

HDCVI 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

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 DC 12V or AC24V in the IEC60950-1. (Power supply requirement is subject to the device label).
- Please install easy-to-use device for power off before installing wiring, which is for emergent power off when necessary.
- Please check if the power supply meets the requirements of working voltage of the camera before operating the device (The material and length of the power supply cable will influence terminal voltage value).
- Please prevent the line cord from being trampled or pressed, especially the plug, power socket and the junction from the device.

Environment

- Please don't aim the device at strong light (such as lighting, sunlight and so on) to focus.
- Please transport, use and store the device within the range of allowed humidity and temperature.
- Please do not allow water and other liquid falling into the camera in case that the internal components are damaged.
- Please keep the sound ventilation in case of heat accumulation.
- Heavy stress, violent vibration or water splash are not allowed during transportation, storage and installation.
- Please pack the device with standard factory packaging or material with same quality when transporting the device.
- It is recommended to use the device together with lightning protection device to enhance lightning protection effect.
- It is recommended to GND the device to enhance device reliability.
- It is advised to use qualified video transmission cable to improve video quality. It is recommended to use 75-3 coaxial cable or higher standard.

Warning

- Please use the standard accessories provided by manufacturer and make sure the device is installed and fixed by professional engineers.
- Please prevent the device surface from the radiation of laser beam when using laser beam device.
- Please do not provide two or more power supply modes for the device, otherwise it may cause damage to the device.

Statement

- Please refer to the actual product for more details; the manual is just for reference.
- The manual will be regularly upgraded according to the product update; the upgraded content will be added in the manual without prior announcement.
- Please contact the customer service for the latest procedure and supplementary documentation.
- The company is not liable for any loss caused by the operation which is not followed by the manual.
- Please refer to the company's final explanation if there is any doubt or dispute.

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 HCVR conforming to the HDCVI.

1.2 Features

- High-performance CMOS image sensor, megapixel definition.
- Support HD video and control signal coaxial transmission.
- For 720P series, support 75-3 coaxial cable transmission without any loss. The distance is over 800m. For 1080P series, support 75-3 coaxial cable transmission without any loss. The distance is over 500m.
- High speed, long distance real-time transmission.
- Support HDCVI HD and analog SD output.
- Support 3D noise reduction, excellent low illuminance performance.
- Support ICR switch to realize surveillance both in the daytime and at night.
- Support WDR (Some models only support DWDR)
- Support OSD menu to adjust parameters.
- Support five-direction button function.
- Support DC12V/AC24V power supply.
- It can be applied to the places with HD image requirement, such as bank, supermarket, telecom, government, school, airport, factory, hotel and etc.

2 Framework and Dimensions

2.1 Front Panel and Side Panel

See Figure 2-1 for the dimension of **model A**. The unit is mm.

