HD IR Waterproof Fixed IP Camera （With Integrated Bracket）

User's Manual

Version 3.2.3

Welcome

Thank you for purchasing our IP 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. This series product can not support these two modes at the same time.
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 IP 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.

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
IPC Unit	1
Quick Start Guide	1
12V to 24V Conversion Cable (For AC 24V series product only)	1
Installation Accessories Bag	1
CD	1

Table of Contents

1 General Introduction

1.1 Overview

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

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

It supports the IR night vision function. In the night environments, the device can use the IR light to highlight the object which is suitable for the surveillance function in the low illumination environments. The built-in protection enclosure and waterproof design conforms to the IP 66 level. It has the sound waterproof function suitable for use in the outdoor environments.

It supports real-time monitor and listening at the same time. It supports analog video output and dual-way bidirectional talk.

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 IPC is widely used in many environments such 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.
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 built-in SD card. - Do not support local SD card hot swap storage function. Support short-time storage when encounter disconnection. - Support network storage function such as FTP.
Alarm Function	- Real-time respond to external on-off alarm input, and video detect 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.
Network Monitor	- IPC supports one-channel audio/video data transmit to network terminal and then decode. Delay is within 270ms (network bandwidth support needed) - Max supports 20 connections. - Adopt the following audio and video transmission protocol: HTTP, TCP, UDP, MULTICAST, RTP/RTCP, RTSP and etc. - Support web access.
Network Management	- Realize IPC configuration and management via Ethernet. - Support device management via web or client-end.
Power	External power adapter DC12V/AC 24V. You can select according to your actual environments. Please note system can not support these two types of power supplying at the same time.
Assistant Function	- Log function - Support system resource information and running status real-time display. - Day/Night mode auto switch.

	● Built-in IR light. Support IR night vision. ● Support picture parameter setup such as electronic shutter and gain setup. ● Backlight compensation: screen auto split to realize backlight compensation to adjust the bright. ● Support video watermark function to avoid vicious video modification. ● The enclosure conforms to the IP 66 protection. Has the waterproof function.				

1.3 Specifications

1.3.1 Performance

Please refer to the following sheet for IPC performance specification.

Model Parameter		IPC-HFW3300C	IPC-HFW3200C	IPC-HFW3100C	IPC-HFW3101C
System	Main Processor	TI Davinci high performance DSP			
	OS	Embedded LINUX			
	System Resources	Support real-time network, local record, and remote operation at the same time.			
	User Interface	Remote operation interface such as WEB, DSS, PSS			
	System Status	SD card status, bit stream statistics, log, and software version.			
Video Parameter	Image Sensor	1/2.8-inch CMOS	1/2.8-inch CMOS	1/3-inch CMOS	1/3-inch CMOS
	Pixel	2080(H)*1553(V)	1920(H)*1080(V)	1280(H)*960(V)	1280(H)*960(V)
	Day/Night Mode	Support day/night mode switch and IR-CUT at the same time. (The lens has built-in IR-CUT mechanical component.).			
	Auto Aperture	DC drive			
	Gain Control	Fixed/Auto			
	White Balance	Manual/Auto			
	BLC	On/Off	On/Off	On/Off	Off/BLC/WD （Value:1-100）
	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/JPEG/MJPG			
	Video Frame Rate	PAL: Main stream（3M@15fps,1080P@25fps,SXGA@25fps, 1.3M@25fps、720P@25fps、704*576@25fps） Extra stream (704*576@25fp, 352*288@25fps)	PAL: Main stream（1080P@25fps, SXGA@25fps, 1.3M@25fps, 720P@25fps, 704*576@25fps）， Extra stream (704*576@25fps, 352*288@25fps)）	PAL： Main stream（1.3M@25f，720P@25fps，704*576@25fps） Extra stream (704*576@25fps, 352*288@25fps)	PAL： Main stream（1.3M@25fps, 720P@25fps，704*576@25fps） Extra stream (704*576@25fps, 352*288@25fps)

