

**1 Megapixel HDCVI Sync-Focus Fixed Camera
User's Manual**

Version 1.0.1

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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.
- IP66 compliance.
- Support ICR switch to realize surveillance both in the daytime and at night.
- Support intelligent IR function.

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 2.3.

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		1 Megapixel HDCVI Sync-Focus IR Waterproof Fixed Camera
Parameter		HAC-HFW3103EP/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 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 syn-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	
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		50m
IR Light Control Plan		Advanced non-photosensor control plan
Transmission Distance		Over 500m via 75-3 coaxial cable.
Protection Level		IP66
Working Temperature /Humidity		-30°C~+60°C. Humidity is less than 95%(no condensation)
Power		DC 12V±10%
Power Consumption		9.5W MAX (Input: 12V==0.79A)
Dimension(mm)		273.3×94.8×94.8
Angle Adjustment		Pan: 0° ~360° : Tilt: 0° ~90° : Flip: 0° ~360°
Weight		1200g
Installation Mode		Wall mount

2 Framework and Dimensions

2.1 Dimensions

Please refer to the following figure for dimension information. The unit is mm. See Figure 2-1.

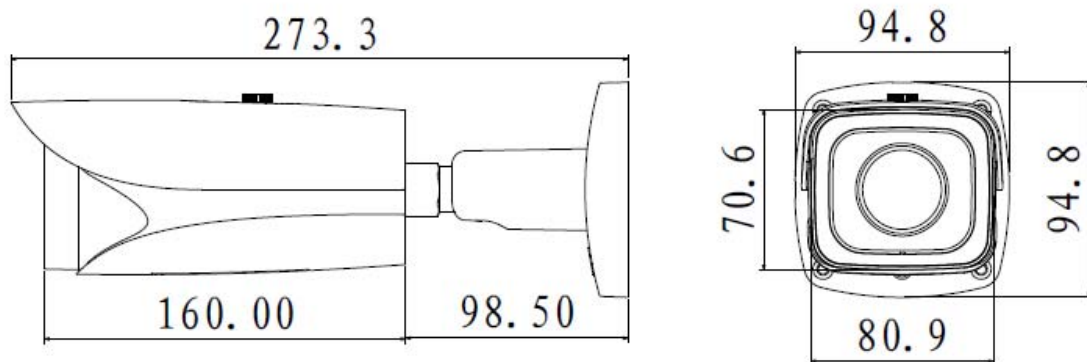


Figure 2-1

2.2 Structure

Please refer to the following figures for structure information. See Figure 2-2 and Figure 2-3.

