

**1 Megapixel ICR Day/Night WDR  
Fixed HDCVI Camera User's Manual**

**Version 1.0.0**

# Table of Contents

1	General Introduction .....	1
1.1	Overview .....	1
1.2	Functions .....	1
1.3	Specifications .....	1
2	Framework.....	3
2.1	Rear Panel.....	3
2.2	Side panel.....	4
2.3	Front Panel.....	5
3	Installation .....	6
3.1	Lens Installation.....	6
3.2	I/O Port Installation.....	7
4	Menu.....	8
	Appendix Toxic or Hazardous Materials or Elements .....	12

## **Welcome**

Thank you for purchasing our HDCVI 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 or Ac 24V 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 HDCVI 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.

# 1 General Introduction

## 1.1 Overview

This series megapixel HD camera conforms to the HDCVI standard. It supports video signal high-speed long distance transmission without any delay. The HDCVI port adopts coaxial cable and uses BNC port as the standard cable.

This series product has megapixel definition. It supports DC 12V/AC 24V power supplying. It supports HDCVI HD and CVBS standard definition output, and OSD operation.

## 1.2 Functions

### Data Transmission

It adopts coaxial cable and use BNC port as the standard cable specifications.

### Peripheral Device Control

It can be controlled by the DVR conforming to the HDCVI specifications via the video coaxial cable

### Power Supplying

Support external power adapter supplying. Support AC 24V/DC 12V.

### Aux Function

- Auto day/night switch (With ICR switch)
- The WDR can max reach 120dB, suitable for the backlight environments.
- Support video/audio/control signal transmission over the same coaxial cable.
- General 75-3 coaxial cable supports over 500m transmission distance without any quality loss.
- Support 1280\*720@25fps, 1280\*720@30fps
- 3D NR function
- Support privacy mask function.
- Support auto iris function.
- Support OSD operation.
- HDCVI HD/standard definition output switch function.

## 1.3 Specifications

Please refer to the following sheet for specification.

<b>Model</b> <b>Parameter</b>	<b>1 Megapixel ICR Day/Nigh WDR Fixed HDCVI Camera</b>	
	<b>HAC-HF3101P/N</b>	
<b>Video</b>	<b>Video Processor</b>	1/3" 1.3 Megapixels CMOS
	<b>Video Format</b>	PAL/NTSC

	<b>Sensor Pixel</b>	1280(H)×960(V)
	<b>Min Illumination</b>	Color: 0.01Lux@ ( F1.2,AGC ON ) , Black and white: 0.001Lux@ ( F1.2,AGC ON ) ,
	<b>Electronic Shutter</b>	1/1s~1/10000s@ (slow shutter*512)
	<b>Video Standard</b>	HDCVI/CVBS compliance
	<b>Video Frame Rate</b>	1280*720@25fps ;1280*720@30fps
	<b>Day/Night Switch</b>	ICR mechanical auto switch
	<b>Lens Port</b>	C/CS
	<b>Auto Iris</b>	DC Drive
	<b>WDR Range</b>	120dB
	<b>Audio/Video Transmission</b>	Support audio/video transmission over the same coaxial cable.
	<b>Control Signal Transmission</b>	Support OSD control and video transmission over the same coaxial cable.
<b>OSD</b>	<b>SCENE</b>	INDOOR/OUTDOOR/WDR
	<b>EXPOSURE</b>	AUTO/AUTO IRIS/AUTO SHUTTER/MANUAL
	<b>FUNCTION</b>	WB/WDR/NR/MIRROR/DAY&NIGHT/HLC/BLC
	<b>IMAGE</b>	MODE/HUE CNT/SHARPNESS/SHARP CNT/BRIGHTNESS/SATURATION/HUE/GAMMA
	<b>ADVANCED</b>	MOTION DETECT/PRIVACY MASK/FREEZE/ALARM MODE/RS-485/CAMERA ID/LANGUAGE/SYSTEM INFO
	<b>EXIT</b>	INDOOR/RESTART/FORMAT/BACK
<b>AUX Port</b>	<b>Video Output</b>	1-channel BNC HDCVI HD/CVBS standard definition output (Can switch)
	<b>Audio Input</b>	1-channel audio input port. Connect to devices such as pick up.
	<b>Standard Definition/HD Switch</b>	Hardware button. Press for 5 seconds to switch standard definition/HD definition mode.
	<b>ICR External Trigger</b>	External trigger signal to activate day/night mode switch.
	<b>Alarm Output</b>	1-channel on-off signal output. Can activate motion alarm.
	<b>RS485 port</b>	Support OSD operation. Software online upgrade.
<b>General</b>	<b>Power Supplying</b>	AC 24V/DC 12V
	<b>Power Consumption</b>	7W Max (Input:12V == 0.58A/24V~0.52A)
	<b>Working Temperature /Humidity</b>	-30℃~+60℃. Humidity is less than 95%(no condensation)
	<b>Dimension(mm)</b>	70×63.2×136.5
	<b>Weight</b>	650g
	<b>Installation Mode</b>	Support various installation modes (Housing and bracket is optional)

