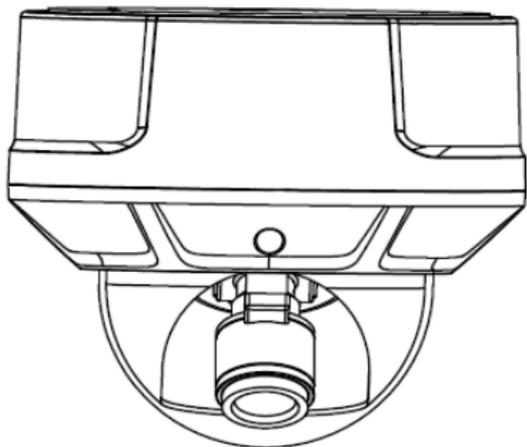


# **Network Camera**



## **User's Manual**

**V1.31**

# --Content--

|  |               |
|--|---------------|
| <b>CHAPTER 1 PROFILE.....</b>                    | <b>- 3 -</b>  |
| 1.1 FUNCTIONS AND CHARACTERISTICS.....           | - 3 -         |
| 1.2 APPLICATIONS.....                            | - 4 -         |
| <b>CHAPTER 2 INSTALLATION.....</b>               | <b>- 4 -</b>  |
| 2.1 NOTICE.....                                  | - 4 -         |
| 2.2 HANDLING OF THE UNIT.....                    | - 5 -         |
| 2.3 PARTS DESCRIPTION.....                       | - 5 -         |
| 2.4 COVER REMOVAL AND ATTACHMENT.....            | - 5 -         |
| 2.5 HARDWARE CONNECT.....                        | - 8 -         |
| 2.5.1 <i>Hardware interface</i> .....            | - 8 -         |
| 2.5.2 <i>Alarm input/output connection</i> ..... | - 8 -         |
| 2.5.3 <i>Selection of reticle</i> .....          | - 9 -         |
| <b>CHAPTER 3 PARAMETER SETUP.....</b>            | <b>- 10 -</b> |
| 3.1 SETUP PARAMETER BY IE BROWSER.....           | - 10 -        |
| <b>APPENDIX.....</b>                             | <b>- 11 -</b> |

**This manual is suitable for IP DOME series**

## Chapter 1 Profile

Network Camera is a kind of embedded digital surveillance product collected traditional simulation camera and network video server. Adopts embedded Linux operation system and SOC hardware platform of Graim Corp. And has characteristics of high efficiency on system adjustment, solidified code on Flash, small bulk, high stability and reliability.

### 1.1 Functions and Characteristics

#### Basic Function

- Video compression tech: adopts H.264 video compression tech, high compression ratio with super agility handling.
- Network function: integrate TCP/IP protocols and video, alarm, voice data supported, built-in WEB browser, IE interface supported.
- Heartbeat function: host computer is able to know running state of network camera real time by heartbeat function.
- PTZ control function: control for PTZ, kinds of decoder protocols and dome cameras supported.
- Alarm function: signal parameter alarm input, on-off parameter alarm output, motion detective, video lost, mask alarm, alarm link output.
- Voice speech: two-way voice speech, one-way voice broadcast.
- POE power supply supported.
- User management: multi-level user popedom management.

#### Compression Handling Function

- Separate hardware compression, adopts H.264 compression standard on video compression, not only support change code ratio, but also support change frame ratio, while setting up video image quality, it's able to restrict compression bit rate of video image.
- 1920\*1080p, 1600\*1200p, 1280\*720p, D1(PAL:704\*576, NTSC:704\*480), CIF(PAL:352\*288, NTSC:352\*240), QCIF(PAL:176\*144, NTSC:240\*160) supported
- OSD supported, date and time setup available.

#### Remote interview and transmission function

- One self-compliant 10M/100M Ethernet interface as standard accessory..
- PPPoE, DHCP, DDNS protocol supported.
- Available to set parameter, browse real time video, check network camera

state through applications or IE browser. Available to realize alarm link and save compressed bit rate through network.

