

1 Megapixel HD Analog Camera User's Manual

Version 1.0.1

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Welcome

Thank you for purchasing our analog 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 analog camera should be installed in a cool, dry place away from direct sunlight or strong light, inflammable, explosive substances and etc.

The working temperature ranges from -30°C to $+60^{\circ}\text{C}$. 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 analog 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 500m.
- Support analog 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 analog 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 Parameter | | 1 Megapixel HDCVI Analog Camera | | |
|-------------------------------|---------------|---|------------------------------|---------------------------------|
| | | HAC-HDW2100SP/N | HAC-HFW2100BP/N | HAC-HFW2100SP/N |
| Video Processor | | 1/3" 1.3 Megapixel CMOS | | |
| Video Format | | PAL/NTSC | | |
| Effective Pixel | | 1280(H)×960(V) | | |
| Min Illumination | | Color: 0.01Lux/F1.2 (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 | | M12 | | |
| Lens Type | | 2.8/3.6/6/8mm optional | | |
| Day/Night Switch | | ICR mechanical auto switch | | |
| Video Output | | 1-channel BNC analog high definition video output/ CVBS analog standard definition video output (Can switch.) | | |
| Denoise (Noise Reduction) | | Support 3D denoise. | | |
| OSD Menu Control | | Support | | |
| OSD | EXPOSURE | Global/centre/Centre weight/BLC/Front light/Distinguish | | |
| | WHITE BALANCE | AWB-GW/AWB-CCT/AWB-PRO/AWB-TEMPROAL/AWB-AI/AWB-SZ | | |
| | DAY/NIGHT | Auto/B&W/Color | | |
| | FUNCTION | 3DNR | | |
| | ADVANCED | Mirror/Language/RS485/Video format/Version/ | | |
| | IMAGE | Sharpness/Contrastness/Saturation/Brightness | | |
| | EXIT | SAVE/CANCEL/RESET | | |
| Max IR Distance | | 20m | 30 m | 20 m |
| Transmission Distance | | Over 500m via 75-3 coaxial cable. | | |
| Protection Level | | IP66 | | |
| Working Temperature /Humidity | | -30℃~+60℃. Humidity is less than 95%(no condensation) | | |
| Power | | DC 12V±10% | | |
| Power Consumption | | 3.5W MAX (Input: 12V === 0.29A) | 6W MAX (Input: 12V === 0.5A) | 4.2W MAX (Input: 12V === 0.35A) |
| Dimension(mm) | | Φ113.6×85.4 | 200.2×89.1×80.4 | Φ 65.0×154.7 |
| Weight | | 300g | 450g | 380g |
| Installation Mode | | Wall mount | Wall mount | |

| | | |
|--|------------------|--|
| | In-ceiling mount | |
|--|------------------|--|