## 2 Framework

### 2.1 Rear Panel

Please refer to the following figure for the rear panel information. See Figure 2-1.

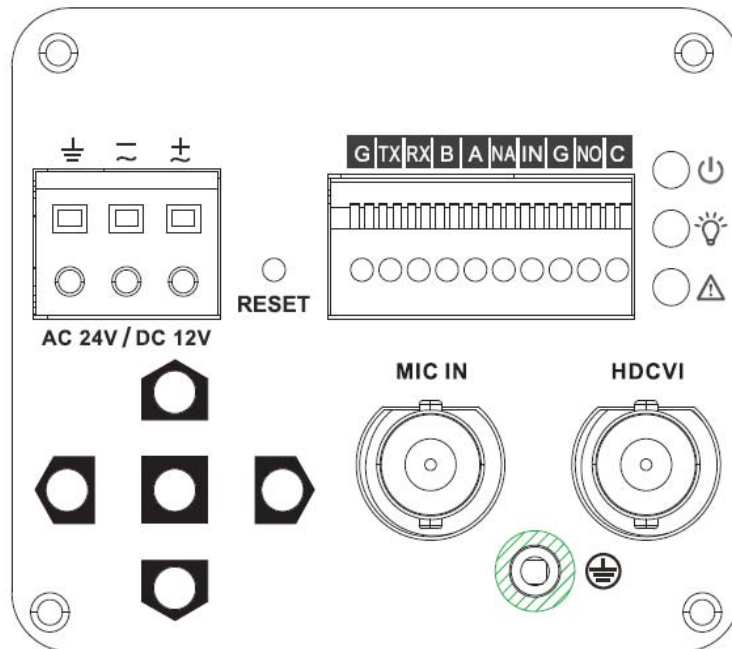



Figure 2-1

Port Name		Connector	Port Function
AC 24V/ DC 12V	Power port		<ul style="list-style-type: none"> <li>● Power port.</li> <li>● Connect to AC 24V/ DC 12V.</li> </ul>
Indicator light	Red light		Power light. The light is on after system boots up.
	Green light		Hardware indicator light. The light becomes on after system successfully loads the hardware part.
	Yellow light		HD/standard definition indicator light. The light is off when system is using the HD output. The light is on when system is using standard definition.
IN	ICR trigger external		Connect to external on-off output to control ICR switch to realize day/night mode switch. <b>Please note:</b> if you want to use this function, you need to go to the OSD menu to set the day/night mode as EXT TRIG-HIGH or EXT TRIG-LOW. The control signal shall connect to the IN and G port. For example, connect the 5V to the IN port and the day/night mode as EXT TRIG-HIGH, the camera can switch from day mode to night mode.
NO	Alarm normal open contact		On-off signal alarm output.
C	Alarm output public contact		On-off signal alarm output.