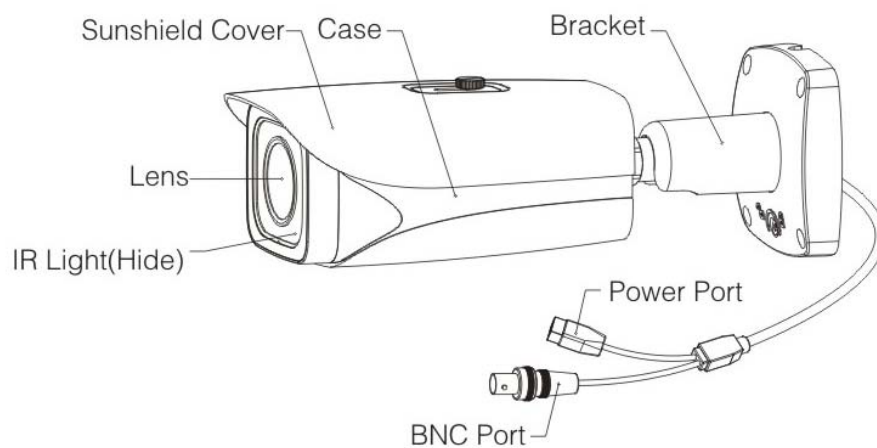


Figure 2-2

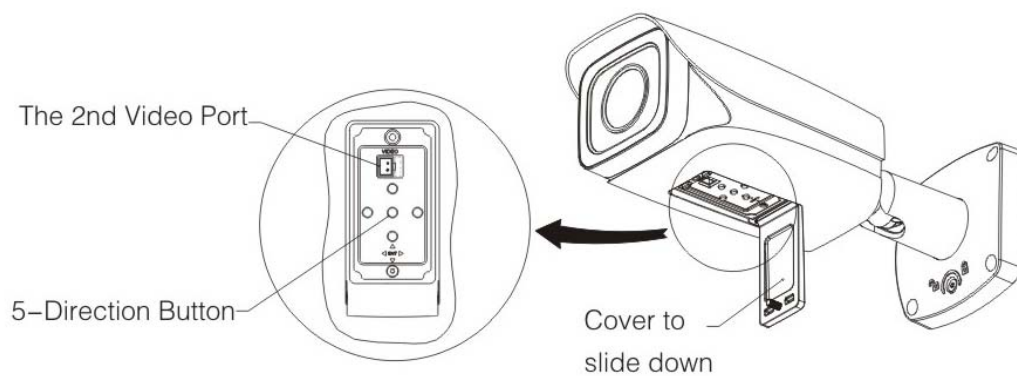


Figure 2-3

2.3 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.

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.

Please refer to the steps listed below for installation information.

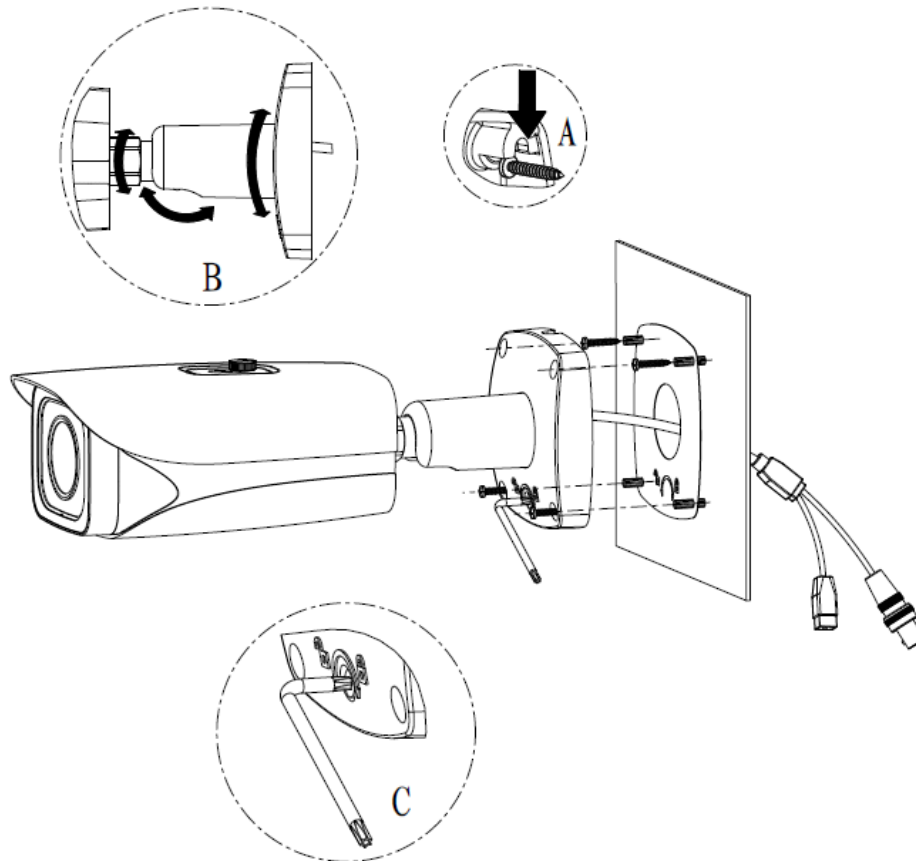


Figure 3-1

Step 1

Install the camera bracket according to your installation mode.

Before you install the bracket, please pull the cable through the cable exit of the installation surface or pull the cable through the cable exit of the bracket.

- Please install the expansion bolt if you want to install in the cement wall (Please make sure the installation holes of the expansion bolts are the same with the bracket.) Then you can install the bracket. See Figure 3-1.
- If you want to install in the wood surface, please skip the first step and then use the self-tapping screws to install the bracket directly.

Step 2

Put the two self-tapping screws to the two expansion blots at the top left and the top right. Secure the bracket on the self-tapping screws. See (A) in Figure 3-1.

Important

The screw depth shall reserve 8mm-10mm to secure the bracket.

Step 3

Refer to Figure 3-1 to fix other two self-tapping screws and the secure. Now the camera is fixed on the installation surface.

Step 4

Use the L wrench (provided) to loosen the adjusting screw to make the camera can monitor the corresponding surveillance zone. Use the L wrench to adjust the adjusting screw to fix the camera firmly. Please refer to (B) and (C) in Figure 3-1.

