

1 Megapixel HDCVI ICR Sync-Focus Dome Camera

User's Manual

Version 1.0.0

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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 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. It can be controlled by the DVR conforming to the HDCVI.

1.2 Features

- High-performance CMOS image sensor, megapixel definition.
- Default sync-focus lens, coaxial cable to control lens zoom and focus.
- Support 75-3 coaxial cable transmission without any loss. Transmission distance is over 500m.
- Support HD and standard definition switch.
- Support 720P@25, 720P@30, 720P@50, 720P@60.
- High speed, long distance real-time transmission.
- Support OSD (on-screen display), suitable for user self-defined setup.
- Support DC12V power supplying.
- Support 3D noise reduction(denoise),excellent performance in low illumination environment.
- Support ICR switch to realize surveillance both in the daytime and at night.
- Support intelligent IR function. Max 20m IR distance. (For HAC-HDW3103EP/N series only)
- Advanced X-Y-Z axis module design, suitable to monitor various zones.

1.3 Functions

HDCVI Specification

HDCVI (High Definition Composite Video Interface) is an over-coaxial –cable HD video transmission standard. The technology renders two HD video formats by progressive scanning.

Sync-focus lens

After set focus distance and get clear video, you can realize zoom and focus at the same time. It can remain clear zoom during the whole focus setup process. You can use the five buttons on the cable to set. Please refer to chapter 2.2.

OSD

User-friendly on-screen display for you to select the different functions.

ICR

The IR cut removal is to filter the IR light in the daytime and then auto switch to the general filter at night. This function allows the camera to output the high sensitivity and clear video.

Smart IR technology

The sensor controls the IR light on/off via the combination work of the hardware and software, which realizes the automatically IR light compensation according to the environment illumination.

3D NR

Comparing with the general 2D denoise function, the 3D denoise function can not only denoise the brightness of the video separation signal and saturation signal, it can also denoise the original data from CCD. It greatly enhances noise reduction performance and guarantees clear and bright video

1.4 Specifications

Please refer to the following sheet for specification.

Model Parameter	1 Megapixel HDCVI ICR Sync-Focus Dome Camera	1 Megapixel HDCVI ICR Sync-Focus IR Dome Camera
	HAC-HD3103EP/N	HAC-HDW3103EP/N
Video Processor	1/3" 1.3 Mega Pixels CMOS	
Video Format	PAL/NTSC	
Effective Pixel	1280 (H) ×960 (V)	
Min Illumination	0.01Lux@ (F1.2, AGC ON)	0.01Lux@ (F1.2, AGC ON) , 0 Lux with IR
Electronic Shutter	PAL: 4/25s~1/45,000s NTSC: 4/30~1/54,000s	
Video Standard	HDCVI/CVBS compliance	
Video Frame Rate	1280×720@25 fps; 1280×720@30 fps; 1280×720@50 fps; 1280×720@60 fps	
Lens Port	Φ14	
Lens Type	2.7mm~9mm @ F1.4 sync=focus lens	
Day/Night Switch	ICR mechanical auto switch	
Video Output	1-channel HDCVI high definition video output/ CVBS standard definition video output (Can switch.)	
Denoise (Noise Reduction)	Support 2D/3D denoise.	
OSD Menu Control	Support coaxial cable control and cable control	
OSD	EXPOSURE	Global/BLC/ Front Light/ Distinguish/ Return
	WHITE BALANCE	AWB-GW /AWB-PRO/AWB-TEMPORAL/AWB-AI/ Return
	DAY/NIGHT	Auto/B&W/Color/ Return
	FUNCTION	3DNR
	ADVANCED	Mirror/Language/RS485/Video/ Version/Return
	IMAGE	Sharpness /Contrast/Saturation/ Brightness / Return

	EXIT	SAVE/CANCEL/RESET	
Max IR Distance	N/A	20m	
Transmission Distance	Over 500m via 75-3 coaxial cable.		
Working Temperature /Humidity	-30°C~+60°C. Humidity is less than 95%(no condensation)		
Power	DC 12V±10%		
Power Consumption	3.2W MAX (Input: 12V == 0.27A)	6.5W MAX (Input: 12V == 0.54A)	
Dimension(mm)	Φ150.0×119.1		
Weight	400g		
Angle Adjustment	Pan: 0° ~360° : Tilt: 0° ~90° : Flip: 0° ~360°		
Installation Mode	Wall mount/in ceiling mount		

2 Framework

2.1 Dimensions

Please refer to the following figure for dimension information. The unit is mm. See Figure 2-1. The following introduction is based on the HAC-HDW3103EP/N series product.