Port Name		Connector	Port Function
G	GND		Ground end.
A	RS485 port		RS485_A port. Connect to DVR or RS485 configuration tool to set video parameters.
B			RS485_B port. Connect to DVR or RS485 configuration tool to set video parameters.
NA	N/A		Reserved
RX	Reserved port		For R/D use only.
TX			
G			
RESET	Reset button		Press it for five seconds, system can reload again and restore factory default setup.
HDCVI	Video/audio/control composite port		Send video stream/audio stream/control data stream conforming to HDCVI specifications. Please connect to the HDCVI DVR series product to control.
MIC IN	Microphone audio input		Audio input from the pickup.
5-direction button	OSD button		<ul style="list-style-type: none"> <li>● Press the middle button for five seconds to switch HD/standard definition mode.</li> <li>● Press the middle button shortly to go to the OSD menu interface.</li> <li>● After you go to the menu, click the middle button to confirm current operation. Move the up/down button to select menu item and use left/right button to set parameter value.</li> </ul>
	GND port		Before you use this series product, please make sure it has been soundly grounded in case there is a risk of thunder strike.

## 2.2 Side panel

Please refer to the following figure for the rear panel information. The unit is mm. See Figure 2-2.

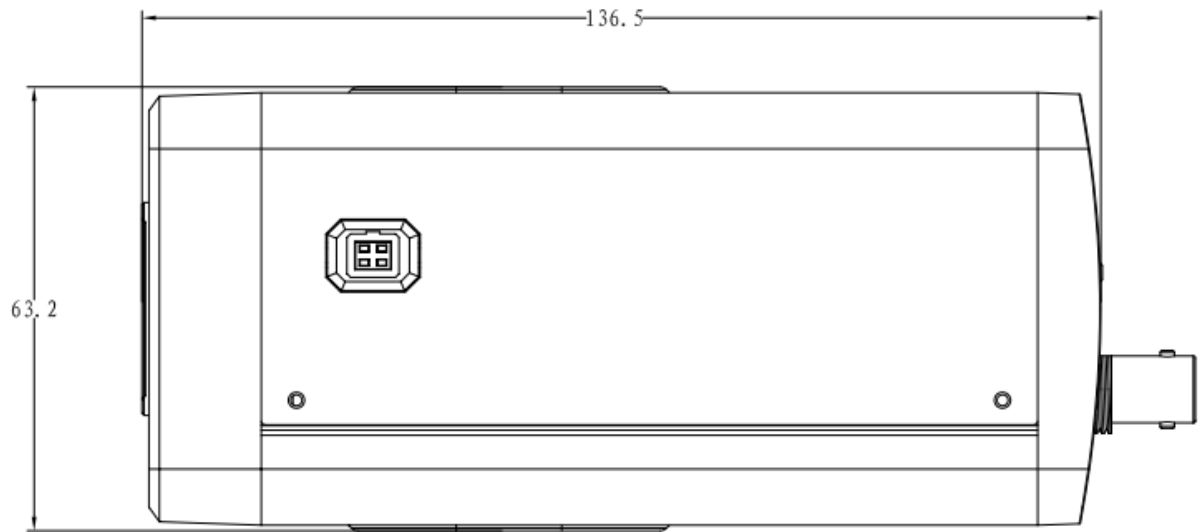


Figure 2-2

### 2.3 Front Panel

Please refer to the following figure for the front panel information. The unit is mm. See Figure 2-3.