2 Framework

2.1 Dimensions

2.1.1 HAC-HDW2100SP/N

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

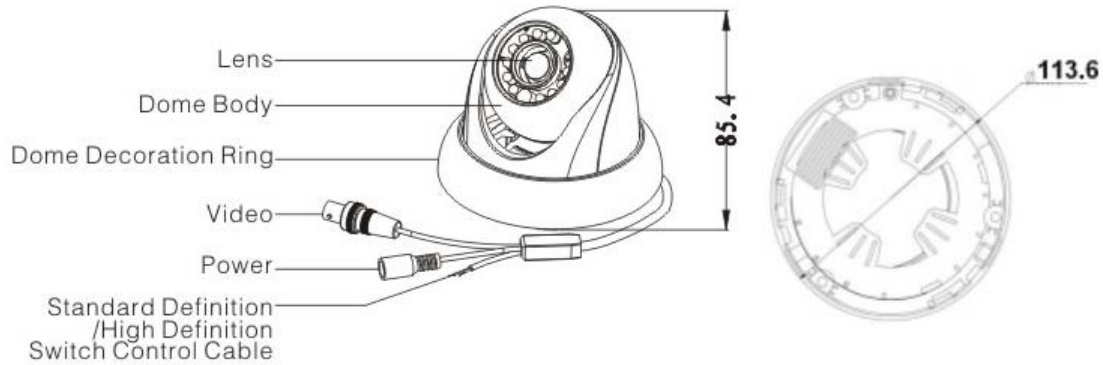


Figure 2-1

2.1.2 HAC-HFW2100BP/N

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

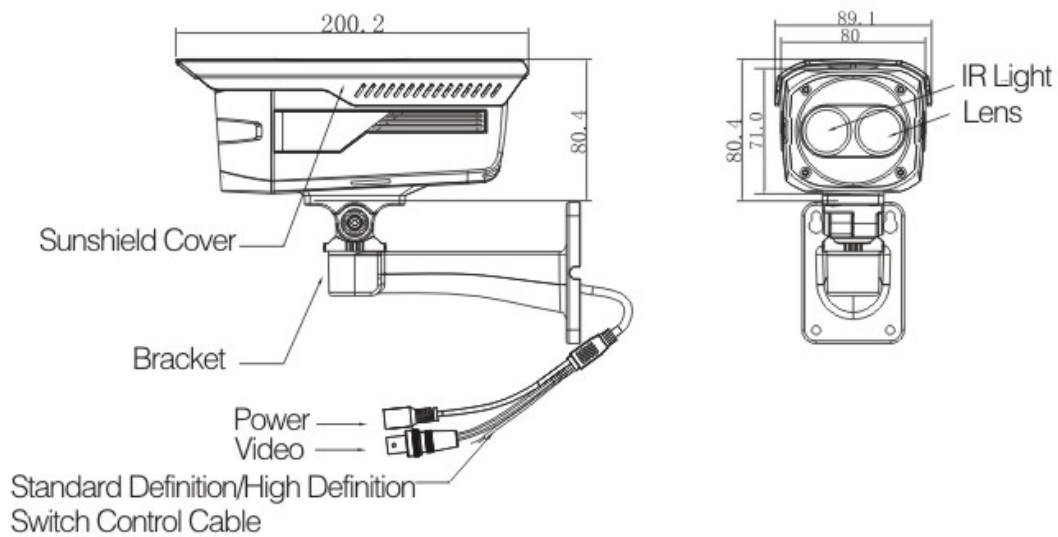


Figure 2-2

2.1.3 HAC-HFW2100SP/N

Please refer to the following figures for the dimension information. The unit is mm. See Figure 2-3.

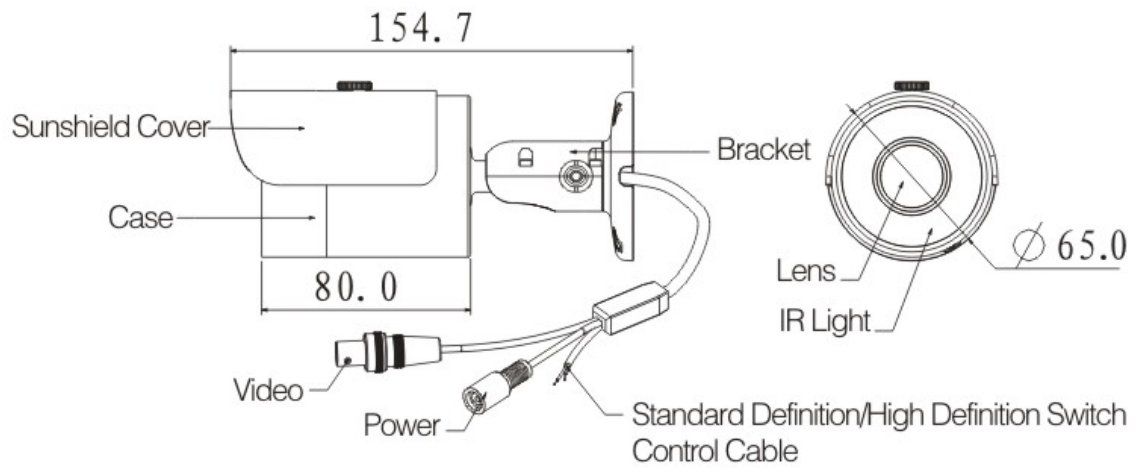


Figure 2-3

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.

3.1 IR Waterproof Dome Camera

Step 1

Please take the installation position map in the accessories bag, and then paste it on the ceiling or the wall according to your monitor area requirements. Draw and then dig three holes in the installation surface and then insert three expansion bolts in the holes. Secure these three bolts firmly.

Step 2

Turn counter clockwise to remove the decoration ring. Please dig a “cable exit hole” in the surface according to the installation position map if you want to draw out the cable from the top of the installation surface. You need to draw out the cable from the cable channel side port of the pedestal if you want to draw out the cable from the side port of the cable channel. Adjust the device installation pedestal to the proper position and then draw the cable through the cable exit. Line up the three screw holes in the device pedestal to the three plastic expansion bolt holes in the installation position. Put the three self-tapping screws in the three plastic expansion bolts firmly. Now the dome camera is secure in the installation surface. See Figure 3-1.

