-tapping screws to install bracket directly.

Step 2 Install the camera on the wall by using self-tapping screws.

Step 3 Unscrew the adjusting screws by using an L-shaped wrench in the accessories bag, adjust the camera to a proper location which needs monitoring, then secure the adjusting screws and fix the camera, as shown in Figure 3-1 (A and B).

Step 4 Connect the video output port of device cable to the back-end HCVR device, and connect the power port to power supply.

Step 5 Adjust the lens zoom and focus to make video clear on the back-end HCVR device (it also can be done via five direction buttons). So far, camera installation is completed.

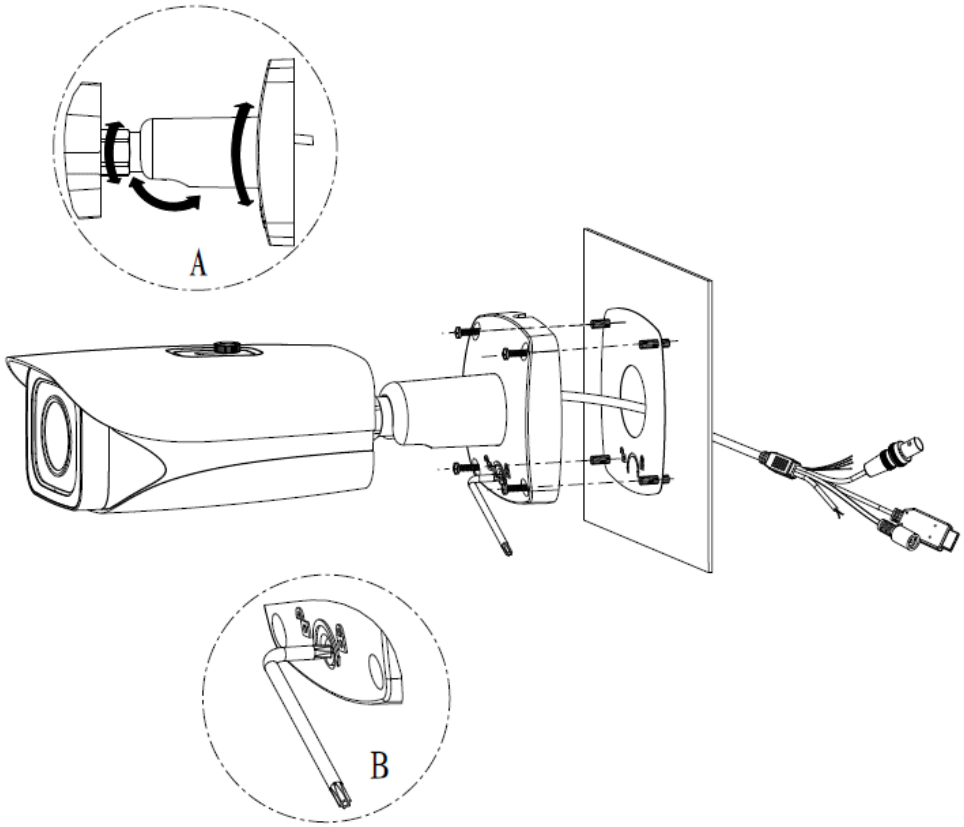

Figure 3-1

4 Menu

4.1 HDAVS Local Settings

This series HDAVS camera can adjust OSD menu via coaxial control.

4.1.1 Control Coaxial Device

After connected the camera to the HCVR, from Main Menu-> System ->PTZ, you need to select the channel number to access and set control mode as HDAVS and the protocol as DH-SD1. Click “save” button to save current setup. See Figure 4-1.