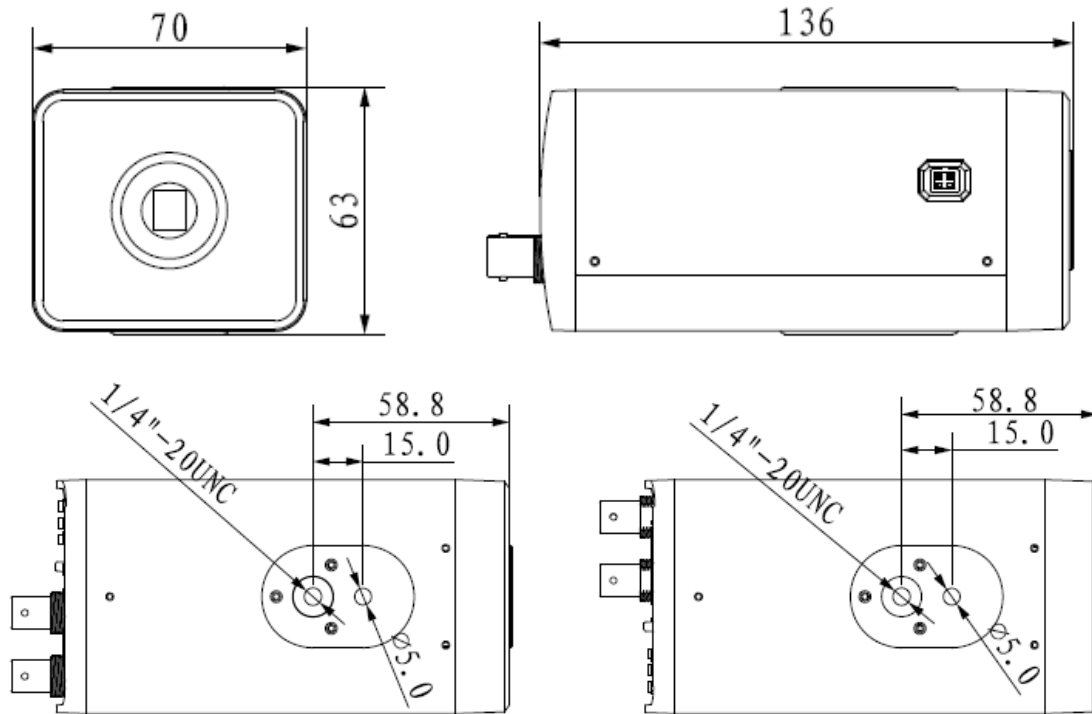


Figure 2-1

See Figure 2-2 for the dimension of **model B and model C**. The unit is mm.

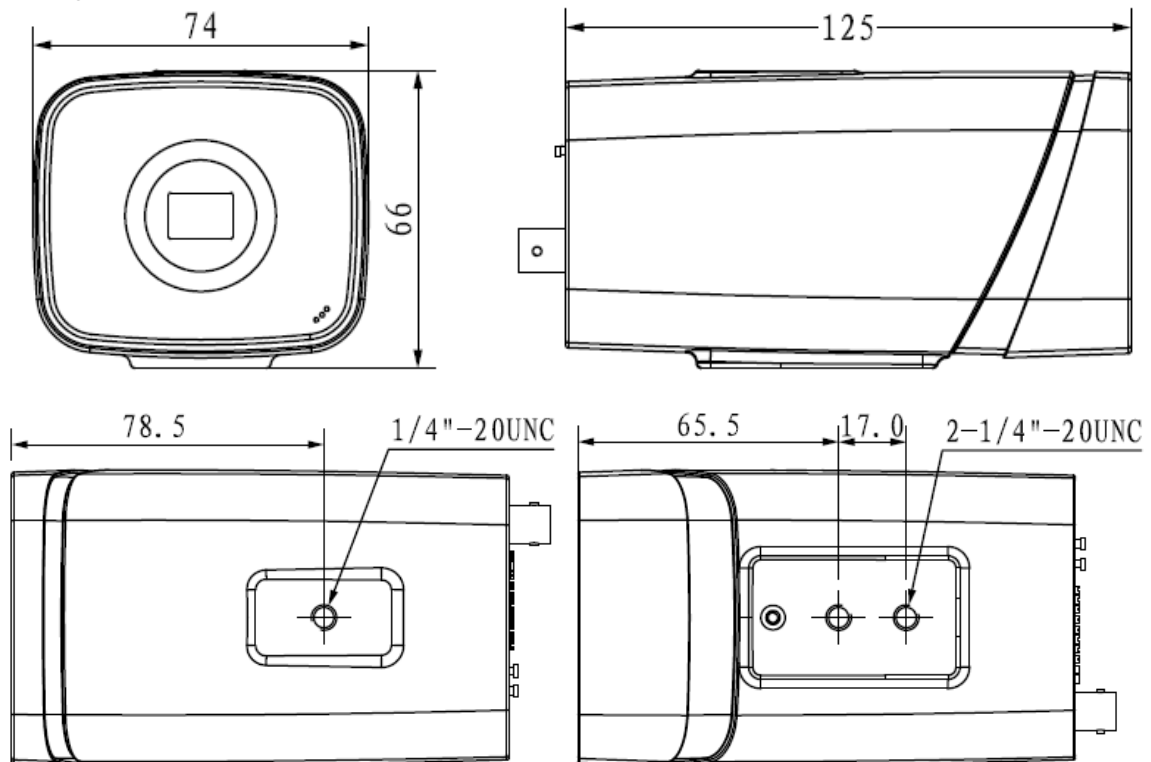


Figure 2-2

See Figure 2-3 for the dimension of **model D**. The unit is mm.