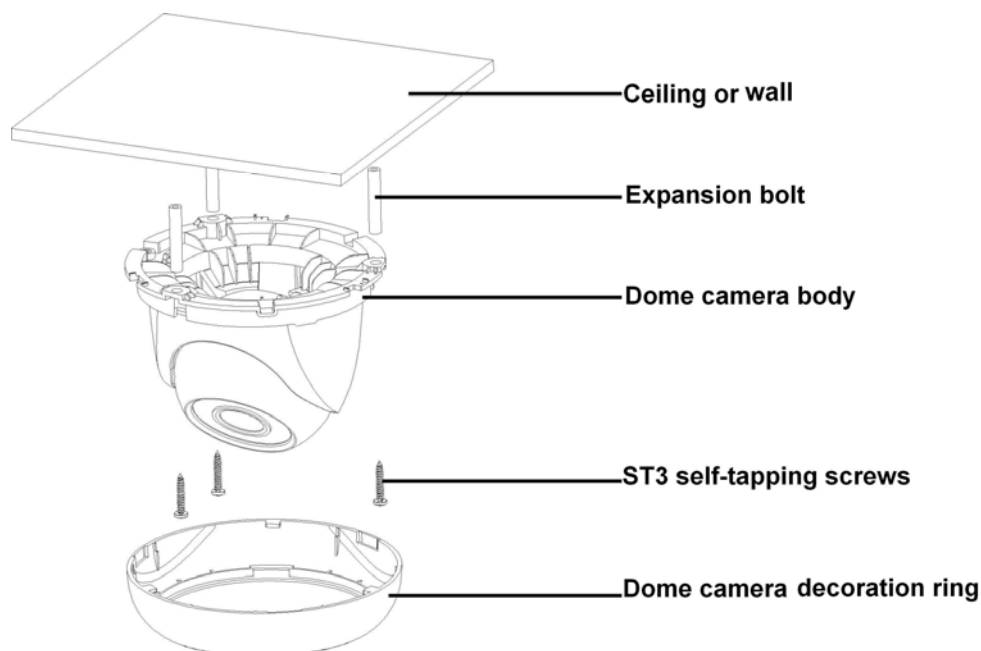


Figure 3-1

Step 3

Adjust the lens to get the clear monitor video. See Figure 3-2. Use crosshead screwdriver to loosen the screw and then turn the camera body to the proper position manually. Fix the screw again.

Important

Do not remove the screw. Loosen a little bit will be OK. Please secure after you completed the setup.

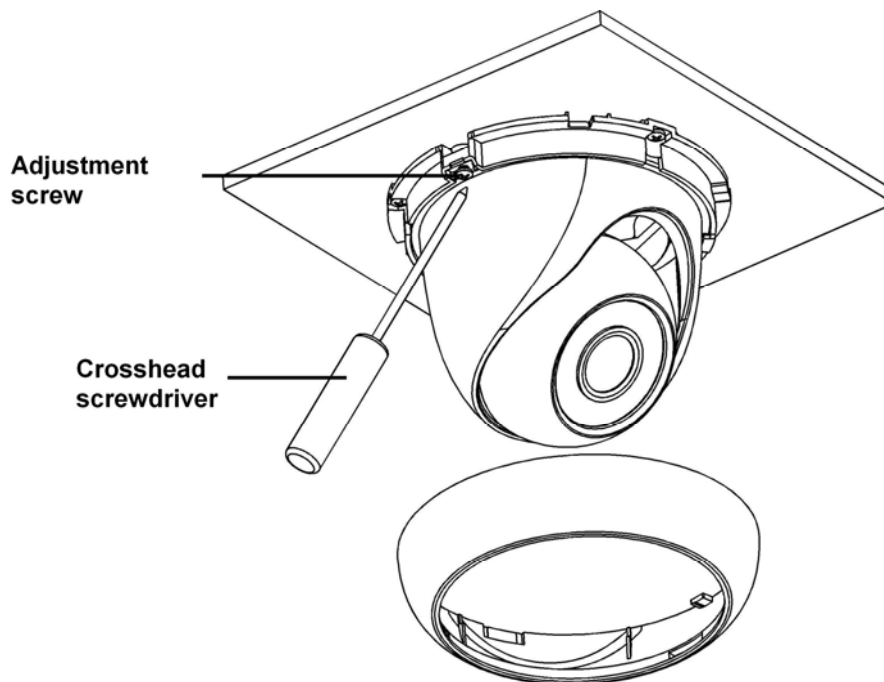


Figure 3-2

Step 4

Line up the bulge of the decoration ring to the nick of the camera body and install along the tilt installation. Push and then turn decoration ring clockwise. The installation completed after you secure the decoration ring. You need to use the proper tool to open up the side port of the U-cable channel of the decoration ring if you want to draw out the cable from the side port of the cable channel when you are installing the device cable. And then you can draw out the cable from the cable channel of the pedestal. Finally you can install the decoration ring to complete the installation. See Figure 3-3.