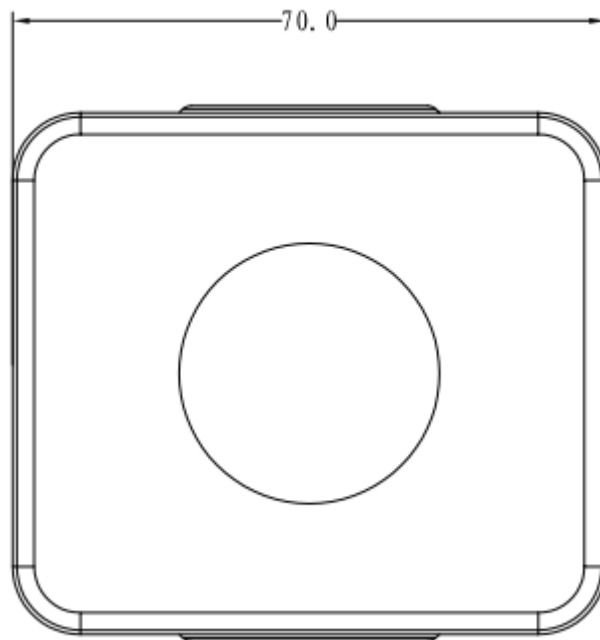


Figure 2-3

## 3 Installation

### Important

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

### 3.1 Lens Installation

Please refer to the steps listed below for installation information. See Figure 3-1 and Figure 3-2.

- Remove the protection cap from the device. Line up the lens to the lens position of the camera (Install the C/CS adapter ring to the camera if you are using C type lens). Turn clockwise to secure the lens firmly.
- Insert the socket of the lens cable to the auto iris lens connector on the side panel of the device. Skip this step if you are using auto iris lens.
- Fasten the screw near the focusing ring and then turn counter clockwise to move the focusing ring out for several millimeters. Now you can focus manually until you get clear video.
- After you completed the focus setup, fix the screw near the focusing ring firmly. Fasten the focusing ring. Now the installation is complete.

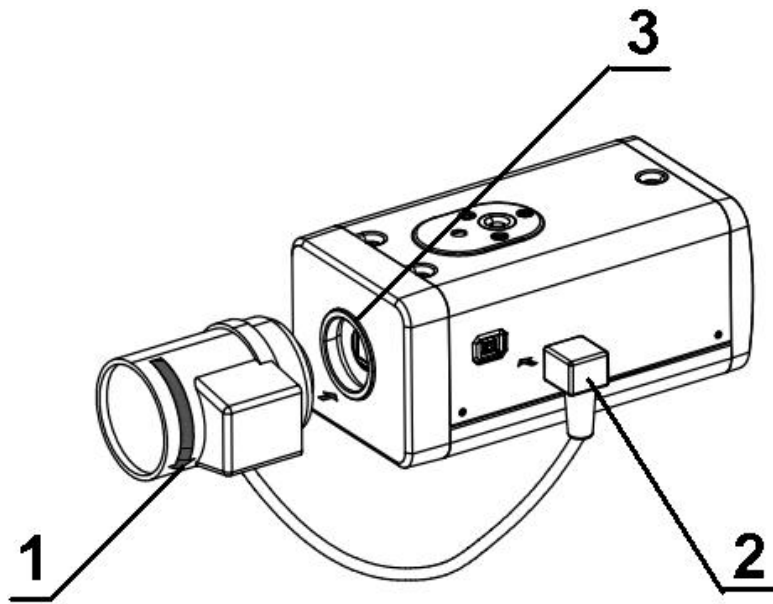


Figure 3-1

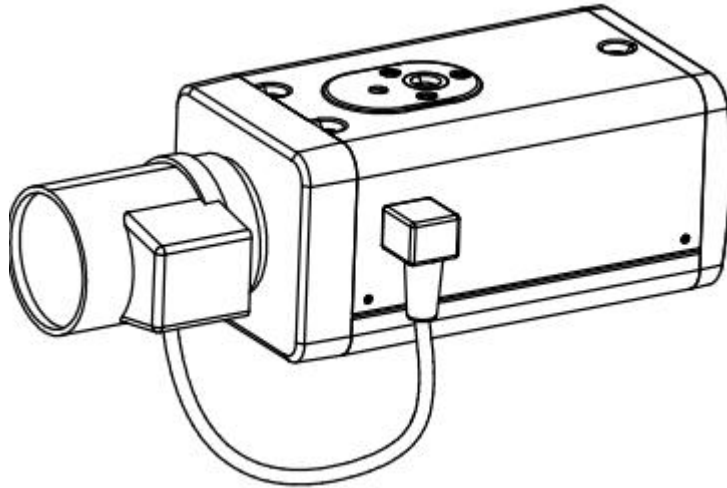


Figure 3-2

## 3.2 I/O Port Installation

### Install Cable

Please follow the steps listed below to install the cable. See Figure 3-3.