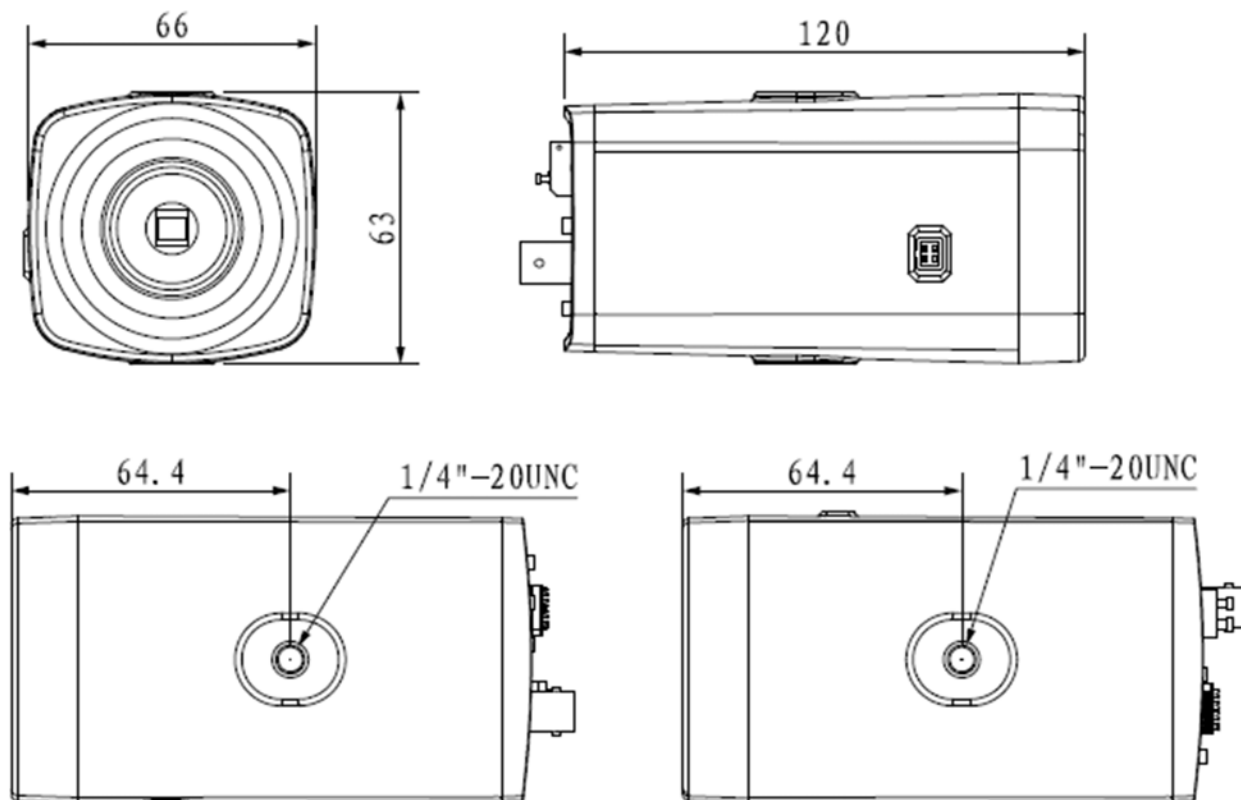


Figure 2-3

Note:

The dimension figures above are for reference only.

2.2 Rear Panel

Please refer to Figure 2-4 for the rear panel of model A.