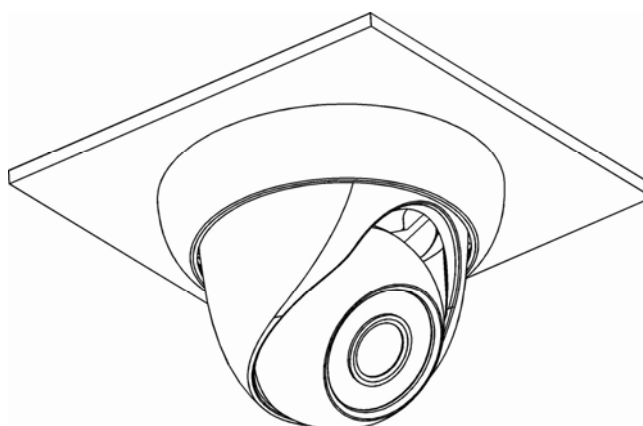


Figure 3-3

3.2 General Fixed Camera Installation

This series product supports wall-mount. Please refer to the steps listed below for installation information.

Step 1

Please dig four installation holes in the installation surface according to the four holes of the bottom of the bracket. Insert four expansion bolts from the accessories bag into the holes and then use four self-tapping screws to secure the bracket on the installation surface. See Figure 3-4.

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.

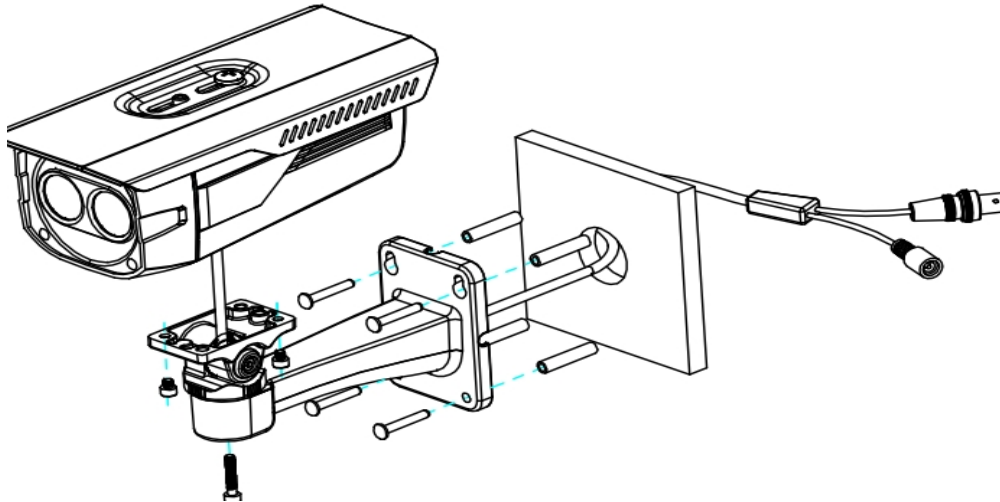


Figure 3-4

Step 2

Use the inner hex wrench from the accessories bag to loosen the side panel of the bracket and two hex knobs at the bottom. Adjust the camera to the proper monitor area and then secure the knobs of the bracket to fasten the camera.

Step 3

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.

Now you have completed dome camera installation and cable connection. You can use the rear-end device to view the monitor video.

3.3 Mini IR Waterproof Fixed Camera Installation

In Figure 3-5, ①Installation surface; ②Bracket; ③Screws; ④Camera.

Step 1

Dig three holes in the installation surface of the wall or the ceiling. Insert three expansion bolts to the three holes and then lock firmly.

