IP Camera User's Manual

Welcome

Thank you for purchasing our network 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 or 24V AC in the IEC60950-1. (Refer to general introduction) **Please note: Do not connect two power supplying sources to the device at the same time; it may result in device damage!**

We assume no liability or responsibility for all the fires or electrical shock caused by improper handling or installation.

We are not liable for any problems caused by unauthorized modification or attempted repair.

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.

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 network camera should be installed in a cool, dry place away from direct sunlight, inflammable, explosive substances and etc.

Please keep it away from the electromagnetic radiation object and environment.

Please make sure the CCD (CMOS) component is out of the radiation of the laser beam device. Otherwise it may result in CCD (CMOS) optical component damage.

Please keep the sound ventilation.

Do not allow the water and other liquid falling into the camera.

Thunder-proof device is recommended to be adopted to better prevent thunder.

The grounding studs of the product are recommended to be grounded to further enhance the reliability of the camera.

6. Daily Maintenance

Please shut down the device and then unplug the power cable before you begin daily maintenance work.

Do not touch the CCD (CMOS) optic component. You can use the blower to clean the dust on the lens surface.

Always 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 CCD (CMOS) component when you do not use the camera.

Dome enclosure is the optical component, do not touch the enclosure when you are installing the device or clean the enclosure when you are doing maintenance work. Please use professional optical clean method to clean the enclosure. Improper enclosure clean method (such as use cloth) may result in poor IR effect of camera with IR function.

7. 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.

Accessory Name	Amount
Network Camera	1
Quick Start Guide	1
Installation Accessories Bag	1
CD	1
Warranty Card and Certificate	1

Table of Contents

1 General Introduction

1.1 Overview

This series network camera integrates the traditional camera and network video technology. It adopts video data collection, transmission together. It can connect to the network directly without any auxiliary device.

This series product uses standard H.264 video compression technology, G.711a audio compression technology and etc, which maximally guarantees the video quality.

It supports PIR function to detect human body movement. It can activate the white light at the same to enable the record function at night. This series product supports real-time listening function when it is in real-time monitor mode. It supports dual-way bidirectional talk function.

It can be used alone or used in a network area. When it is used lonely, you can connect it to the network and then use a network client-end. Due to its multiple functions and various uses, this series network camera is widely used in many environments such as home, office, bank, road monitor and etc.

1.2 Features

User Management	- Different user rights for each group, one user belongs to one group. - The user right shall not exceed the group right.
Data transmission	- Wire network data transmission via the Ethernet port. - Wireless product series supports WIFI wireless network data transmission.
Storage Function	- Support central server backup function in accordance with your configuration and setup in alarm or schedule setting - Support record via Web and the recorded file are storage in the client-end PC. - Support Micro SD card storage (This function is optional. For some series product only.), alarm record or snapshot storage. - Support network storage function such as FTP.
Alarm Function	- Real-time respond to external on-off alarm input, and video detect (This function is optional. For some series product only.)as user pre-defined activation setup and generate corresponding message in screen and audio prompt(allow user to pre-record audio file) - Real-time video detect: motion detect, camera masking, PIR human body movement detect.
Network Monitor	- Network camera supports one-channel video data transmit to network terminal and then decode. Delay is within 270ms (network bandwidth support needed) - Max supports 20 connections. Max support 24Mbps output band width. The new query may fail if it has reached the threshold. - Adopt the following video transmission protocol: HTTP, TCP, UDP, MULTICAST, RTP/RTCP, RTSP and etc. - Support web access.
Network Management	- Realize network camera configuration and management via Ethernet. - Support device management via web or client-end. - Support various network protocols.
Power	External power adapter DC12V.
PoE	- Support Power over Ethernet. Conform to IEEE802.3af standard. - Connect the device to the switch or the router that supports the PoE function to realize the network power supply.

		Warning！ Do not connect these two power supplying sources to the device at the same time; it may result in device damage!
Assistant Function		● Log function. Support system resource information and running status real-time display. ● Backlight compensation: screen auto split to realize backlight compensation to adjust the bright. ● Support video watermark function to avoid vicious video modification. ● Support picture parameter setup such as electronic shutter and gain setup. ● Support motion detect function. ● Support dual-stream, ACF. ● Built-in microphone and speaker (This function is optional. For some series product only.). ● Support PIR human body movement detect. ● Support white light alarm function.

1.3 Specifications

1.3.1 Performance

Please refer to the following sheet for product performance specification.