- Available to realize remote upgrade and maintenance through network.

## **1.2 Applications**

Suitable for circumstances required for network remote surveillance

- ATM, Bank Counter, Supermarket, Factory etc
- Nursing House, Kindergarten, School etc.
- Intelligentized door management system
- Intelligentized Building, intelligentized community management system
- Electricity station, telecom base station etc unmanned on duty system
- Outdoor bridge, tunnel, crossing traffic etc surveillance system
- flowing line and warehouse surveillance
- 24h surveillance to road traffic
- Remote surveillance to forest, fountain and river etc.

## **Chapter 2 Installation**

### **2.1 Notice**

1. Do not attempt to point the camera at the sun or other extremely bright objects that cause smear to appear no matter the camera is power on or not. It leads to damage of the CCD(Charge Coupled Device).

2. Make sure to use a ceiling board having enough strength to support this camera.

3. Assemble the camera's main parts and lens quickly in a sanitary place.

4. Do not pull the cable, it may cause disconnection.

5. When camera is installed next to equipment such as wireless communication device which emits a strong electromagnetic field some irregularity such as noise on the monitor screen may happen.

6. Make sure to use proper screws which cameras can be bear on the material firmly.

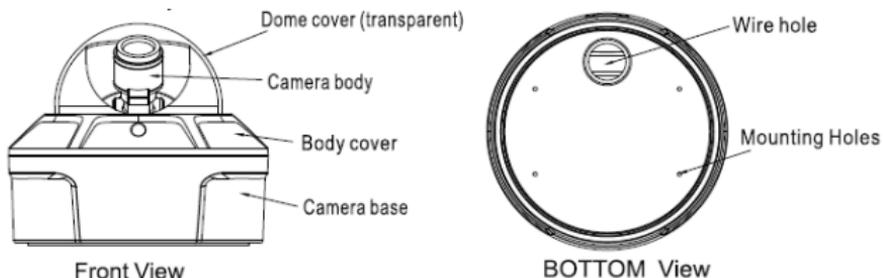
7. Do not touch the inside of camera even if something is wrong.

8. Makes sure to disconnect the power supply first before installation, check the ground connection, and then install it.

## 2.2 Handling of the unit

1. Never attempt to disassemble or modify the camera.
2. If an abnormality should occur, immediately turn off the power and consult your dealer.

## 2.3 Parts Description



## 2.4 Cover Removal and Attachment

To remove the body cover and camera body, disassemble it with the L WRENCH provided in your ACCESSORY set. (Rotating clockwise will close it and rotating anti-clockwise will release it.)

## ● Accessories



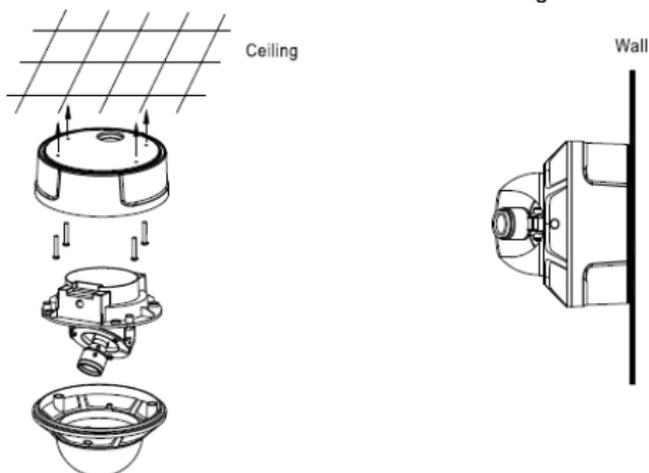
1. **PLASTIC ANCHOR**: insert into the SCREW hole of the installation location (to strengthen the installation).
2. **ASSY SCREW TAPPING**: use for installation on the ceiling or wall.
3. **OPENING TOOL**: if needed open the pipe hole by opening tool.
4. **L WRENCH** for: body cover and camera base assembly.
5. **TEMPLATE**: guide for installation.
6. **RUBBER PADS**: tick rubber pad on the camera base for waterproof.

