

2 Megapixel HDCVI 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.
- HD video, coaxial cable to transmit the control signal.
- Support 75-3 coaxial cable transmission without any loss. Transmission distance is over 300m.
- Support HD and standard definition switch.
- Support 1080P@25, 1080P@30, 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 privacy mask, image digital zoom.
- 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.

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.

1.4 Specifications

Please refer to the following sheet for specification.

Model		2 Megapixel HDCVI Camera
Parameter		HAC-HFW2200EP/N
Video Processor	1/3" 2 Megapixel CMOS	
Video Format	PAL/NTSC	
Effective Pixel	1920 (H) *1080 (V)	
Min Illumination	0.05Lux@ (F1.2, AGC ON) , 0 Lux with IR	
Electronic Shutter	Support slow shutter. 1/3s~1/100,000s	
Video Standard	HDCVI/CVBS compliance	
Video Frame Rate	1920×1080@25fps; 1920×1080@30fps; 1280×720@25 fps; 1280×720@30 fps; 1280×720@50 fps; 1280×720@60 fps	
Lens Port	M12	
Lens Type	2.8/3.6/6/8mm optional	
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	Exposure Mode/Exposure Level/Exposure Speed/Anti Flicker/BLC/Return
	WHITE BALANCE	Auto/Manual/Day/Night/Return&Exit
	DAY/NIGHT	Auto/B&W/Color/ Return&Exit
	FUNCTION	2DNR/3DNR/D-zoom/Lens/ Return&Exit
	ADVANCED	Cam Title/Mirror&Flip/Motion Detect/Privacy Mask/Language/COM Setup/System Info/ Return&Exit
	IMAGE	Sharpness/Brightness/Contrastness/Saturation/Sharp Suppress/ Chroma Suppress/Gamma/Video Format/ Return&Exit
	RESET	/
EXIT	/	
Max IR Distance	20m	
IR Light Control Plan	Advanced non-photosensor control plan	
Transmission Distance	Over 300m 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	4.5W MAX (Input: 12V === 0.38A)	
Dimension(mm)	69.9×178.4×70 (Provide internal cable exit bracket)	

Angle Adjustment	Pan: 0° ~360° : Tilt: 0° ~90° : Flip: 0° ~360°
Weight	500g
Installation Mode	Wall mount