Model Parameter		IPC-KW10	IPC-KW10W	IPC-KW12	IPC-KW12W
System	Main Processor	High performance DSP			
	OS	Embedded LINUX			
	System Resources	Support real-time network monitor, local record, and remote operation at the same time.			
	User Interface	Remote operation interface such as WEB, DSS, PSS.			
	System Status	Bit stream statistics, log, and software version.			
Video Parameter	Image Sensor	1/4-inch CMOS			
	Pixel	1280(H)*720(V)			
	Gain Control	Fixed/Auto			
	White Balance	Manual/Auto			
	BLC	On/Off			
	Exposure Mode	Manual/Auto PAL: It ranges from 1/3 to 1/10000. NTSC: It ranges from 1/4 to 1/10000.			
	Video Compression Standard	H.264/H.264B/MJPEG			
	Video Frame Rate	PAL: Main stream(1280*720@25fps) extra stream(704*576@25fps) NTSC: Main stream(1280*720@30fps) extra stream(704*480@30fps)			
	Video Bit Rate	H.264: 16Kbps-8192Kbps MJPEG is adjustable and bit rate is adjustable Support customized setup.			

	Video Flip	Support mirror. Support flip function.			
	Snapshot	Max 1f/s snapshot. File extension name is JPEG.			
	Privacy Mask	Supports max 4 privacy mask zones			
	Video Setup	Support parameter setup such as bright, contrast.			
	Video Information	Channel title, time title, motion detect, camera masking.			
	Lens	3.6mm. Fixed focus. Angle of view: 70°(H）*51.5°(V)			
	Lens Interface	M12. Lens is the default accessories			
Audio	**Audio Bit Stream**	One-way		Dual-way	
	Audio Input/Output	Built-in microphone		Built-in microphone and speaker	
	Audio Bit Rate	8/16kbps 16bit			
	Audio Compression Standard	G.711A/G.711Mu/PCM			
Video	**Motion Detect**	396 (18*22) detection zones Activation event: video storage, image snapshot, log, email SMTP function and etc.			
	Camera Masking	Activation event: alarm device, audio/video storage, image snapshot, log, email SMTP function and etc.			
Record and Backup	**Record Priority**	Support remote and local record			
	SD Card Storage	N/A		Support	
	Storage Management	Support display network and local storage status			
Network	**Wire Network**	1-channel wire Ethernet port, 10/100 Base-T Ethernet			
	Wireless Network	N/A	Support	N/A	Support
	Network Protocol	Standard HTTP, TCP/IP, ARP, IGMP, ICMP, RTSP, RTP,UDP, RTCP, SMTP, FTP, DHCP, DNS, DDNS, PPPOE, UPNP, NTP, Bonjour, SNMP.			
	Remote Operation IR light	Monitor, system setup, file download, log information, maintenance , upgrade and etc.			
AUX Port	**Compensation Light**	IR distance is 10M.			
	PIR Human Body Movement Detect	N/A		Support	
	WPS	N/A	Click one button to enable WIFI connection	N/A	Click one button to enable WIFI connection

General Parameter	Power	DC 12V			
	Power Consumption	3.4W MAX	5.4W MAX	3.4W MAX	5.4W MAX
	Working Temperature	-30℃~+60℃	-30℃~+55℃	-30℃~+60℃	-30℃~+55℃
	Working Humidify	≤95%			
	Dimensions(mm)	66.6*99.5*131.2			
	Weight	200g（Excluding box）			
	Installation	Installation with the bracket.			

2 Framework

2.1 Device Components

You can refer to the following figure for component information. See Figure 2-1.
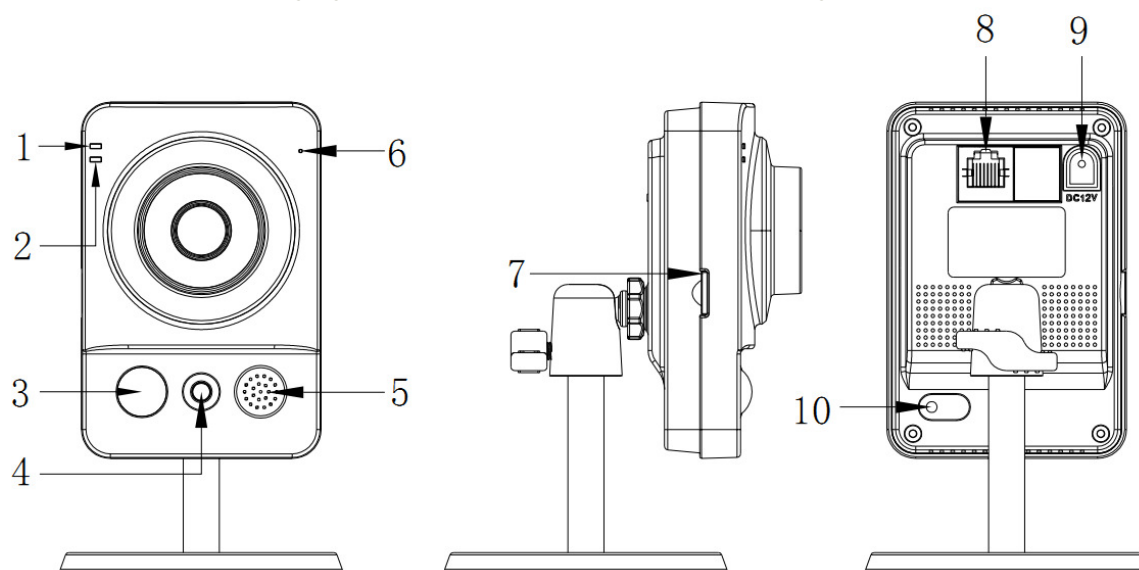
Figure 2-1 Component