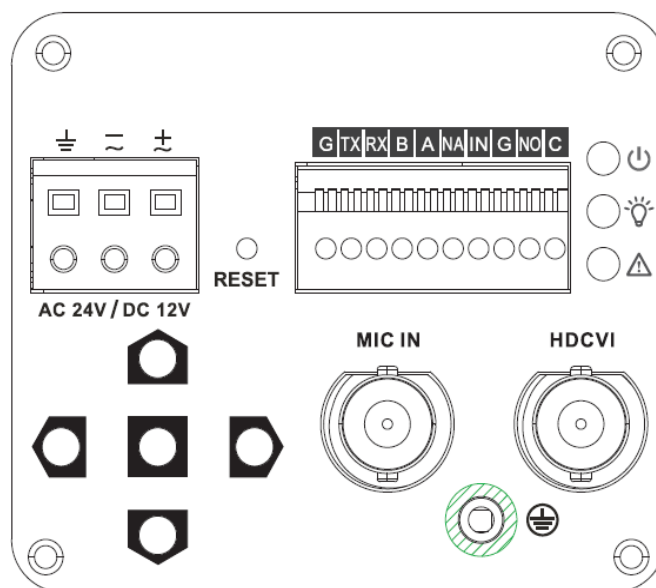






Figure 2-4

Please refer to sheet 2-1 for rear panel structure function of model A.

Port Name		Port Function
AC 24V/ DC 12V	Power port	<ul style="list-style-type: none"> ● Power port. ● Connect to AC 24V/ DC 12V.
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 external trigger	Connect to external on-off output to control ICR switch to realize day/night mode switch.
NO	Alarm output normal open contact	On-off signal alarm output.
C	Alarm output public contact	On-off signal alarm output.
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.
MIC IN	Microphone audio input	Audio input from the pickup.
5-direction button	OSD button	<ul style="list-style-type: none"> ● Press the middle button for five seconds to switch HD/standard definition mode. ● Press the middle button shortly to go to the OSD menu interface. ● 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.
	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.

Sheet 2-1

Please refer to Figure 2-5 for the rear panel of model B.

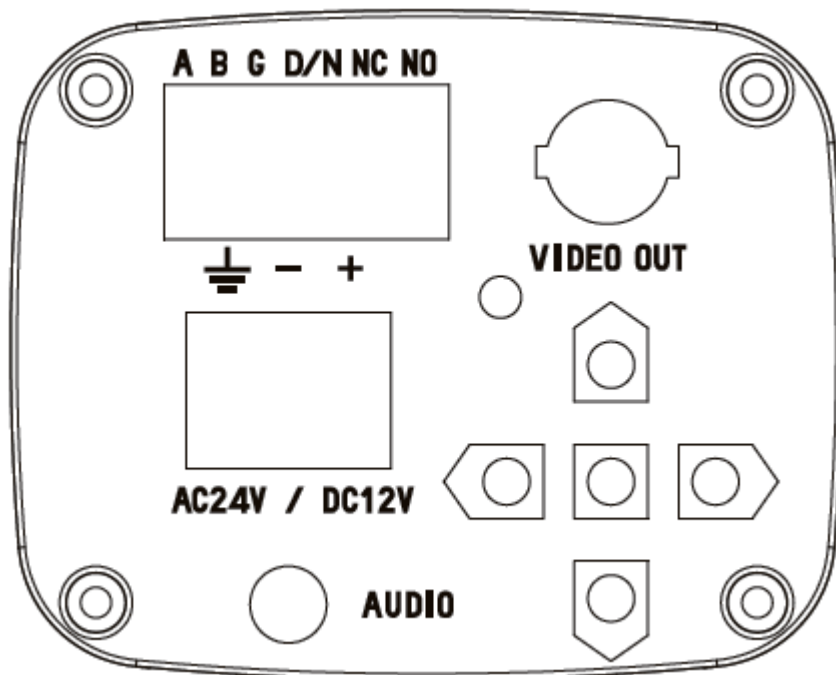



Figure 2-5

Please refer to sheet 2-2 for rear panel structure function of model B.