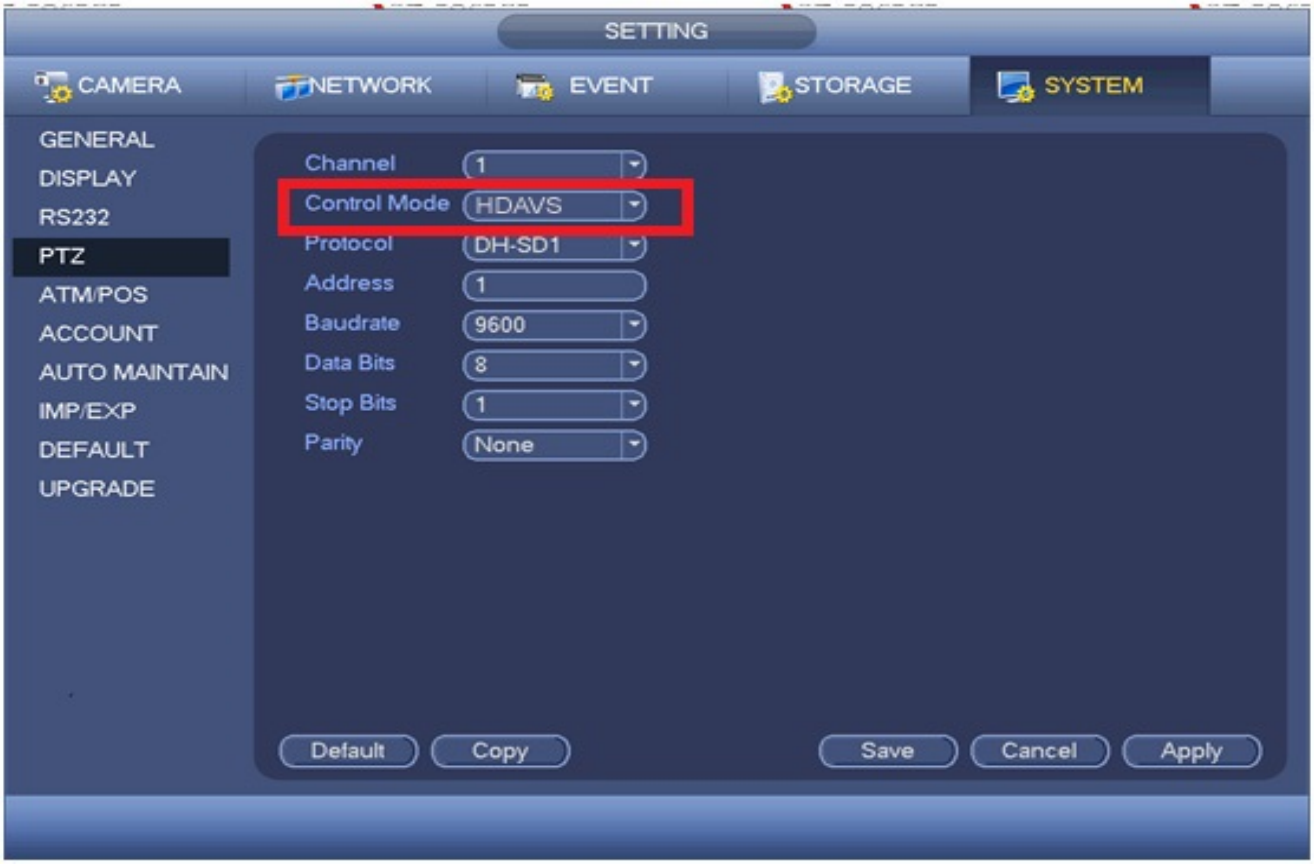

Figure 4-1

4.1.2 Set Audio Coax

From “Main Menu > Setting > Camera > Encode > Encode”, you need to set “Audio Format” as “G711a” and the “Audio Source” as “HDAVS”. See Figure 4-2 for more details.