Please refer to the following sheet for detailed information.

SN	Port Name	Indicator	Connector	Note
1	Power indicator light	POWER	/	● When system boots up–Green light becomes on. ● When system is upgrading – Green light flashes. Interval is 0.5s. ● When system is alarming– Green light flashes. Interval is 0.2s.
2	Network indicator light	NET	/	● Wire network connection-Red light is on. ● Wireless network connection-Green light is on.
3	PIR sensor	PIR	/	Passive IR motion detect port. It can detect the IR object movement (such as human body or other heating object). Note: Only certain series have this function.

SN	Port Name	Indicator	Connector	Note
4	IR light	/	/	For lighting at night
5	Speaker	/	/	Output audio signal. (This function is optional. For some series product only.)
6	Microphone	/	/	Directly receive audio signal.
7	Micro SD card	Micro SD	Micro SD card slot	SD card storage. (This function is optional. For some series product only.).
8	Network port	LAN	Ethernet port	Connect to standard Ethernet cable.
9	Power port	DC12V	/	Input DC 12V power.
10	Reset/WPS button	Reset/WPS		When device works normally: ● Press the WPS button of the router and the device respectively for at least 2 seconds. Usually the device can connect to the router. (Optional function supported by some series) ● Press the button for 10s, device restores default settings.

2.2 Dimensions

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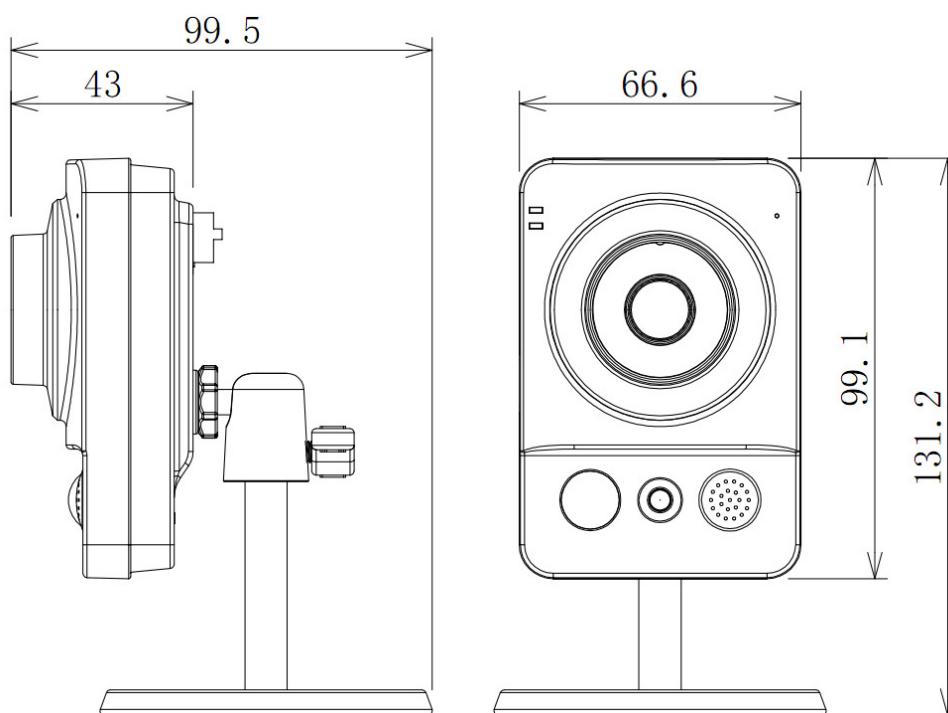

Figure 2-2 Dimension

2.3 Bidirectional talk

2.3.1 Device-end to PC-end
Device Connection

Please connect the earphone to the audio output port in the PC. Login the Web and then click the Audio button to enable the bidirectional talk function. You can see the button becomes yellow after you enabled the audio talk function. Click Audio button again to stop the bidirectional talk function.

Listening Operation

Speak or play music at the device-end, you can use the earphone or the sound box of the PC-end to listen the audio information from the device-end.