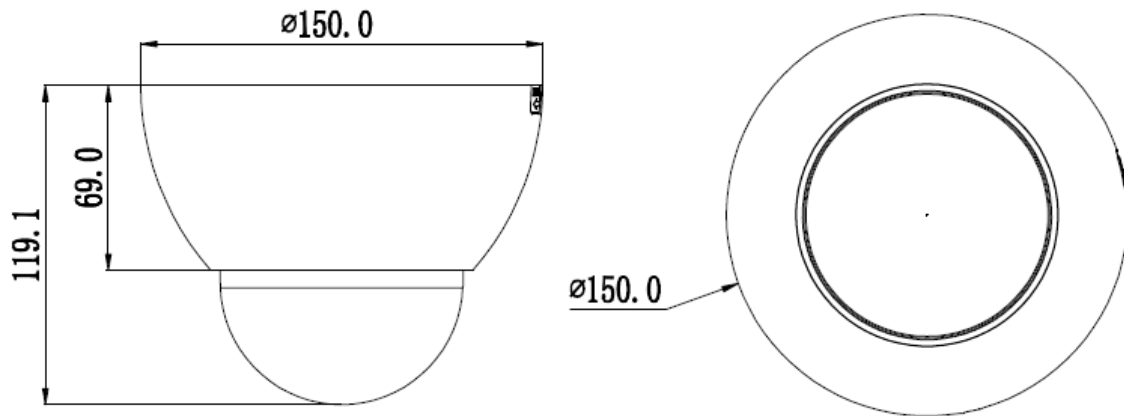


Figure 2-1

Please refer to the following figure for structure information. See Figure 2-2.

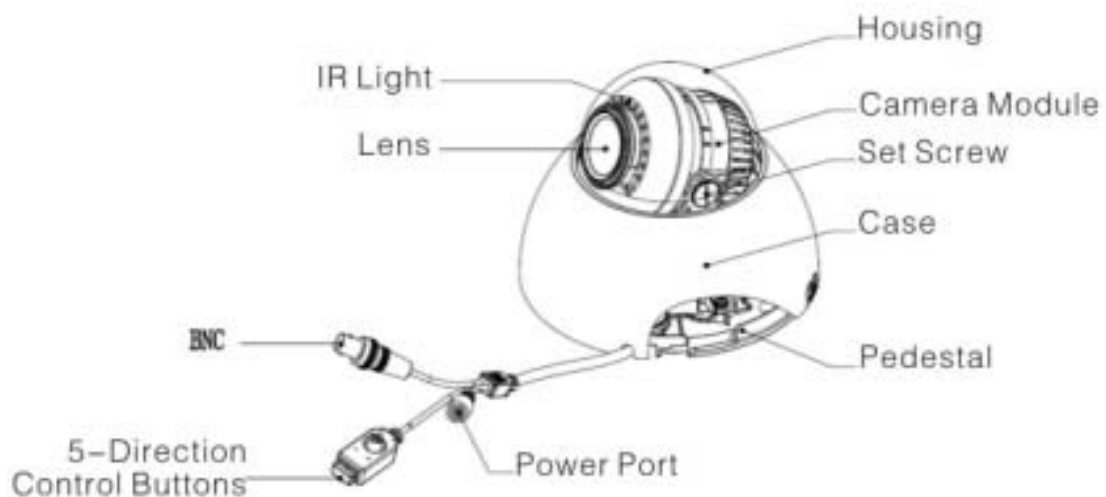


Figure 2-2

Important

- The 5-direction control buttons on the composite cable does not have the waterproof capability. Please make sure you have taken necessary precautions before the operation, otherwise the camera may result in malfunction.
- Disconnect (such as cut off) the composite cable between the 5-direction buttons and the camera, you can not control the camera focus and OSD.

2.2 5-Direction Buttons Settings

Important

During the OSD operation process, the left/right button can not realize focus or zoom function. You need to exit OSD and then set.

If there is no video output, please check device output format and make sure you have connected the corresponding encode device.

You can use the left/right button to realize lens focus and zoom function.

Press the middle button for 5 seconds to switch HD/standard video output.

Press the middle button for a short time to go to the OSD menu. After you go to the OSD menu, click the middle button for a short time to confirm current operation, use up/down button to select menu items and use left/right button to set parameters.

3 Installation

Important

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

The dome camera usually uses the ceiling installation. It can be installed on the ceiling or the wall.

- For side exit cable installation, please make sure the side exit cable direction is the same as shown in the installation position map.
- Before you secure the screws on the pedestal, please put the cable through the cable exit of the pedestal.
- Before you complete the installation and debug, do not remove the electrostatic film. After you remove the film, do not touch the enclosure in case there is any scratch.

All figures listed below are bases on the HAC-HDW3103EP/N series product.

Step 1

Take the installation position map from the accessories bag and then put it on the surface of the ceiling or the wall according to the cable exit position. Dig three holes according to the installation position map and then take three expansion bolts from the accessories bag and put them to the holes you just dug.

Step 2

Turn counter clockwise to remove the enclosure.