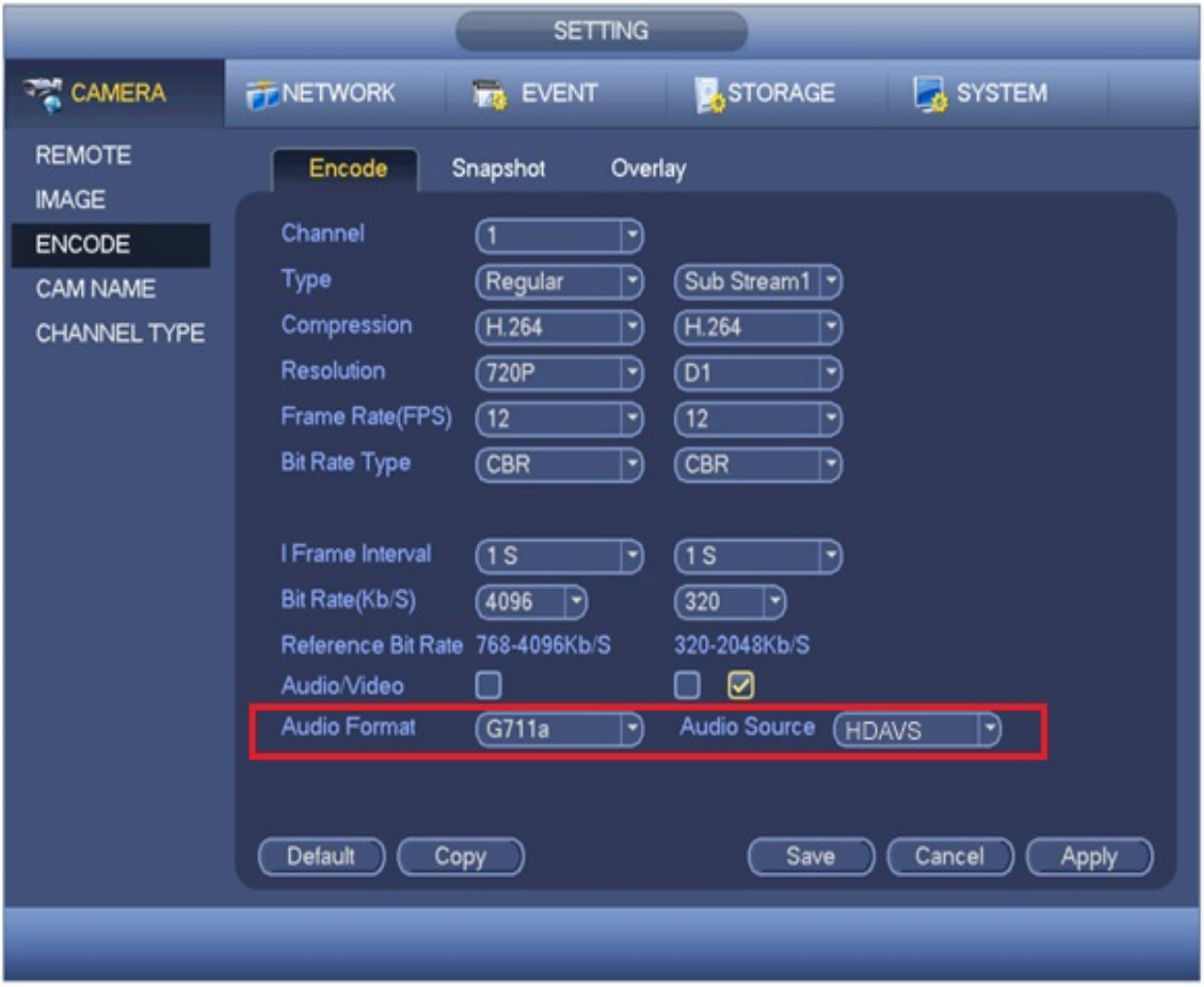

Figure 4-2

4.1.3 Open Menu

On the preview interface, right click mouse and then select PTZ; you can see an interface shown as below. See Figure 4-3.

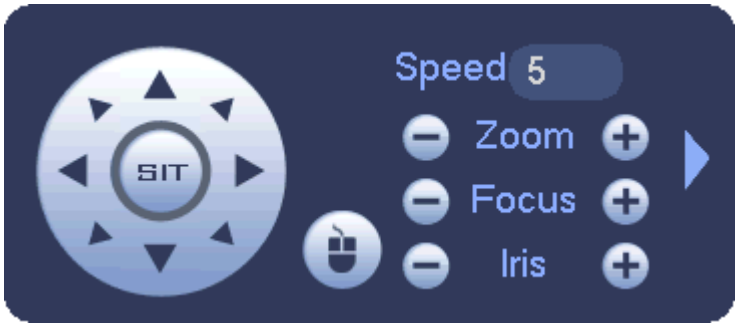

Figure 4-3

Click Iris “+” to open menu or confirm current operation.

Click up/down button to select all the parameters on the left pane of the first-level menu. Click left/right button to set the corresponding values on the right pane of the parameters. If there is “↵”, click Iris “+” button to go to the next menu and conduct the above operations. Click “Return “button to go back to the previous menu interface.

Click Iris “-“to auto focus with current rate, click  direction button to make lens reset.

Note:

The operation interface above is just an example of HCVRHG-AF series, the operation interface may differ according to different back-end devices; please refer to corresponding HCVR manual for detailed operations.

Users can also adjust OSD menu via 5-direction buttons. The exact operation is as follows: press the middle button for about 2 seconds, and the OSD menu will display on the monitor screen. The functions of up, down, left and right buttons are the same as in the figure above, the middle button is equal to Iris “+”.

4.2 Menu List

The 1st		The 2nd		The 3rd	
Format	PAL↵	Confirm, Cancel			
	NTSC↵	Confirm, Cancel			
Video Mode	1080P@25↵/ 1080P@30↵/ 720P@25↵/ 720P@30↵/ 720P@50↵/ 720P@60↵	Confirm, Cancel			
Backlight Mode	BLC↵	BLC	On, Off		
	WDR↵	WDR	0～5		
	HLC↵	HLC	0～5 Note: The HLC can only be displayed when auto exposure mode and outdoor anti-flicker mode are both valid.		
	Off				
Image Adjustment	↵	Image Mode	Standard/ Soft/Vivid		
		Sharpness	0～100		
		Brightness	0～100		
		Contrast	0～100		
		Saturation	0～100		
		Sharp suppress	0～100		
		Chroma suppress	0～100		
		Gamma	0～15		
		2DNR	0～100		
		3DNR	0～100		
		Return/Exit			