2.3.2 PC-end to the Device-end
Device Connection

Connect the speaker or the MIC to the audio input port in the PC. Login the Web and then click the Audio button to enable the bidirectional talk function. You can see the button becomes yellow after you enabled the audio talk function. Click Audio button again to stop the bidirectional talk function.

Listening Operation

Speak or play music at the PC-end, you can use the built-in speaker of the device-end to listen.

Note

Please go to the Master Volume interface of the PC to set first if you want to use the dual-way bidirectional talk. Please select Front Mic mode in the record control interface. (You can select microphone enhanced in Advanced interface if the audio is too low.)

3 Device Installation

This series camera support two installation modes: wall mount and pendant mount. See Figure 3-1 and Figure 3-2.

Important

Please make sure the installation surface can min support the 3X weight of the camera and the bracket.

Step 1

Paste the installation map on the installation surface such as wall, ceiling or the wood.

Step 2

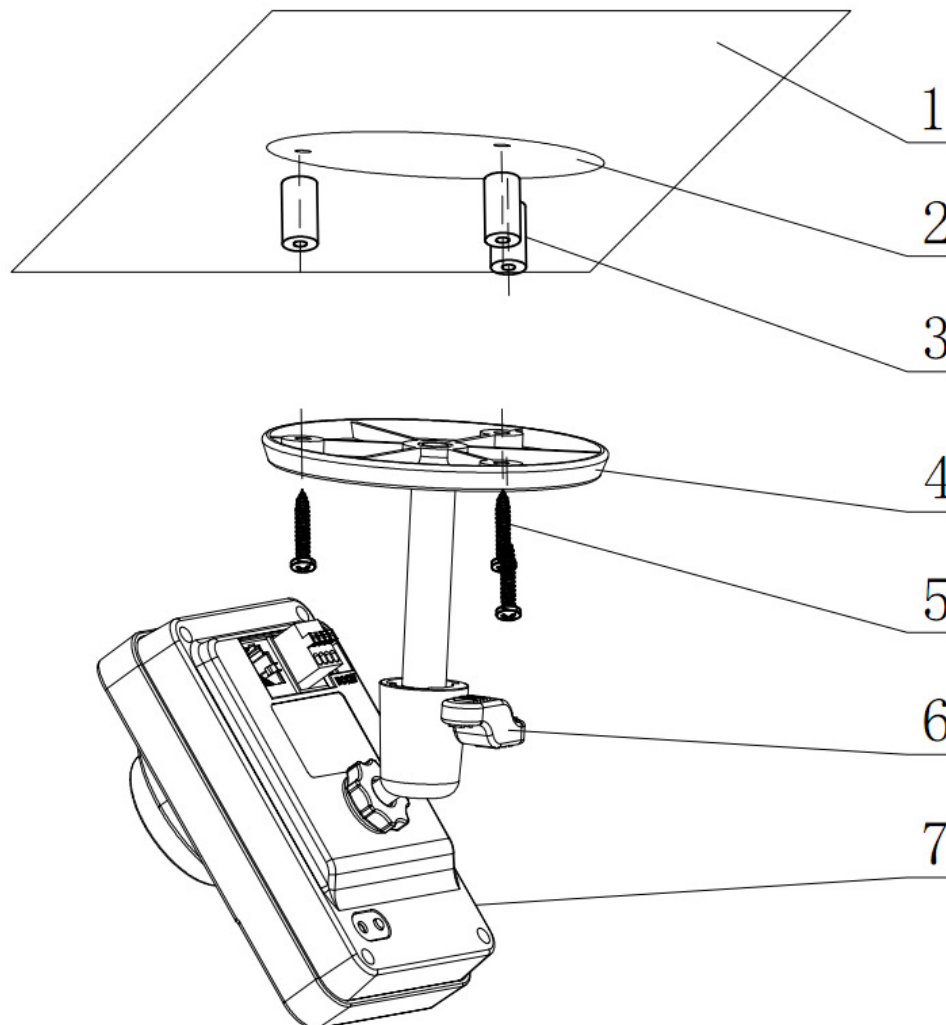Dig holes in the installation surface according to the installation map.

Figure 3-1 Installation 1

Step 3

Insert the expansion bolts from the accessories bag to the holes you just dug. If it is the wood surface you can skip to the next step.

Step 4

Fix the device with screw in the accessories bag.

Step 5

Connect the cable and then boot up the device.

Step 6

Loosen the adjust knob for a little bit, adjust the camera to proper surveillance position according to

your actual requirements.