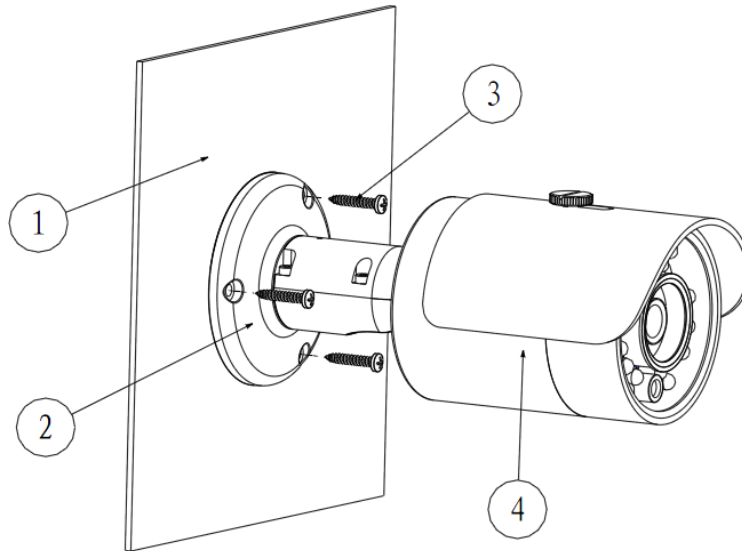


Figure 3-5

Step 2

First prepare the cable according to the cable. Line up the three screw holes at the bottom of the bracket to the three installation holes in the wall or the ceiling, and then insert three screws to the three holes of the chassis of the bracket and fix them firmly. Now secure the bracket on the installation surface of the wall or the ceiling.

Step 3

Adjust the camera to the proper monitor area via the three directions indicated in Figure 3-6 after you fixed the camera.

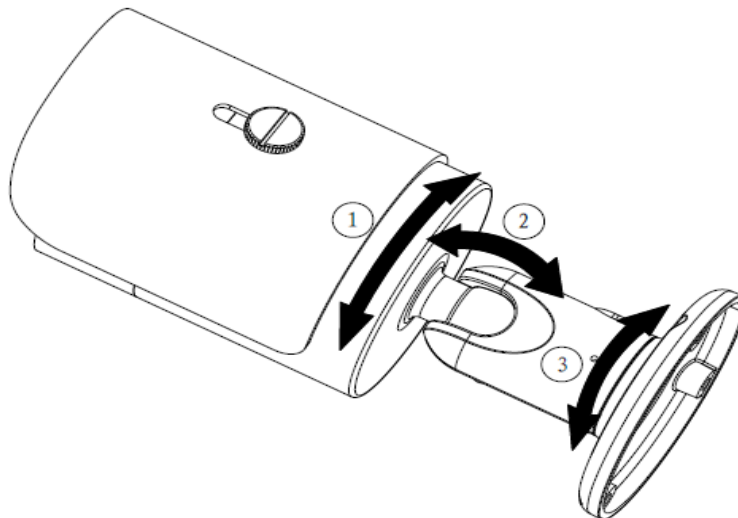


Figure 3-6

Step 4

Connect the device video output port to the terminal devices such as the DVR, NVS and etc. Then connect the power cable to the device.

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 Menu List

| The 1 st Menu | | The 2 nd Menu | | The 3 rd Menu | |
|--------------------------|--------------|--------------------------|-----------------------------|--------------------------|-----------------------------|
| EXPOSURE | ← | AE MODE | GLOBAL | | |
| | | | CENTRE | | |
| | | | CENTRE WEIGHT | | |
| | | | BLC | | |
| | | | FRONT LIGHT | | |
| | | | DISTINGUISH | | |
| | | | RETURN | | |
| WB MODE | AWB-GW | | | | |
| | AWB-CCT | | | | |
| | AWB-PRO | | | | |
| | AWB-TEMPROAL | | | | |
| | AWB-AI | | | | |
| | AWB-SZ | | | | |
| DAY & NIGHT | AUTO | | | | |
| | B&W | | | | |
| | COLOR | | | | |
| FUNCTION | ← | 3D-NR | ON/OFF | | |
| | | RETURN | | | |
| ADVANCED | ← | MIRROR | OFF/HORIZONTAL/VERTICAL/H&V | | |
| | | | LANGUAGE | ENGLISH | |
| | | RS485 | ← | ADDRESS | 1-254 |
| | | | | BAUD RATE | 2400-115200 |
| | | | | 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) |

| The 1 st Menu | | The 2 nd Menu | | The 3 rd Menu | |
|--------------------------|--------|--------------------------|-------------|--------------------------|-----------------------------|
| | | | | 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 | | | | |

4.2 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. |
| Exposure | <ul style="list-style-type: none"> ● Front light: It is to automatically enhance video brightness by specified value when the whole video is too dark. It is to get clear and bright video. ● Distinguish: It is the customized exposure mode. There are total nine exposure zones and each zone has its own specified value. |

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.