The 1st		The 2nd		The 3rd	
Exposure	↵	Exposure Mode	Auto ↵	Gain Max	0～100
				Gain Min	0～100
				Return/Exit	Note: For the 2nd and the 3rd menu, when you click Exit button to exit, system saves current setup by default.
			Low Noise ↵	Gain Max	0～100
				Return/Exit	Note: For the 2nd and the 3rd menu, when you click Exit button to exit, system saves current setup by default.
			Low Motion Blur ↵	Shutter Max	● PAL：0ms～40ms ● NTSC：0ms～33ms
				Return/Exit	
			Manual ↵	Shutter	1/100000、1/10000、1/4000、1/2000、1/1000、1/500、1/250、1/120、1/100、1/60、1/50、1/30、1/25、1/15、1/12、1/10、1/8、1/6、1/5、1/4、1/3 Customized Range ↵ Note: Shutter value is linked to format.
				Gain Max	0～100
				Gain Min	0～100
				Return/Exit	
		Exposure Level	0～14		
		Exposure Speed	0～7		
		Anti-flicker	Outdoor /50HZ/60HZ Note: Value is linked to the format.		● 50HZ：1/50、1/100、1/25、1/10、1/5、1/4 ● 60HZ：1/60、1/120、1/30、1/4、1/12、1/6 Note: The exposure time is different between 50HZ and 60HZ.

The 1st		The 2nd		The 3rd	
					Besides, there are no exposure modes as anti-flicker and low noise.
				Return/Exit	
White Balance	Auto				
	Manual ↵	Blue gain	1～100		
		Red Gain	1～100		
		Return/Exit			
	Day				
	Night				
	Indoor				
	Outdoor				
Day/Night	Auto ↵ Note: the 2nd menu is only valid to non-photosensor device.	Day/Night	1～100		
		Waiting time	1～15		
		Return/Exit			
	B/W				
	Color				
Language	Chinese/Traditional Chinese/English				
Advanced	↵	Camera Title	↵		
		Mirror	↵	Horizontal Mirror	Off/On
				Vertical Mirror	Off/On
				Return/Exit	
		D-Zoom	1~10		
		Lens Type	Manual/DC		
		Lens Reset			
		IR Control Note: Only valid to IR device.	Auto		
			IR Normally Closed		
		Privacy Mask	Off		
			On ↵	Area Select	0～7 Note: There are eight privacy mask zones ranging from 0 to 7. You need to set parameters for each zone, support max 8 zone setup.
				Display	Off/On
				Area Setup	Position ↵

The 1st		The 2nd		The 3rd	
					Size↵ Note: Use direction buttons to adjust position and zone size.
				Restore Default	
				Return/Exit	
		485 Setup	↵	Address	1～254
				Apply	
				Return/Exit	
		System Info	↵	Version	XXXXXXXXX
				Return/Exit	
		Return/Exit			
Reset					
Exit					

Note:

The menu list above is an example for 1080P series, the only difference of the menu list for 720P series is about “Video Mode”, which shows that 720P series support 720P@25, 720P@30, 720P@50, 720P@60.

Appendix Toxic or Hazardous Materials or Elements

Component Name	Toxic or Hazardous Materials or Elements					
	Pb	Hg	Cd	Cr VI	PBB	PBDE
Circuit Board Component	○	○	○	○	○	○
Device Construction Material	○	○	○	○	○	○
Wire and Cable	○	○	○	○	○	○
Packing Components	○	○	○	○	○	○
Accessories	○	○	○	○	○	○

O: Indicates that the concentration of the hazardous substance in all homogeneous materials in the parts is below the relevant threshold of the SJ/T11363-2006 standard.

X: Indicates that the concentration of the hazardous substance of at least one of all homogeneous materials in the parts is above the relevant threshold of the SJ/T11363-2006 standard. During the environmental-friendly use period (EFUP) period, the toxic or hazardous substance or elements contained in products will not leak or mutate so that the use of these (substances or elements) will not result in any severe environmental pollution, any bodily injury or damage to any assets. The consumer is not authorized to process such kind of substances or elements, please return to the corresponding local authorities to process according to your local government statutes.

Note

- **This manual is for reference only. Slight difference may be found in the user interface.**
- **All the designs and software here are subject to change without prior written notice.**
- **All trademarks and registered trademarks mentioned are the properties of their respective owners.**
- **If there is any uncertainty or controversy, please refer to the final explanation of us.**
- **Please visit our website or contact your local service engineer for more information.**