Step 7

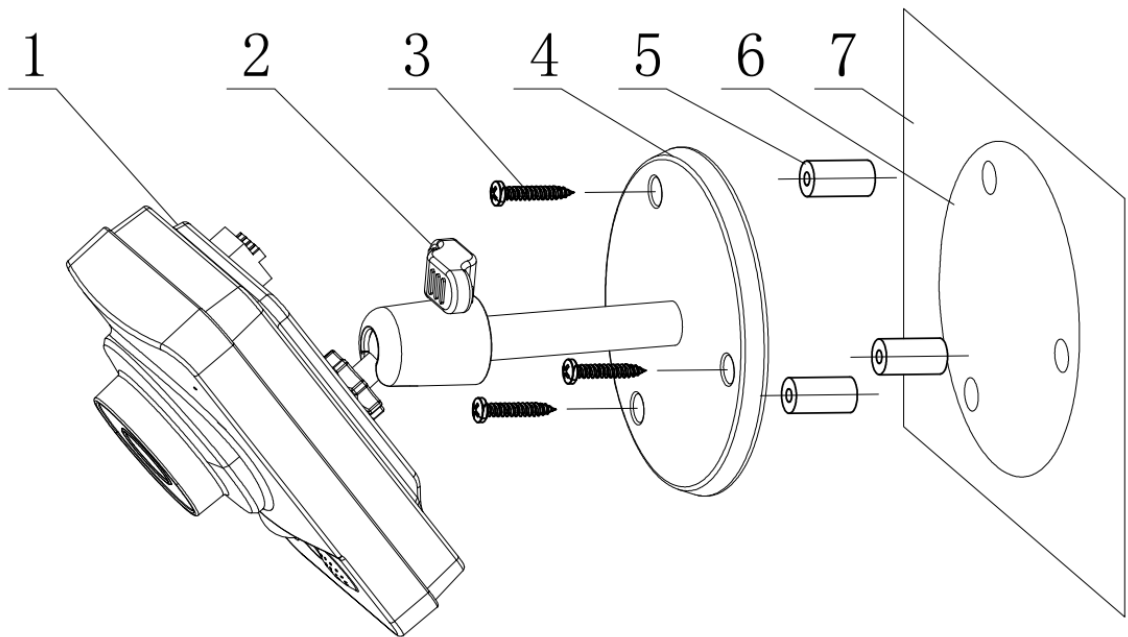Secure the knob of the bracket to fix the camera.

Figure 3-2 Installation 2

4 Quick Configuration Tool

4.1 Overview

Quick configuration tool can search current IP address, modify IP address. At the same time, you can use it to upgrade the device.

Please note the tool only applies to the IP addresses in the same segment.

4.2 Operation

Double click the "ConfigTools.exe" icon, you can see an interface is shown as in Figure 4-1.

In the device list interface, you can view device IP address, port number, subnet mask, default gateway, MAC address and etc.
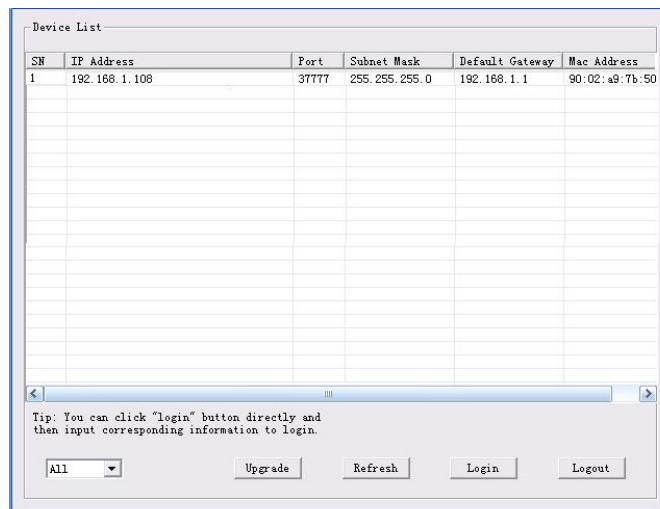

Figure 4-1 Search interface

Select one IP address and then right click mouse, you can see an interface is shown as in Figure 4-2. Select the "Open Device Web" item; you can go to the corresponding web login interface.
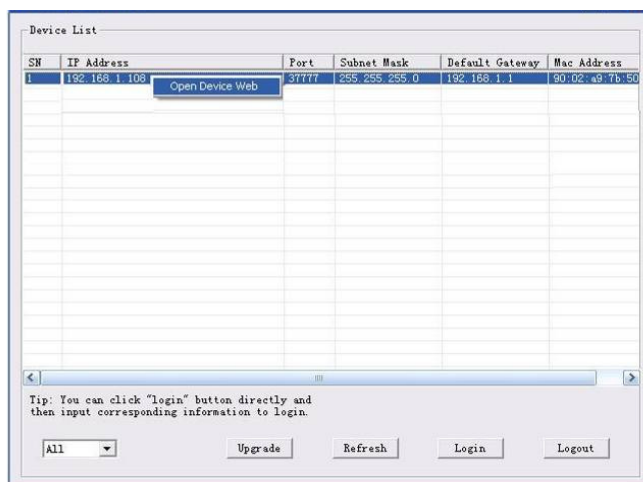

Figure 4-2 Search interface 2

If you want to modify the device IP address without logging in the device web interface, you can go to the configuration tool main interface to set.