		NTSC: Main stream（3M@15fps ,1080P@30fps, SXGA@30fps, 1.3M@30fps, 720P@30fps, 704*480@30fps）, Extra stream（704*480@30fps,352*240@30fps）	NTSC: Main stream（1080P@30fps, SXGA@30fps, 1.3M@30fps, 720P@30fps, 704*480@30fps）, Extra stream（704*480@30fps,352*240@30fps）	NTSC: Main stream：（1.3M@30fps, 720P@30fps, 704*480@30fps）Extra stream（704*480@30fps,352*240@30fps）	NTSC: Main stream：（1.3M@30fps, 720P@30fps, 704*480@30fps）Extra stream（704*480@30fps,352*240@30fps）
	Video Bit Rate	H.264: 56Kbps-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	3.3-12mm@F1.4			2.8-12mm@F1.4
	Lens Interface	Φ14 interface. Lens is the default accessories			
Audio	**Audio Input**	1-channel. RCA			
	Audio Output	1-channel. RCA			
	Bidirectional Talk Input	Reuse the first audio input channel			
	Audio Bit Rate	16kbps 16BIT			
	Audio Compression Standard	G.711a/G.711u/PCM			
Video	**Motion Detect**	396 (18*22) detection zones；sensitivity level ranges from 1 to 6 (The 6th level has the highest sensitivity) Activation event: alarm device, audio/video storage, image snapshot, log, email function and etc.			
Alarm Input		2-channel input，1-channel output			
Record and Backup	**Record Priority**	Manual>External alarm >Video detect>Schedule			
	Local Storage	Support Micro SD card storage			
	Storage Management	Support display local storage status			
Network	**Wire Network**	1-channel wire Ethernet port, 10/100 Base-T Ethernet			
	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	Monitor, PTZ control, system setup, file download, log information, maintenance , upgrade and etc.			
AUX Interface	**Video Output**	1-channel analog video output，BNC port.			
	Restore Default Setup	Reset button			

	Power	Support AC24V/DC12V power. (Can not support these two modes at the same time.)
General Parameter	Power Consumption	8W MAX (10W MAX when ICR switch)
	Working Temperature	-10℃~+60℃
	Working Humidify	10%~90%
	Dimensions(mm)	Φ104*306.7
	Weight	1250g（Excluding box）
	Installation	Bracket is included in the accessories bag.

1.3.2 Factory Default Setup

Please refer to the following sheet for factory default setup information.

Setup		Item			Default Setup			
					IPC-HFW3300C	IPC-HFW3200C	IPC-HFW3100C	IPC-HFW3101C
Camera	Conditions	Brightness			50			
		Contrast			50			
		Hue			50			
		Saturation			50			
		Gain Mode			Auto			
		Gain Adjust			80			
		Exposure Mode			Auto			
		Auto Iris			On			
		Scene Mode			Auto			
		Day/night Mode			Auto			
		BLC			Off	Off	Off	WDR
		Mirror			Off			
		Flip			Off			
	Video	Video bit stream	Main Stream	Bit stream type	General			
				Encode mode	H.264			
				Resolution	1080P（1920*1080）	1080P（1920*1080）	1.3M（1280*960）	720P（1280*720）
				Frame Rate（FPS）	PAL:25 NTSC:30			
				Bit Rate Type	CBR			
				Recommended Bit	3584-8192 Kb/S			
				Bit Rate	8192			
				I Frame	50			
				Watermark	Enable			