Port Name		Port Function
AC 24V/ DC 12V	Power port	<ul style="list-style-type: none"> ● Power port. ● Connect to AC 24V/ DC 12V.
Indicator light	System status indicator light	<ul style="list-style-type: none"> ● Dual-light indicator light. ● After system booted up the indicator light is green, system is outputting high definition video by default. ● The indicator light is red when system is outputting standard definition video. The indicator light is green again when system is outputting high definition video.
NC	Alarm input GND end	GND end
NO	Alarm input port	Receive the signal from external alarm source
D/N	External trigger day/night mode switch	<p>Connect to external control signal to control ICR switch to realize day/night mode switch.</p> <p>Please note: 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 D/N and G port. For example, connect the 5V to the D/N port and the day/night mode as EXT TRIG-HIGH; the camera can switch from day mode to night mode.</p>
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.

Port Name		Port Function
VIDEO OUT	Video output port	Send video stream/audio stream/RS485 control data stream via coaxial cable. Please connect to the HDCVI DVR series product to control.
AUDIO	Microphone audio input	Audio input from the pickup.
5-direction button	OSD button	<ul style="list-style-type: none"> ● Press the middle button for five seconds to switch HD/standard definition mode. ● Press the middle button shortly to go to the OSD menu interface. ● 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.
	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.

Sheet 2-2

Please refer to Figure 2-6 for the rear panel of model C.

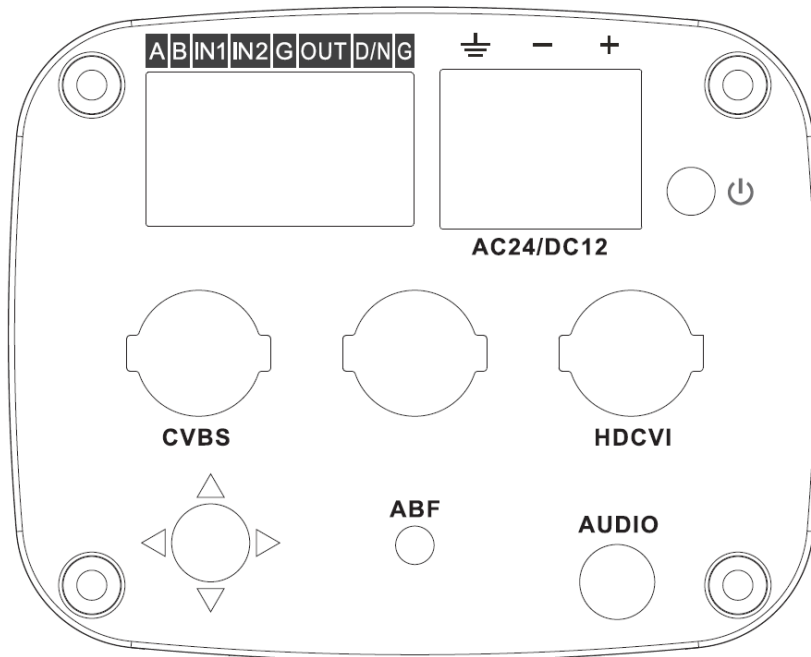



Figure 2-6

Please refer to sheet 2-3 for rear panel structure function of model C.

Port Name		Port Function
IN1	Alarm input port 1	Receive the signal of external alarm source.
IN2	Alarm input port 2	Receive the signal of alarm source.
G	Alarm input GND port	GND

Port Name		Port Function
OUT	Alarm output port	Output the signal of internal alarm source.
D/N	External day/night switch trigger mode	Refer to Sheet 2-2.
G	GND	GND (alarm output and external trigger day/night switch port share the GND port).
	Dual color indicator light	Display green light after operation with power on.
CVBS	Video port	Output analog SD video signal.
HDCVI	Video/audio/control composite interface	Coaxial transmission of video, audio and 485 control signal, it needs to connect to back-end HCVR to control.
ABF	Auto back focus	Lens auto focus.
AUDIO	Mic audio input	Pickup audio input.
5-Direction button	OSD button	Press the button to go to the OSD menu interface. After you go to the menu, click the button to confirm current operation. Move the up/down button to select menu item and use left/right button to set parameter value.