In the configuration tool search interface (Figure 4-1), please select a device IP address and then double click it to open the login interface. Or you can select an IP address and then click the Login button to go to the login interface. See Figure 4-3.

In Figure 4-3, you can view device IP address, user name, password and port. Please modify the corresponding information to login.

Please note the port information here shall be identical with the port value you set in TCP port in Web Network interface. Otherwise, you can not login the device.

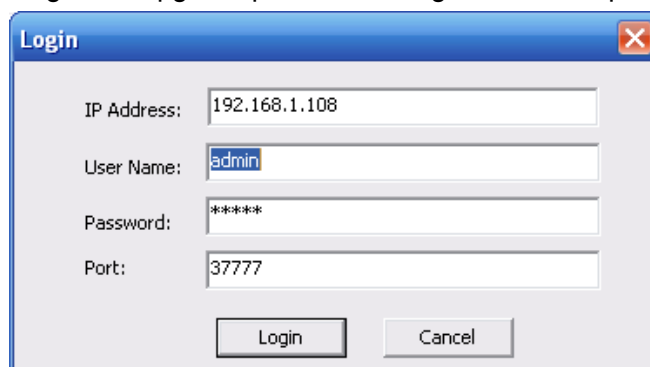If you are using device background upgrade port 3800 to login, other setups are all invalid.

Figure 4-3 Login prompt

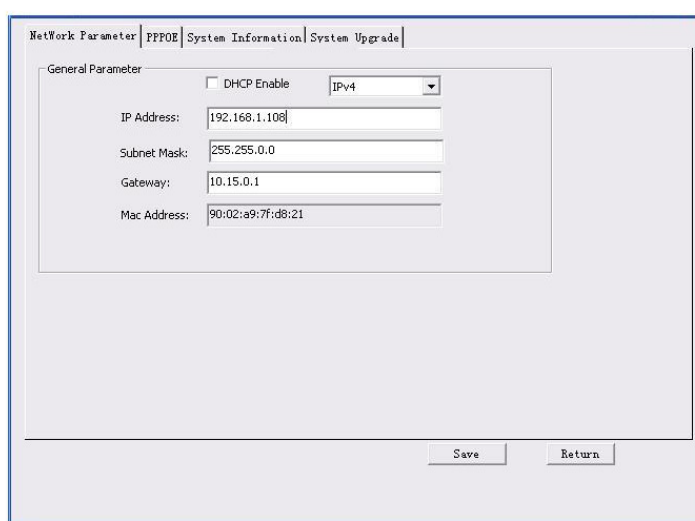After you logged in, the configuration tool main interface is shown as below. See Figure 4-4.

Figure 4-4 Main interface

For detailed information and operation instruction of the quick configuration tool, please refer to the *Quick Configuration Tool User's Manual* included in the resources CD.

5 Web Operation

This series network camera products support the Web access and management via PC.
Web includes several modules: Monitor channel preview, system configuration, alarm and etc.

5.1 Network Connection

Please follow the steps listed below for network connection.
- Make sure the network camera has connected to the network properly.
- Please set the IP address, subnet mask and gateway of the PC and the network camera respectively. Network camera default IP address is 192.168.1.108. Subnet mask is 255.255.255.0. Gateway is 192.168.1.1
- Use order ping ***.***.***.***(* network camera address) to check connection is OK or not.