2 Framework

2.1 Dimensions

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

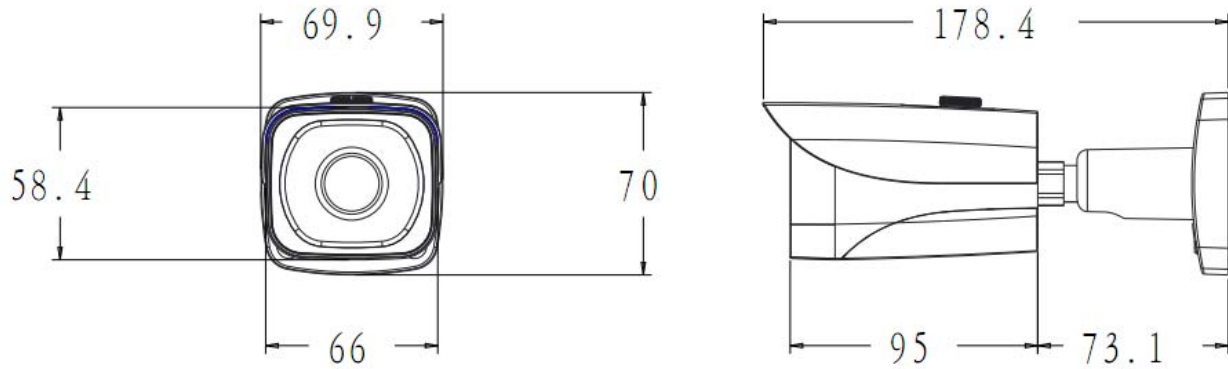


Figure 2-1

2.2 Structure

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

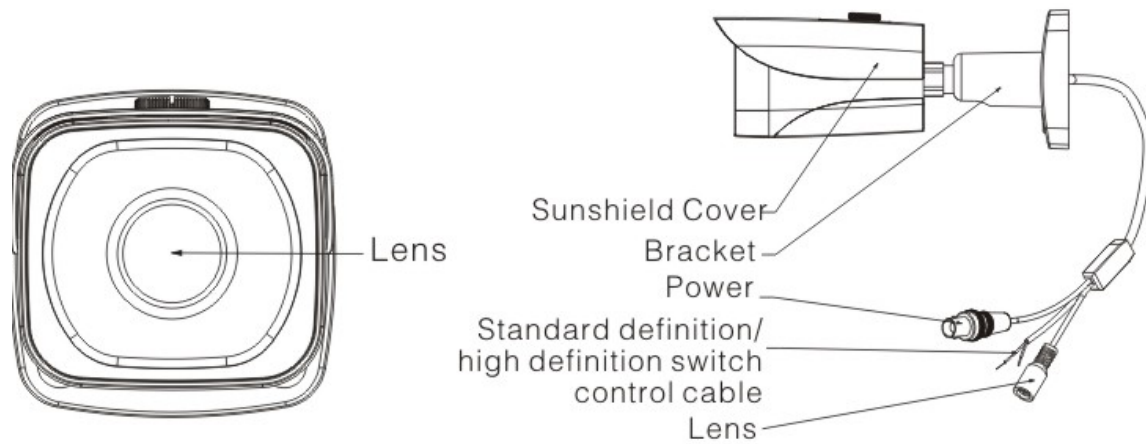


Figure 2-2

Please refer to the following sheet for detailed information.

SN	Name	Function
1	Lens	It is to receive the optical signal from the environments.
2	Sunshield Cover	/
3	Bracket	Support camera body and rotate to adjust monitor angle.
4	Power input port	Connect to the DC 12V power to input the power.
5	Video output port	BNC port is to output HDCVI/CVBS standard definition video signal. You can connect to the devices such as the DVR or the NVS conforming to the HDCVI specifications.
6	Standard definition/high definition switch control cable	When the standard definition/high definition switch control cable is short circuit, system outputs standard definition video. Otherwise, when the circuit is open, system outputs the high definition video.

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.

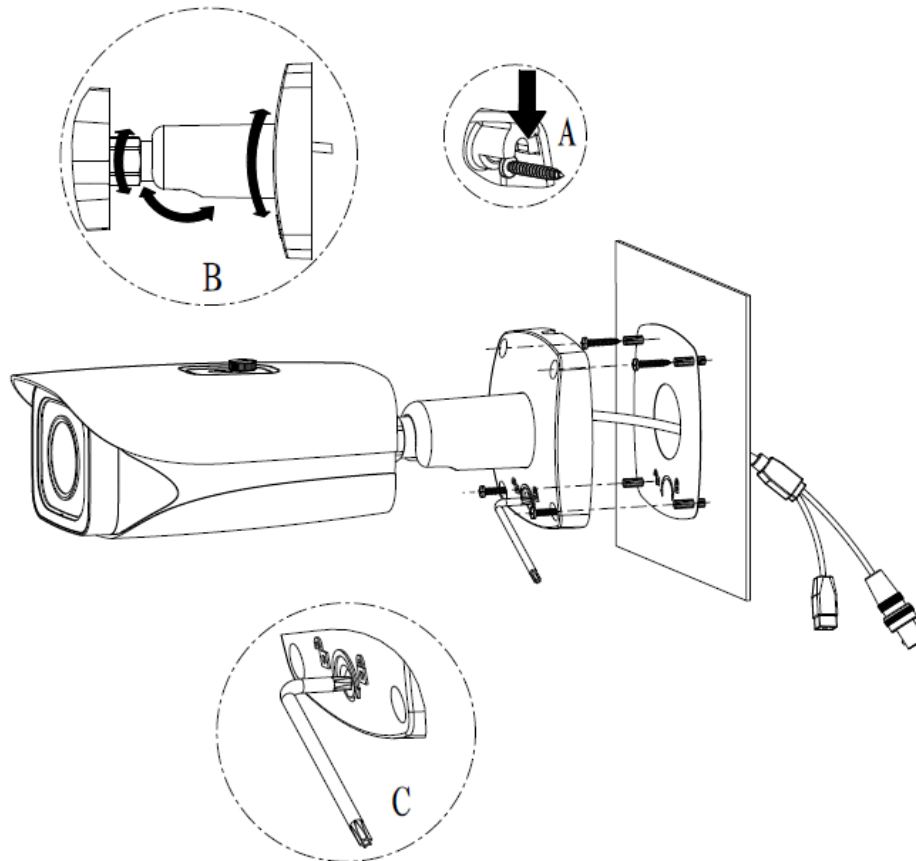


Figure 3-1

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

On DVR local interface, click the “+” button of the iris on the PTZ control interface, or on the WEB interface, click the “+” button of the iris, you can open the menu interface.