Step 5

Connect the video output port of the device cable to the rear-end encode device such as DVR or NVS. Then connect the power port of the device cable to the corresponding power supplying source.

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.

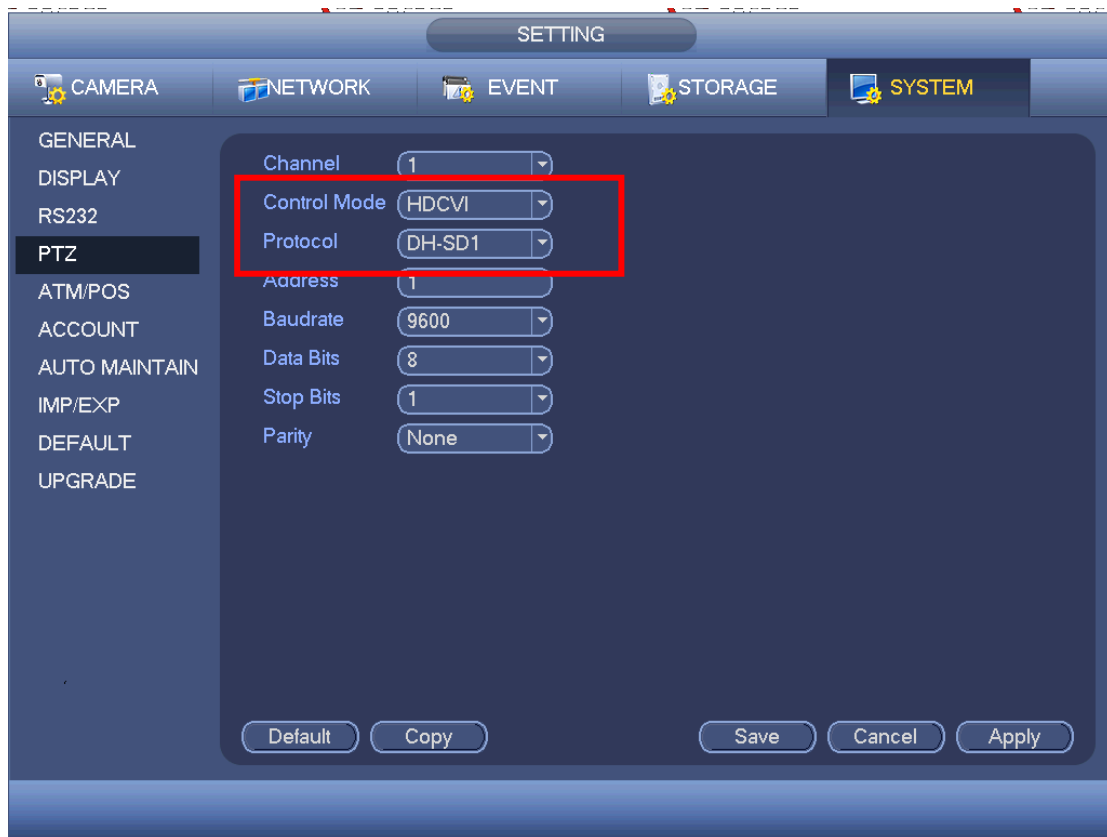


Figure 4-1

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

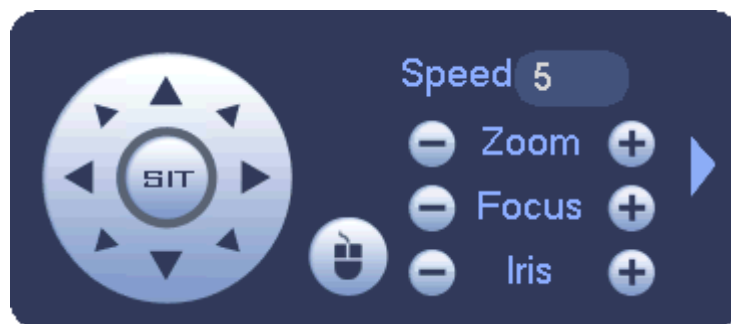


Figure 4-2

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 Zoom “+” to zoom in and click Zoom “-” 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	PELCO/PELCO-DH-SD
		VIDEO	720P@25↵/ 720P@30↵/ 720P@50↵/ 720P@60↵		
		VERSION	XXXXXXXX		
		RETURN			
IMAGE	↵	SHARPN	↵	DETAIL	AUTO/MANUAL

		ESS		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		
EXIT	SAVE				
	CANCEL				
	RESET				

4.3 Note

Parameter	Function
3D NR	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 video 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 video 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.