Step 3

Adjust the pedestal position according to the cable exit mode (ceiling/side). Pull the cable through the cable side exit at the installation surface and the pedestal (Please skip this step if you want to use ceiling exit mode). Line up the screw holes at the bottom of the pedestal to the expansion bolts in the installation surface. Put three self-tapping screws to expansion bolts and then secure firmly. Now the pedestal is on the installation surface.

Step 4

Adjust the lens angle to a proper position and then fix the screws to fasten the lens. See Figure 3-1.

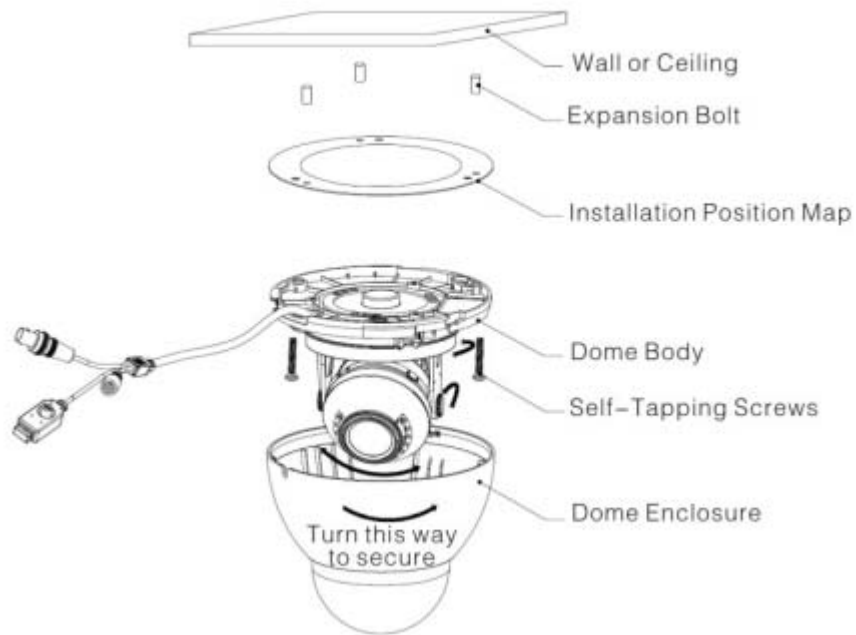


Figure 3-1

Step 5

Turn clockwise to put the enclosure back to the pedestal.

Now you have completed the device installation and cable connection.

You can use the terminal encode devices to view the monitor video.

4 Menu

4.1 HDCVI Series DVR Settings

Note

The following operation and interfaces for reference only. Please refer to the HDCVI series DVR user's manual for detailed information.

After connected the camera to the HDCVI series DVR, from Main Menu->Setting->System->PTZ, you need to set control mode as HDCVI and the protocol as DH-SD1. Click Save button to save current setup. See Figure 4-1.