5.2 Login and Main Interface

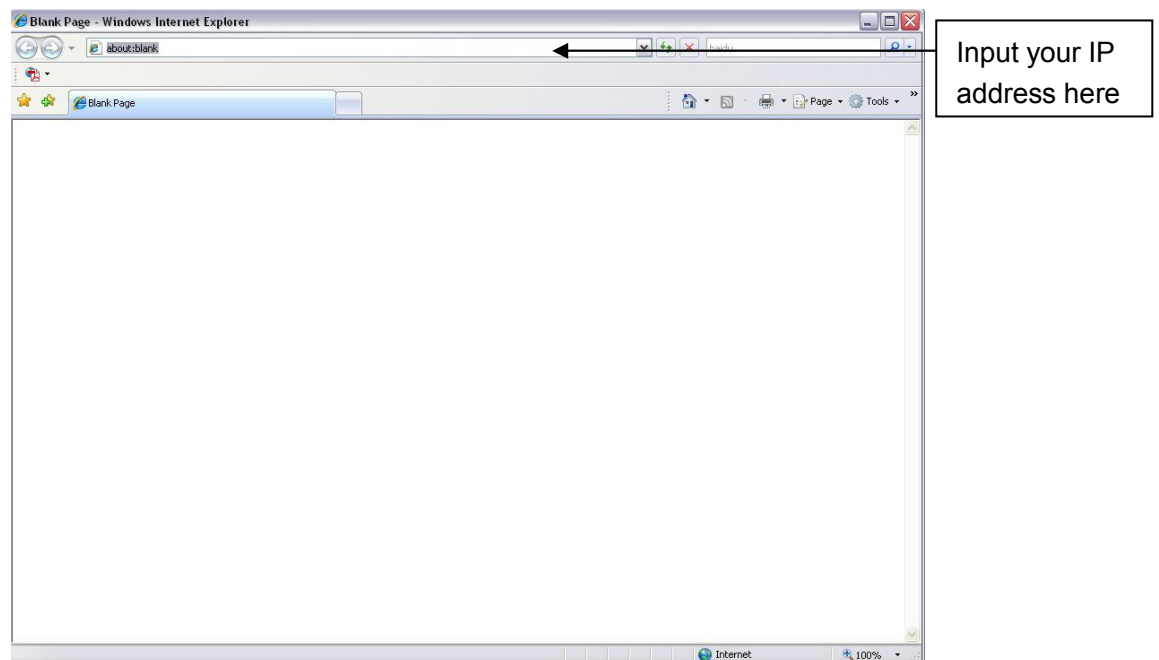Open IE and input network camera address in the address bar. See Figure 5- 1.

Figure 5- 1 IP address

The login interface is shown as below. See Figure 5- 2.
Please input your user name and password.
Default factory name is admin and password is admin.
Note: For security reasons, please modify your password after you first login.

Figure 5- 2 Web login

After you successfully logged in, please install WEB plug-in unit. Please refer to the Web Operation Manual included in the resource CD for detailed operation instruction.
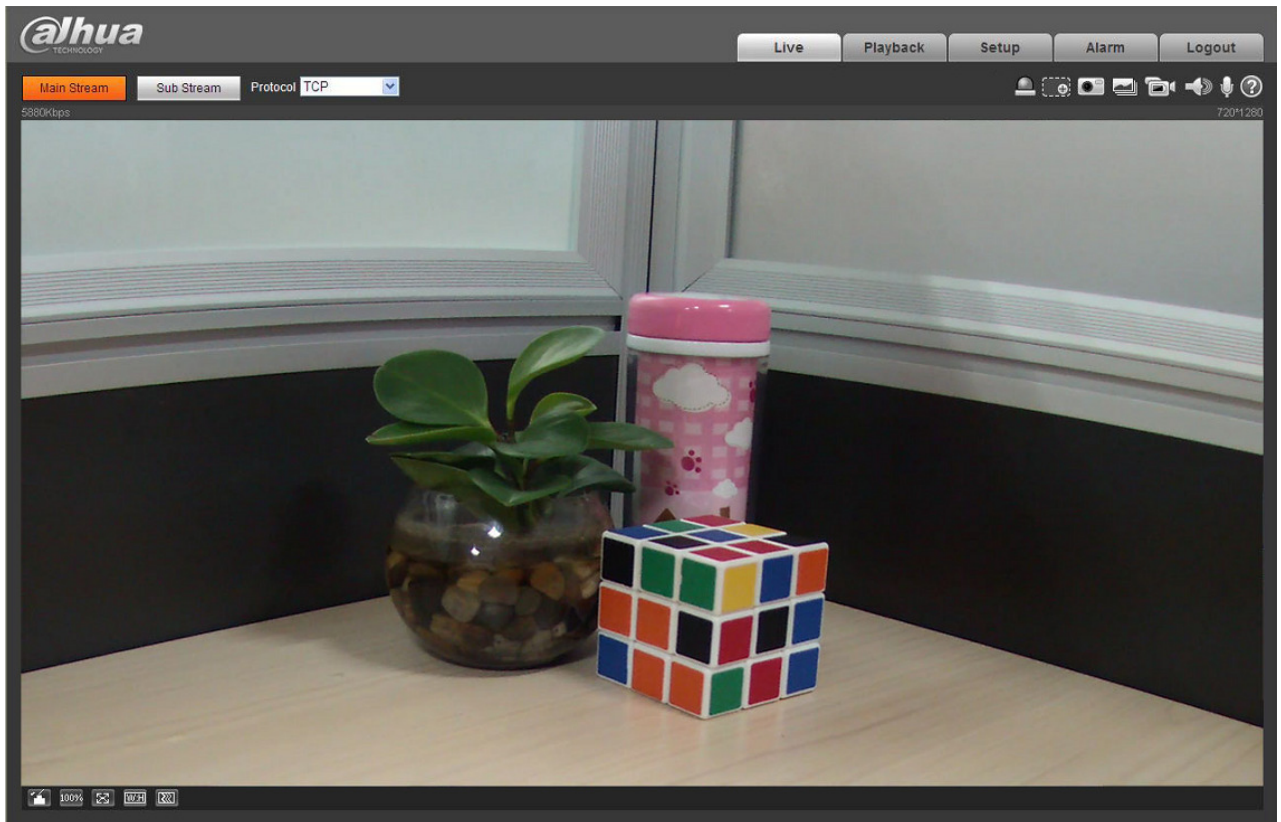See Figure 5- 3.