## Installation Instruction

1. Attach the provided **TEMPLATE** to where you want to install the

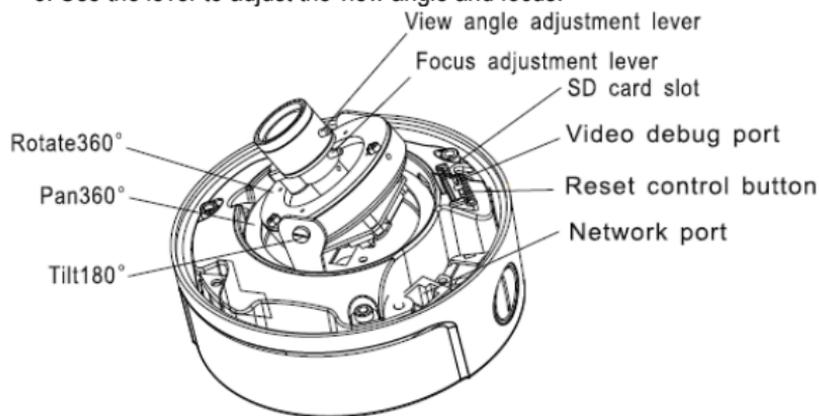
camera, and then drill a hole. Completely insert the PLASTIC ANCHOR provided. Then lead the power and video cables pass through the hole.

2. Disassemble the body cover and camera base from dome camera.
3. Fasten the dome camera base on the wall or the ceiling.



4. Adjusting the Camera Direction Camera body moves in three ways: pan, tilt and rotate. Adjust the direction so that the lens is pointing at the target.

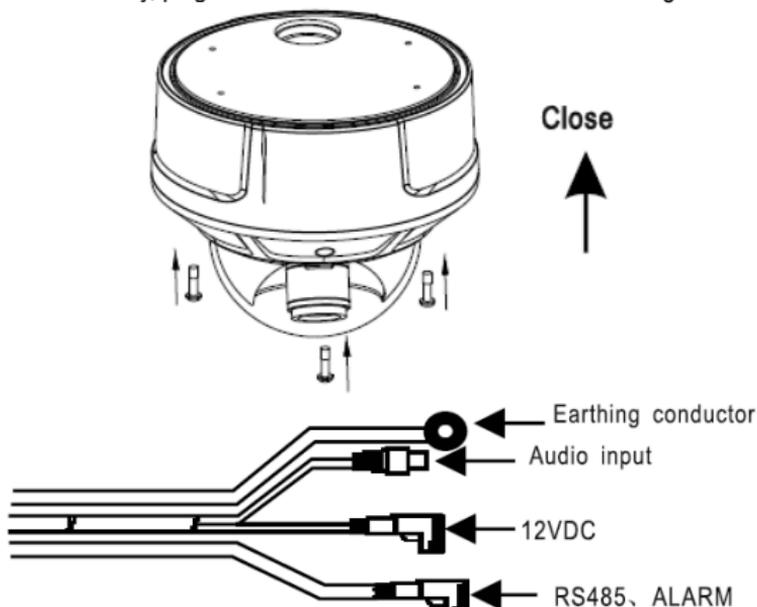
5. Use the lever to adjust the view angle and focus.