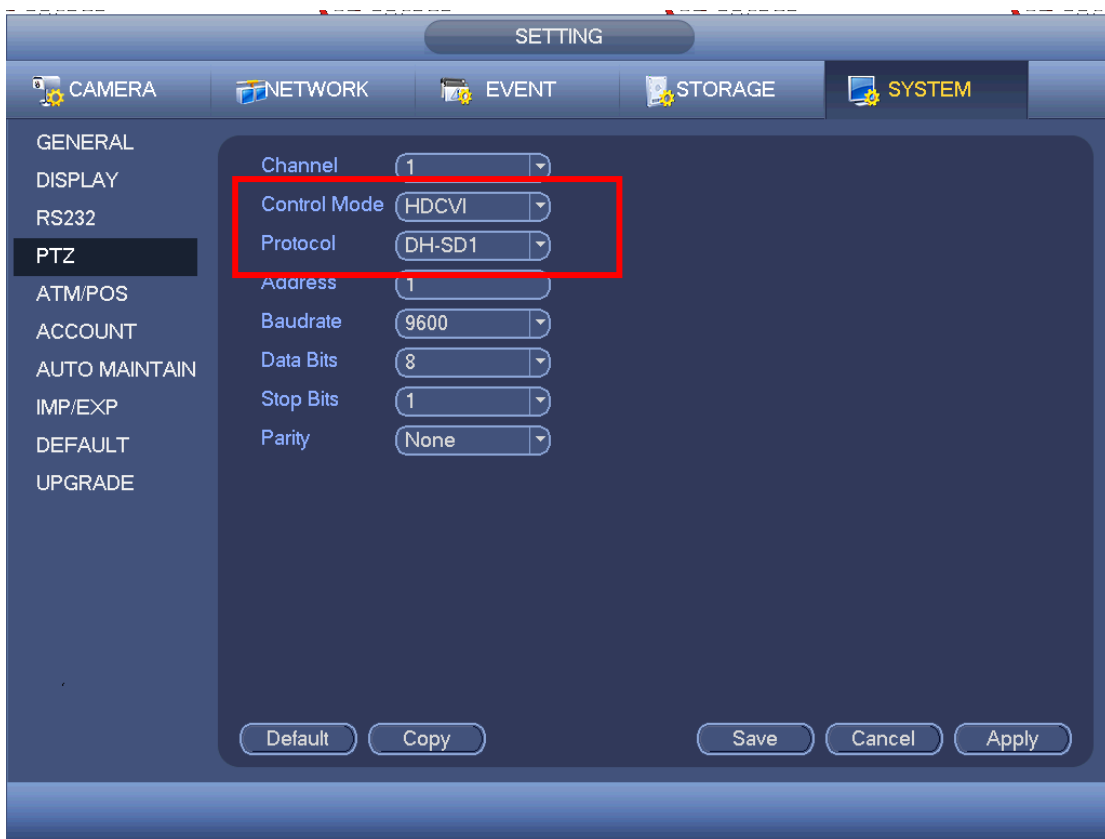


Figure 4-1

On the preview interface, right click mouse and then select PTZ; you can see an interface shown as below. See Figure 4-2.

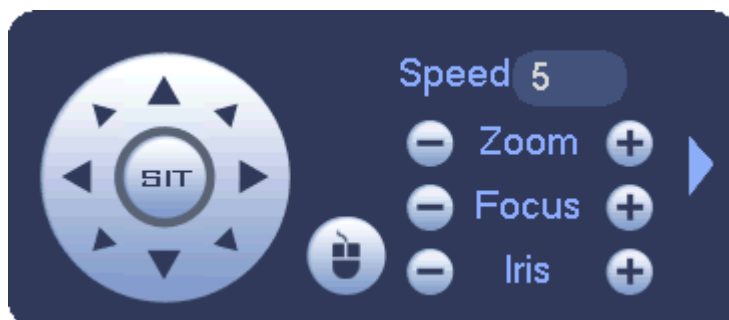


Figure 4-2

Click Iris "+" to open menu or confirm current operation.

Click up/down button to view all the items on the left pane of the following list. Click left/right button to set the corresponding values on the right pane of the following list. If there is “↵”, click confirm button to go to the 2nd menu. Repeat the previous steps to set detailed value. Click Return button to go back to the previous menu interface. Click “+” to zoom in and click “-” to zoom out.

4.2 Menu List

EXPOSURE	↵	AE MODE	GLOBAL		
			BLC		
			FRONT LIGHT		
			DISTINGUISH		
			RETURN		
WB MODE	AWB-GW				
	AWB-PRO				
	AWB-TEMPORAL				
	AWB-AI				
DAY & NIGHT	AUTO ↵	D→N	↵	BRIGHTNESS	0-96
			RETURN		
		N→D	↵	BRIGHTNESS	0-192
				GAIN	0-63
		A-REFLECT	0-13		
		RETURN			
		RETURN			
	B&W				
COLOR					
FUNCTION	↵	3D-NR	ON/OFF		
		RETURN			
ADVANCED	↵	MIRROR	OFF/HORIZONTAL/VERTICAL/H&V		
			LANGUAGE	ENGLISH	
		RS485	↵	ADDRESS	1-254
				BAUD RATE	2400/4800/9600/115200
				PROTOCOL	PELCOP/PELCOD/DH-SD
		VIDEO	720P@25↵/ 720P@30↵/ 720P@50↵/ 720P@60↵		
		VERSION	XXXXXXXX		
		RETURN			

IMAGE	←	SHARPNESS	←	DETAIL	AUTO/MANUAL
				VALUE	0-15 (For manual mode only)
				EDGE	AUTO/MANUAL
				VALUE	0-15 (For manual mode only)
		RETURN			
		CONTRAST	0-255		
		SATURATION	0-15		
BRIGHTNESS	70-250, +10				
RETURN					
EXIT	SAVE				
	CANCEL				
	RESET				

4.3 Note

Parameter	Function
3DNR	It is to reduce video noise. The larger the number is, the lower the noise is. The details of the video may disappear if the value here is too large.
Contrast	It is to adjust monitor window contrast. The larger the number is, the higher the contrast is. You can use this function when the whole video bright is OK but the contrast is not proper. Please note the video may become hazy if the value is too low. If this value is too high, the dark section may lack brightness while the bright section may over exposure.
Saturation	It is to adjust monitor window saturation. The larger the number, the strong the color is. This value has no effect on the general brightness of the whole video. The video color may become too strong if the value is too high. For the grey part of the video, the distortion may occur if the white balance is not accurate. Please note the video may not be attractive if the value is too low.
Sharpness	The value here is to adjust the edge of the video. The larger the value is, the clear the edge is and vice versa. Please note there is noise if the value here is too high.

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.