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 “...” on the right pane, click the “+” button of the iris, you can open the 2nd menu interface. Repeat the previous steps to set the value. If there is “←” on the right pane, click the “+” button of the iris, you can go to the next interface. Here you complete the setup and confirm. Click Return button to go back to the previous menu interface.

4.1 Menu List

The 1 st		The 2 nd		The 3 rd	
Exposure	←	Exposure Mode	Auto	Gain Max	0~100
			Low	Gain Min	0~100
			Noise ←	Return&Exit	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	<ul style="list-style-type: none"> ● PAL: 0ms~40ms ● NTSC: 0ms~33ms
				Shutter Min	<ul style="list-style-type: none"> ● 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 ←
				Gain Max	0~100
				Gain Min	0~100
		Return&Exit			
		Exp Level	0~14		
		Exp Speed	0~7		
		Anti-flicker	Outoodr/50HZ Z/60HZ		<ul style="list-style-type: none"> ● 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. The 50HZ and 60HZ mode have different manual exposure mode and there is no low motion blur and low noise exposure mode.
		BLC	←	BLC	OFF/ON
WDR	0~100				
HLC	0~100				
Return&Exit					
White Balance	←	Auto			
		Manual	Blue	1~100	
			Red	1~100	
			Return&Ex		

The 1 st	The 2nd	The 3 rd	
	it		
	Day		
	Night		
Day/Night	Auto		
	B/W		
	Color		
Function	↙	2DNR	0~100
		3DNR	0~100
		D-Zoom	1~10
		Lens	Manual/DC
		Return&Exit	
Advanced	↙	CAM	
		Title↙	
		Mirror/Flip	Mirror OFF/ON
		↙	Flip OFF/ON
		↙	Return&Exit
		Motion Detect	OFF
			ON↙
		Area Sel	0~3 There are four motion detect zones ranging from 0 to 3. You need to set parameters for each zone.
		Area State	OFF/ON
		Sensitivity	0~100
		Threshold	0~100
		Area Setup	Position↙
			Size↙ Use direction buttons to set position and zone size.
		Default	
		Return&Exit	
		Privacy Mask	OFF
			ON↙
		Area Sel	0~7 There are eight privacy mask zones ranging from 0 to 7. You need to set parameters for each zone.
		Area state	OFF/ON
		Area setup	Position↙
			Size↙ Use direction buttons to set position and zone size.
		Default	
		Return&Exit	
		Language	EN
		COM Setup	↙
		Address	1~254
		Apply	
		Return&Exit	
		System Info	↙
		Version	XXXXXXXXXX
		Return&Exit	
Image	↙	Sharpness	0~100
		Brightness	0~100
		Contrastness	0~100
		Saturation	0~100
		Sharp Suppress	0~100
		Chroma suppress	0~100
		Gamma	0~5
		Video	1080P@25 OK/CANCEL

The 1 st		The 2 nd		The 3 rd	
		Format	↙/1080P@ 30 ↙/720P @25 ↙/720 P@30 ↙/72 0P@50 ↙/7 20P@60 ↙		
		Return&Exit			
Reset					
Exit					

4.2 Note

Parameter	Function
Brightness	<p>It is to adjust monitor window bright. The value ranges from 0 to 100. The default value is 50.</p> <p>The larger the number is, the bright the video is. When you input the value here, the bright section and the dark section of the video will be adjusted accordingly. You can use this function when the whole video is too dark or too bright. Please note the video may become hazy if the value is too high. The recommended value ranges from 40 to 60.</p>
Contrast	<p>It is to adjust monitor window contrast. The value ranges from 0 to 100. The default value is 50.</p> <p>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 .The recommended value ranges from 40 to 60.</p>
Saturation	<p>It is to adjust monitor window saturation. The value ranges from 0 to 100. The default value is 50.</p> <p>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. The recommended value ranges from 40 to 60.</p>
Sharpness	<p>The value here is to adjust the edge of the video. The value ranges from 0 to 100. 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. The default value is 50 and the recommended value ranges from 40 to 60.</p>
3DNR	<p>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.</p>

Anti-flicker	<ul style="list-style-type: none">● Outdoor: In this mode, you can switch exposure mode to get the effect under the corresponding exposure mode.● 50Hz: When the current is 50Hz, system can auto adjust the exposure according to the environment brightness in case there is any strip.● 60Hz: When the current is 60Hz, system can auto adjust the exposure according to the environment brightness in case there is any strip.
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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.