6. Connected the network cable.

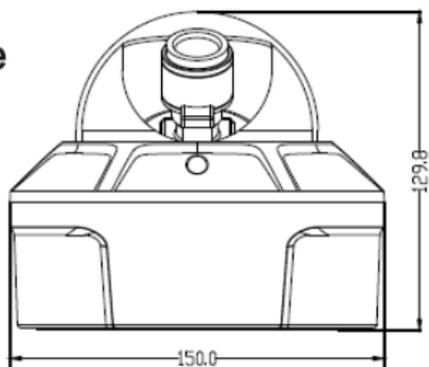
7. Connected the power cable carefully and tightly (disconnected the power cable, if power over Ethernet function was option).

8. If necessary, plug SD card into the SD card slot for local storage.



9. Turn the dome cover to adjust until the lens point at the window, screw tightly and complete the installation.

### Dimension Outline



## 2.5 Hardware connect

### 2.5.1 Hardware interface

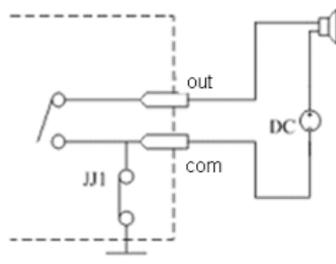
| Interface                      | Connection   |
|--------------------------------|--|
| <b>Network interface (NIC)</b> | Connect to Ethernet device, such as Ethernet exchanger, HUB etc. See 2.5.3 for network connection.   |
| <b>Audio input</b>             | Connect to audio input device, such as tone arm(impedance: 1k $\Omega$ ) .   |
| <b>Power (DC12V)</b>           | Detailed type see parameter form in "Appendix", please use matched manostat power.   |
| <b>Alarm output (COM OUT)</b>  | Connect to alarm output, 1 channel on-off parameter(the connected power must be within range of DC12V and 300mA), detailed connection method see 2.5.2 |
| <b>Alarm input (COM IN)</b>    | Connect to alarm input, 2 channels signal alarm(DC5V~DC12V) .  |
| <b>RS-485 interface</b>        | Connect to RS-485 device, such as Pan/Tile, PTZ etc.   |
| <b>Video output</b>            | 1 channels BNC Video output for lens focusing.   |
| <b>SD card insert groove</b>   | Insert SD card for local save.   |
| <b>RESET</b>                   | RESET button, restore ex-factory value.  |

### 2.5.2 Alarm input/output connection

#### Alarm input connection demonstration



## Alarm output connection demonstration



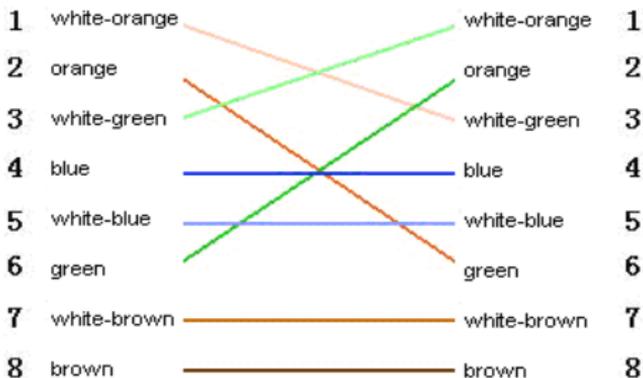
Alarm output is in fact on-off (No voltage), outside power is needed while connection alarm. Outside power must be within DC12V and 300mA while connection DC power.

### 2.5.3 Selection of reticle

( 1 ) Twisted-pair to connection interface of network camera with HUB(straight connection cable)

|   |              |   |              |   |
|---|--------------|---|--------------|---|
| 1 | white-orange |    | white-orange | 1 |
| 2 | orange       |    | orange       | 2 |
| 3 | white-green  |    | white-green  | 3 |
| 4 | blue         |    | blue         | 4 |
| 5 | white-blue   |    | white-blue   | 5 |
| 6 | green        |    | green        | 6 |
| 7 | white-brown  |    | white-brown  | 7 |
| 8 | brown        |  | brown        | 8 |

( 2 ) Twisted-pair to connection interface of network camera with PC(cross connection cable)



## Chapter 3 Parameter setup

Some network parameters must be setup firstly after finishing installation, includes IP address, submask, port etc, can be setup through many kinds of ways, see below two kinds for examples:

1. Setup parameters such as IP address and PPPoE etc through IE browser
2. Setup parameters through applications on client's side.