Setup	Item				Default Setup			
					IPC-HFW3300C	IPC-HFW3200C	IPC-HFW3100C	IPC-HFW3101C
				Watermark character	DigitalCCTV			
			Sub Stream	Enable	Enable			
				Bit stream type	General			
				Encode mode	H.264			
				Resolution	PAL:CIF(352*288) NTSC:CIF(352*240)			
				Frame Rate（FPS）	PAL:25 NTSC:30			
				Bit Rate Type	CBR			
				Recommended Bit	192-1024Kb/S			
				Bit Rate	1024			
				I Frame	50			
			Snapshot	Snapshot Type	General			
				Image Size	1080P（1920*1080）	1080P（1920*1080）	1.3M（1280*960）	720P（1280*720）
				Quality	5			
				Interval	1s			
			Video Overlay	Privacy Mask	Disable			
				Channel Title	Enable			
				Time Title	Enable			
			Path	Snapshot Path	C:\PictureDownload			
				Record Path	C:\RecordDownload			
	Audio		Main Stream	Enable	Enable			
				Encode Mode	G.711A			
			Sub Stream	Enable	Disable			
				Encode Mode	G.711A			
Network		TCP/IP		Host Name	IPC			
				Ethernet Card	Wire(Default)			
				Mode	Static			
				Mac Address	Device MAC address when it is shipped out of the factory			

Setup	Item		Default Setup			
			IPC-HFW3300C	IPC-HFW3200C	IPC-HFW3100C	IPC-HFW3101C
		IP Version	IPV4			
		IP Address	192.168.1.108			
		Subnet Mask	255.255.255.0			
		Default Gateway	192.168.1.1			
		Preferred DNS	8.8.8.8			
		Alternate DNS	8.8.8.8			
		Enable ARP/Ping set device IP address service	Enable			
	Connection	Max Connection	10			
		TCP Port	37777			
		UDP Port	37778			
		HTTP Port	80			
		RTSP Port	554			
	PPPoE	Enable	Disable			
		Username	none			
		Password	N/A			
	DDNS	Server Type	Disable，CN99 DDNS			
		Server IP	none			
		Server Port	80			
		Domain Name	none			
		User	none			
		Password	N/A			
		Update Period	5 minutes			
	IP Filter	Trusted sites	Disable			
	SMTP(Email)	SMTP Server	none			
		Port	25			
		Anonymity	Disable			
		User Name	anonymity			

Setup	Item			Default Setup			
				IPC-HFW3300C	IPC-HFW3200C	IPC-HFW3100C	IPC-HFW3101C
			Password	N/A			
			Sender	none			
			Authentication (Encryption mode)	N/A			
			Title (Subject)	IPC Message			
			Attachment	N/A			
			Mail Receiver	0 seconds			
			Email Test	Disable，interval=60 minutes			
	UPnP		Enable UPnP	Disable			
	SNMP		SNMP v1	Disable			
			SNMP v2	Disable			
			SNMP Port	161			
			Read Community	public			
			Write Community	private			
			Trap Address	N/A			
			Trap Port	162			
	Bonjour		Enable	Enable			
			Server Name	MAC			
	Multicast		Multicast Address	239.255.42.42			
			Port	36666			
	QoS		Real-time Monitor	0			
			Command	0			
Event	Video detect	Motion Detect	Enable	Disable			
			Anti-dither	5 seconds			
			Sensitivity	3			
			Record Channel	Enable			
			Record Delay	10 seconds			
			Relay out	Enable			

Setup	Item			Default Setup			
				IPC-HFW3300C	IPC-HFW3200C	IPC-HFW3100C	IPC-HFW3101C
	Alarm		Alarm Delay	10 seconds			
			Send Email	Disable			
			Snapshot	Disable			
		Video Masking	Enable	Disable			
			Record Channel	Enable			
			Record Delay	10 seconds			
			Relay out	Enable			
			Record Delay	10 seconds			
			Send Email	Disable			
			Snapshot	Disable			
		Alarm Activation	Enable	Disable			
			Relay in	Alarm 1			
			Anti-dither	0 seconds			
			Sensor Type	NO			
			Record Channel	Enable			
			Record Delay	10 seconds			
			Relay out	Enable			
			Alarm Delay	10 seconds			
			Send Email	Disable			
			Snapshot	Disable			
		Relay output		1			
	Abnormity	No SD Card	Enable	Disable			
			Relay out	Enable			
			Relay out Delay	10 seconds			
			Send email	Disable			
		Capacity Warning	Enable	Disable			
			Capacity Limit	10%			
			Relay out	Enable			
			Relay out Delay	10 seconds			
			Send Email	Disable			
		SD Card Error	Enable	Disable			
			Relay out	Enable			
			Relay out Delay	10 seconds			