Figure 5- 3 Web monitoring window

6 FAQ

Bug	
I can not boot up the device.	Please click RESET button for at least five seconds to restore factory default setup.
SD card hot swap	Before draw out SD card, please stop record or snapshot first and then wait for at least 15 seconds to remove the SD card. All the operations before is to maintain data integrity. Otherwise you can lose all the data in the SD card!
SD card write times	Do not set the SD card as the storage media to storage the schedule record file. It may damage the SD card duration.
I can not use the disk as the storage media.	When disk information is shown as hibernation or capacity is 0, please format it first (Via Web).
Recommended SD card brand	Kingston 4GB,Kingston 16GB,Kingston32GB,Transcend 16GB, SanDisk 4GB, SanDisk 32GB. Usually we recommend the 4GB (or higher) or industry-level high speed card in case the slow speed results in data loss.
I can not use PIR function.	● There are heating sources around the device environment. It may result in false alarm. ● The detect object is too long. The PIR sensitivity becomes lower greatly when the distance is more than 6m.
I can not upgrade the device via network.	When network upgrade operation failed, you can use port 3800 to continue upgrade.
I can not login the client-end or the WEB.	● For Windows OS 98 or Windows ME user, if you can not install the client-end or can not view after the installation. We recommend the win2000sp4 OS or install the client-end of the low version. ● The Active X control is blocked. ● The display card version shall be dx8.1 or higher. ● Network connection error occurred. ● Invalid network setup. ● Invalid user name or password.
I can not play the download file.	● There is no player. ● There is no DX8.1 or higher. ● For the MEDIA PLAYER, there shall be Div X503Bundle.exe plugin if you play the .AVI file. ● For Windows XP user, you need to install the plugin DivX503Bundle.exe and ffdsho-2004 1012.exe.
To guarantee setup update	After you modified the important setup, please reboot the device via the software to make sure the setup has been updated to the storage medium.
Power adaptor	The general power adapter can work ranging from 0℃ to 40 ℃. The device may result in unstable power supply when the temperature exceeds the working temperature. Please replace an industry-level power adapter if you are using in the harsh environments.

Bug	
Power adapter	● The general power adapter can work ranging from 0℃ to 40 ℃. The device may result in unstable power supply when the temperature exceeds the working temperature. ● Please replace an industry-level power adapter if you are using in the harsh environments.

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 Case	○	○	○	○	○	○
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 user's manual is for reference only. Slight difference may be found in 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 for more information.**

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European notice

C E

Products with the CE marking comply with Radio & Telecommunication Terminal Equipment Directive
(R&TTE) (1999/5/EC), the Electromagnetic Compatibility Directive (2004/108/EC) and the Low Voltage
Directive (2006/95/EC) - issued by the Commission of the European Community. Compliance with these directives implies conformity to the following European Standards:

EN 301 489-1: Electronic compatibility and Radio spectrum Matters (ERM), Electromagnetic
Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements.

EN 301 489-17: Electronic compatibility and Radio spectrum Matters (ERM), Electromagnetic
Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2.4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment.

EN 300 328: (Bluetooth) Electromagnetic compatibility and Radio spectrum Matters (ERM); Wide-band Transmission systems; Data transmission equipment operating in the 2.4 GHz ISM band and using spread spectrum modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive.

EN 555022: Radio disturbance characteristics

EN 55024: Immunity characteristics

EN 61000-3-2: Limits for harmonic current emissions

EN 61000-3-3: Limitation of voltage fluctuation and flicker in low-voltage supply system

ETSI EN62311(2008): Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields(0Hz-300GHz)

IEC 60950-1:2005: Product Safety
The manufacturer cannot be held responsible for modifications made by the User and the consequences thereof, which may alter the conformity of the product with the CE Marking.

FCC Compliance Statement

1. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

2. The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. In cases where the manual is provided only in a form other than paper, such as on a computer disk or over the Internet, the information required by this section may be included in the manual in that alternative form, provided the user can reasonably be expected to have the capability to access information in that form.

3. (b) For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual:
NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the
instructions, may cause harmful interference to radio communications. However,
there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different
from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.

4. RF exposure warning
This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.