Use the small slotted screwdriver to press the corresponding button of cable groove. Insert the cable into the groove and then release the screwdriver.

### Remove Cable

Please follow the steps listed below to remove the cable.

Use the small slotted screwdriver to press the corresponding button of cable groove. Remove the cable out of the groove and then release the screwdriver.

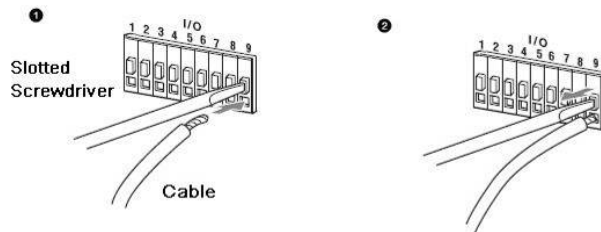


Figure 3-3

## 4 Menu

### Important

Please check the current video output mode when there is no video output. The yellow light is on when system is outputting standard definition video. The yellow light is off when system is using high definition video.

THE 1ST MENU		THE 2ND MENU		THE 3RD MENU		
SCENE	SCENE INDOOR					
	SCENE OUTDOOR					
	SCENE WDR					
	BACK					
EXPOSURE	AUTO	SHUTTER AUTO...	MAX SPEED	<b>PAL:</b> 1/25, 1/50, 1/75, 1/100, 1/120, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/6000, 1/10000 <b>NTSC:</b> 1/30, 1/60, 1/90, 1/100, 1/125, 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000.		
			MIN SPEED			
			SLOW SHUTTER		<b>PAL:</b> 1/1, 1/2, 1/3, 1/6, 1/12, 1/25, 1/50, 1/75, 1/100, 1/120 <b>NTSC:</b> 1/1, 1/2, 1/4, 1/8, 1/15, 1/30, 1/60, 1/90, 1/100, 1/125	
			BACK			
			GAIN	-1,0,2,4,6,8,10,12,14,16,18,20,22,24,26,28 (DB)		
			LENS---	It is read-only on auto mode.		
			EC	OFF,+0,+1,+2,+3,+4,+5,+6,+7,-1,-2,-3,-4,-5,-6,-7		
			LLC	0,5,10,15,20,25,30,35,40,45,50,55,60,65,70,75,80,85,90,95,100		
			BACK			
			IRIS	SHUTTER	<b>PAL:</b> 1/25, 1/50, 1/75, 1/100, 1/120, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/6000, 1/10000 <b>NTSC:</b> 1/30, 1/60, 1/90, 1/100, 1/125, 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1/1500, 1/2000, 1/3000, 1/4000, 1/6000, 1/10000.	
		GAIN			-1,0,2,4,6,8,10,12,14,16,18,20,22,24,26,28 (DB)	
		LENS			It is read-only on auto iris mode.	
		EC		OFF,+0,+1,+2,+3,+4,+5,+6,+7,-1,-2,-3,-4,-5,-6,-7		
		LLC		0,5,10,15,20,25,30,35,40,45,50,55,60,65,70,75,80,85,90,95,100		
	BACK					
	SHUTTER	SHUTTER AUTO...	MAX SPEED	<b>PAL:</b> 1/25, 1/50, 1/75, 1/100, 1/120, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/6000, 1/10000 <b>NTSC:</b> 1/30, 1/60, 1/90, 1/100, 1/125, 1/180, 1/250, 1/350, 1/500, 1/725, 1/1000, 1		
			MIN SPEED			
		BACK				