Sheet 2-3

Please refer to Figure 2-7 for the rear panel of model D

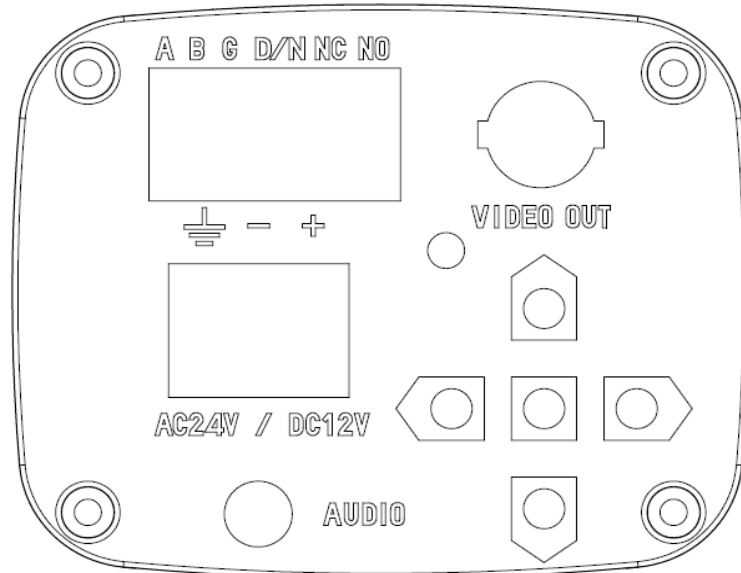



Figure 2-7

Please refer to sheet 2-4 for rear panel structure function of model D.

Port Name		Port Function
A/B	RS485 port	Control 485 config tool or connect to DVR to adjust image parameter.

Port Name		Port Function
G	GND	Ground port.
D/N	External trigger day/night switch	External control signal input, control ICR switch, and realize day/night conversion. Note: The day/night mode in this OSD menu needs To select external trigger high level or External trigger low level, connect control signal to D/N port and G port respectively. If it inputs +5V to D/N port, day/night mode selects external trigger high level and the camera is switched from color to black/white.
NC	Alarm input GND port.	GND
NO	Alarm input port	Receive the signal of external alarm source.
	GND port	Please connect the port to ground when using the device, which is to avoid lightning stroke and other problems.
AC 24V/ DC 12V	Power port	It can input both 12V DC and 24V AC.
AUDIO	Mic audio input	Sound pick-up audio input.
Indicator light	System state indicator light	Dual-color indicator light, the green light is on after normal boot with power on, it outputs HD by default; the red light is on after it is switched to SD; the green light is on after it is switched to HD again.
VIDEO OUT	Video output port	Coaxial transmission video, audio, 485 control signal, need to connect to back-end HCVR to control.
5-direction button	OSD button	Refer to sheet 2-1.

Sheet 2-4

Note:

Please refer to model A for other port name and functions.

3 Installation

Important

- Please install the device in time after it is taken apart, which is to avoid the camera module being exposed to damp environment for too long.
- Before the installation, please make sure the installation surface can sustain at least 3X weight of the bracket and the camera.
- All figures listed below for reference only.

3.1 Lens Installation

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

- 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.