Please be confirm PC and network camera already be connected, and the network camera can be PING!

### 3.1 Setup parameter by IE browser

The default IP:192.168.0.120, default port:30001, superuser: admin, superuser password: admin

Login network camera by IE, input IP address, and will shoot out logging in window, input username and password, click "login" to enter IE client interface.

Function detailed guide please refer to "Network Video Manager System Manual".

Important Note: to check device by IE, the premise is to set browser security level, open IE browser, enter "tool/Internet option/security/user-defined level", set security level "security level-low", or directly set "ActiveX, Widget and Insert "to open.

## Appendix

| Model                           | Parameter            | Description   |
|---------------------------------|----------------------|---|
| DPS<br><input type="checkbox"/> | Image Sensor         | 1/3" DPS(Digital Pixel System)  |
|                                 | Resolution           | 540TVL  |
|                                 | Minimum illumination | 0.5Lux/F1.2   |
|                                 | S/N Ratio            | ≥48dB   |
|                                 | Image Frame Rate     | PAL:D1(704x576)@25fps,<br>CIF(352x288)@25fps,<br>QCIF(176x144)@25fps,<br>NTSC:D1(704x480)@30fps,<br>CIF(352x240)@30fps,<br>QCIF(240x160)@30fps. |

| Model                            | Parameter            | Description   |
|----------------------------------|----------------------|---|
| COMS<br><input type="checkbox"/> | Image Sensor         | 1/4" CMOS   |
|                                  | Resolution           | 450TVL  |
|                                  | Minimum illumination | 0.3Lux/F1.2   |
|                                  | S/N Ratio            | ≥45dB   |
|                                  | Image Frame Rate     | PAL:D1(704x576)@25fps,<br>CIF(352x288)@25fps,<br>QCIF(176x144)@25fps;<br>NTSC:D1(704x480)@30fps,<br>CIF(352x240)@30fps,<br>QCIF(240x160)@30fps. |

| <b>Model</b>                                    | <b>Parameter</b>     | <b>Description</b>  |
|---|----------------------|---|
| High Resolution CCD<br><input type="checkbox"/> | Image Sensor         | 1/3" Sony Super HAD II CCD  |
|   | Resolution           | 540TVL  |
|   | Minimum illumination | 0.008Lux/F1.2   |
|   | S/N Ratio            | ≥48dB   |
|   | Image Frame Rate     | PAL:D1(704x576)@25fps,<br>CIF(352x288)@25fps,<br>QCIF(176x144)@25fps;<br>NTSC:D1(704x480)@30fps,<br>CIF(352x240)@30fps,<br>QCIF(240x160)@30fps. |

| <b>Model</b>                                   | <b>Parameter</b>     | <b>Description</b>  |
|--|----------------------|---|
| Low Resolution CCD<br><input type="checkbox"/> | Image Sensor         | 1/3" Sony CCD   |
|  | Resolution           | 500TVL  |
|  | Minimum illumination | 0.03Lux/F1.2  |
|  | S/N Ratio            | ≥50dB   |
|  | Image Frame Rate     | PAL:D1(704x576)@25fps,<br>CIF(352x288)@25fps,<br>QCIF(176x144)@25fps;<br>NTSC:D1(704x480)@30fps,<br>CIF(352x240)@30fps,<br>QCIF(240x160)@30fps. |

| <b>Model</b>  | <b>Parameter</b>     | <b>Description</b>                                   |
|---|----------------------|--|
| 1.3 MP CCD<br> | Image Sensor         | 1/3" Ex-view 1.3Mega Pixel CCD                       |
|   | Minimum illumination | 0.5Lux @ F1.2<br>0.02Lux @ F1.2                      |
|   | S/N Ratio            | ≥48dB  |
|   | Image Frame Rate     | PAL:1280x720p@25fps<br>NTSC: SXGA(1280x960p)@22.5fps |