				/1500,1/2000,1/3000,1/4000,1/6000,1/10000.	
		SLOW SHUTTER		<b>PAL:</b> 1/1,1/2,1/3,1/6,1/12,1/25,1/50,1/75,1/100,1/120 <b>NTSC:</b> 1/1, 1/2, 1/4, 1/8, 1/15, 1/30,1/60, 1/90,1/100,1/125	
		BACK			
		GAIN	-1,0,2,4,6,8,10,12,14,16,18,20,22,24,26,28 (DB)		
		LENS	It is read-only on auto shutter mode.		
		EC	OFF,+0,+1,+2,+3,+4,+5,+6,+7,-1,-2,-3,-4,-5,-6,-7		
		LLC	0,5,10,15,20,25,30,35,40,45,50,55,60,65,70,75,80,85,90,95,100		
		BACK			
	MANUAL	SHUTTER		<b>PAL:</b> 1/25, 1/50, 1/75, 1/100, 1/120, 1/150, 1/215, 1/300, 1/425, 1/600, 1/1000, 1/1250, 1/1750, 1/2500, 1/3500, 1/6000, 1/10000 <b>NTSC:</b> 1/30,1/60,1/90,1/100,1/125,1/180,1/250,1/350,1/500,1/725,1/1000,1/1500,1/2000,1/3000,1/4000,1/6000,1/10000.	
		GAIN	-1,0,2,4,6,8,10,12,14,16,18,20,22,24,26,28 (DB)		
		LENS	MODE OPEN, MODE OFF		
		EC	It is read-only on manual mode.		
		LLC	It is read-only on manual mode.		
		BACK			
FUNCTION	WB	AUTO			
		INDOOR			
		OUTDOOR			
		ONE PUSH			
		ATW			
		MANUAL...	RED GAIN	000-255	
			BLUE GAIN	000-255	
		OUTDOOR AUTO			
		SODIUM AUTO			
	SODIUM				
	WDR	OFF			
		ON...	INTENSITY	1-5	
			MOTION COMP		
	RETURN				
	NR...	2D-NR	OFF, 1-5		
		3D-NR	OFF, 1-5		
		BACK			
	MIRROR	OFF, V-FLI,H-FLIP, CENTRE			
	D/N	AUTO ...	SWITCH POINT	1-7	
			TOLERANCE	1-6	
			DAY → NIGHT	2S-30S	
			NIGHT → DAY	2S-30S	
		BACK			
		DAY			
		NIGHT			
	EXT TRIG-HIGH				
	EXT TRIG-				

		LOW			
	HLC	OFF, 1, 2			
	BLC	OFF, 1, 2			
	BACK				
IMAGE	MODE	CUSTOM , FLAMBOYANT,SOFT, Note: For non-custom mode, the rest parameters are read-only.			
	HUE CNT	00~15			
	SHARPNESS	00~15			
	SHARP CNT	00~15			
	BRIGHT	000~255			
	SATURATION	000~255			
	HUE	000~255			
	GAMMA	00~15			
	BACK				
ADVANCED	MOTION DETECT...	SN	1-4		
		ON/OFF	ON/OFF		
		DISPLAY	ON/OFF		
		SENSITIVIT Y	00~99		
		AREA LOCATION	LC	(0-23,0-15)	
			SZ	(0-23,0-15)	
	...				
	BACK				
	PRIVACY MASK ...	INDEX	0-7		
		N/F	ON/OFF		
		CENTRE SET...			
		SIZE SET...			
		COLOR	BLUE		
		BACK			
	FREEZE	ON,OFF			
	ALARM MODE...	TYPE	MOTION DETECT		
		MODE	ON/OFF		
		INTERVAL	CLOSE, 1S-255S		
	NEXT...				
	RS-485...	Support PELCO-D/P, DH-SD protocol.			
		BAUD RATE	1200-9600		
		ADDRESS	001-254		
		BACK			
	CAMERA ID	OFF			
		ON...	CAMERA ID	1-254	
		BACK			
	LANGUAGE	ENGLISH			
SYSTEM INFO...	MANUFACT URER	xxx			
	HARDWARE	XXX			
	SOFTWARE	XXX			
	BACK				
PREVIOUS ...					
BACK					
EXIT	INDOOR	CANCEL, SAVE , DEFAULT , RESET			
	RESTART...				
	FORMAT	720@25... ,			

		720@30...		
	BACK			



## 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.