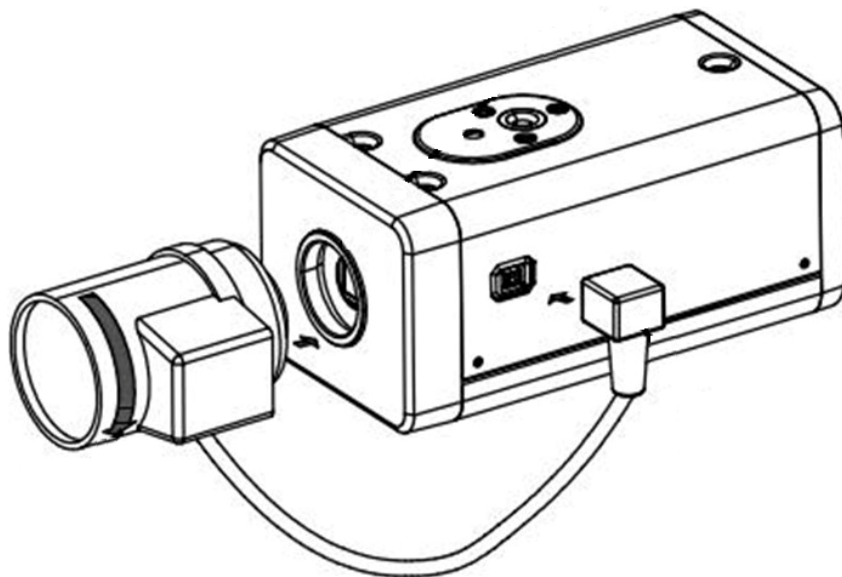


Figure 3-1

3.2 I/O Port Installation

Install Cable

Please follow the steps listed below to install the cable. See Figure 3-2.

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.

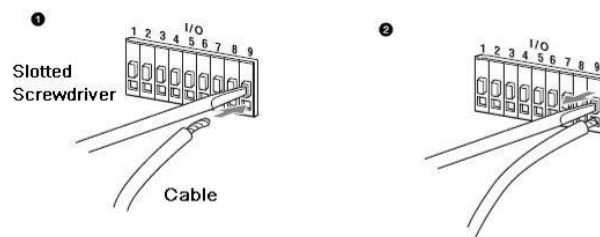


Figure 3-2

Note:

The Figures are for reference only; please refer to the actual product for more details.

4 Menu

4.1 HCVR Settings

4.1.1 Control Coaxial Device

This HDCVI camera series can adjust OSD menu via coaxial control. After connected the camera to the HDCVI series HCVR, from Main Menu->Setting->System->PTZ, you need to select the channel number for access and set control mode as HDCVI and the protocol as HD-CVI. 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 “HDCVI”. See Figure 4-2 for more details.



Figure 4-2

4.2 Menu Operation

Click the right mouse button and select “PTZ Control”, then you will see the “PTZ Setup” menu, which is as shown in Figure 4-3 and Figure 4-4.



Figure 4-3



Figure 4-4

See Sheet 4-1 for the details of button functions.

Button	Function	
	Open menu	
	Select menu item	
	Select menu value	
	Adjust lens zoom and auto trigger focus	Note: Some of the buttons can only be applied for the motorized vari-focal camera.
	Adjust lens focus	
	Auto focus under current zoom rate	
	Lens reset	

Sheet 4-1

If there is “↵”, click iris “+” or the “Confirm” button in “Menu Operation” interface to go to the 2nd menu. Click “Return” button to go back to the previous menu interface.

Appendix I Maintenance

Attention:

Please maintain the device according to the following instructions in order to ensure the image effect and long-term stable operation of the device.

Maintenance for lens and mirror surface

The lens and mirror surface are covered with antireflection coating, so it may produce hazardous substance and lead to performance reduction or scratch, dimness etc when it is stained with dust, grease, fingerprint and so on, please refer to the following methods to deal with once dirt is found:

Stained with dirt

Use oil-free soft brush or hair dries to remove it gently.

Stained with grease or fingerprint

Use soft cloth to wipe the water drop or oil gently to make it dry, then use oil-free cotton cloth or paper soaked with alcohol or detergent to wipe from the lens center to outward. It is ok to change the cloth and wipe several times if it is not clean enough.

Camera Body Maintenance

Use a soft dry cloth to clean the camera body when it is dirty, in case the dirt is hard to remove, use a clean dry cloth soaked with mild detergent and wipe gently, make it dry later. Don't use volatile solvent like alcohol, benzene, thinner and etc or strong detergent with abrasiveness, otherwise it will damage the surface coating or reduce the working performance of the device.

Maintenance for Dome Cover

Dome cover is an optical device, please don't touch or wipe cover surface directly during installation and use, please refer to the following methods to deal with once dirt is found:

Stained with dirt

Use oil-free soft brush or hair dries to remove it gently.

Stained with grease or fingerprint

Use soft cloth to wipe the water drop or oil gently to make it dry, then use oil-free cotton cloth or paper soaked with alcohol or detergent to wipe from the lens center to outward. It is ok to change the cloth and wipe several times if it is not clean enough.

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.**