| <b>Model</b>   | <b>Parameter</b>     | <b>Description</b>                                   |
|--|----------------------|--|
| 1.3 MP CMOS<br> | Image Sensor         | 1/3" MT9M033 COMS                                    |
|  | Minimum illumination | 0.5Lux @ F1.2<br>0.1Lux @ F1.2                       |
|  | S/N Ratio            | ≥48dB  |
|  | Image Frame Rate     | PAL:1280x720p@25fps<br>NTSC: SXGA(1280x960p)@22.5fps |

| <b>Model</b>  | <b>Parameter</b>     | <b>Description</b>               |
|---|----------------------|----------------------------------|
| 2 MP CCD<br> | Image Sensor         | 1/1.8" SONY Progressive Scan CCD |
|   | Minimum illumination | 0.5Lux/F1.2<br>0.02Lux/F1.2      |
|   | S/N Ratio            | ≥48dB                            |
|   | Image Frame Rate     | 1600x1200p@15fps                 |

| <b>Model</b>                          | <b>Parameter</b>     | <b>Description</b>                            |
|---------------------------------------|----------------------|---|
| 2 MP CMOS<br><input type="checkbox"/> | Image Sensor         | 1/2.5" MT9P031 CMOS                           |
|                                       | Minimum illumination | 0.5Lux/F1.2<br>0.1Lux/F1.2                    |
|                                       | S/N Ratio            | ≥48dB   |
|                                       | Image Frame Rate     | PAL:1920x1080p@25fps<br>NTSC:1920x1080p@30fps |

| <b>Parameter</b>     | <b>Description</b>   |
|----------------------|--|
| Video out            | 1 BNC (PAL/NTSC, 1.0Vp-p, 75Ω)                                       |
| Video Compression    | H.264(ISO/IEC 14496-10)/MJPEG  |
| Bit stream Control   | CBR、VBR  |
| Audio Input/Output   | 1 internal Microphone In, 1 External Microphone In, 1 Audio Line Out |
| Audio Compression    | G711/8KHz, 16bits  |
|                      | G723.1/6.3kbps (Options)<br>AMR (Options)                            |
| Audio bit stream     | 6.3Kbps  |
| OSD                  | Time/date/channel NO./<br>channel name/user-defined                  |
| Audio and video sync | Support  |
| Motion detection     | Support  |

|                              |   |
|------------------------------|---|
| Heartbeat                    | Support   |
| Two-way voice talkback       | Support   |
| Alarm and event handling     | Through built-in dynamic detection or external input or planned to trigger the events; Through FTP, Email and HTTP uploading images and issued a notice |
| Network transmission control | Embedded network bandwidth adaptive flow control technology   |
| Web Server                   | Microsoft Internet Explorer Version 5.5 or higher   |
| Network Protocol             | IPv4/v6、RTP/RTCP、TCP/UDP、HTTP、DHCP、DNS、FTP、DDNS、PPPOE、SMTP  |
| Network Ethernet             | RJ-45,10/100Base-T  |
| Alarm Input/Output           | 1 Alarm Input, 1 Alarm Output   |
| RS485                        | 1 Output (1 Input Options)  |
| SD Card                      | Support MicroSD/HC, MiniSD/HC   |
| Safely                       | Watchdog, Password protection   |
| Temperature (°C)             | -10-60°C, RH10-90% (RUN)<br>-20-70°C, RH0-95% (STORE)   |
| Supplied Voltage             | 9~12VDC ±5%, 1000mA   |
| POE                          | 802.3af POE(Power over Ethernet)  |
| CMS Client and SDK           | Open API for application integration including SDK  |