Setup	Item			Default Setup			
				IPC-HFW3300C	IPC-HFW3200C	IPC-HFW3100C	IPC-HFW3101C
			Send email	Disable			
		Disconnection	Enable	Disable			
			Record	Enable			
			Record Delay	10 seconds			
			Relay out	Enable			
			Relay out Delay	10 seconds			
		IP Conflict	Enable	Disable			
			Record	Enable			
			Record Delay	10 seconds			
			Relay out	Enable			
			Relay out Delay	10 seconds			
Storage	Storage	FTP	Enable FTP	Disable			
			Server IP	N/A			
			Port	21			
			Username	anonymity			
			Password	N/A			
			Remote path	share			
			Emergency (Local)	Disable			
		Record Control	Pack Duration	8 minutes			
			Pre-record	5 seconds			
			Disk Full	Overwrite			
			Record Mode	Auto			
			Record Stream	Main stream			
System	General	Local Host	Device No	Device MAC			
			Language	English			
			Video Standard	PAL			
		Date and time	Date Format	Y-M-D			
			Time Format	24H			
			Time Zone	GMT+08:00			
			System Time	Sync			

Setup	Item		Default Setup			
			IPC-HFW3300C	IPC-HFW3200C	IPC-HFW3100C	IPC-HFW3101C
		DST	Disable			
		DST Type	Week			
		Start Time	00:00:00 of the first Sunday of the month			
		End Time	00:00:00 of the second Monday of the month			
		NTP	Disable			
		NTP Server	clock.isc.org			
		Port	37			
		Update Period	10 minutes			
	Auto Maintenance	Auto Reboot	Enable			
		Auto Delete Old Files	Disable			

2 Structure

2.1 Multiple-function Combination Cable

You can refer to the following figure for multiple-function combination cable information. See Figure 2-1.
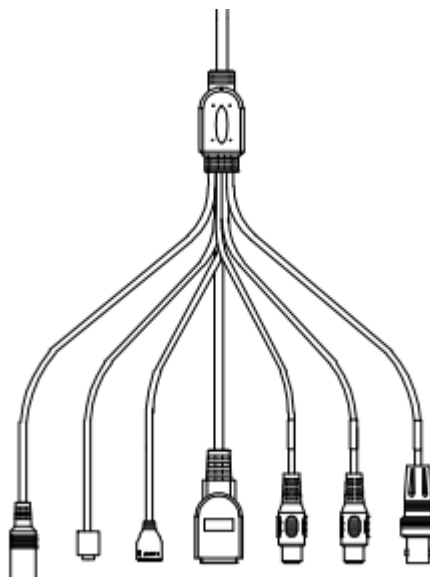
Figure 2-1

Please refer to the following sheet for detailed information.

Port Name	Function	Connection	Note
VIDEO OUT	Video output port	BNC	Output analog video signal. It can connect to the TV monitor to view the video.
AUDIO IN	Audio input port	RCA	Input audio signal. It can receive the analog audio signal from the pickup.
AUDIO OUT	Audio output port	RCA	Output audio signal to the devices such as the sound box.
DC 12V/AC 24V	Power input port	/	Power port. Input DC 12V/AC 24V (Please use the provided conversion cable)
I/O	I/O port	/	Connect to I/O port.
LAN	Network port	Ethernet port	Connect to standard Ethernet cable.
Reset	Reset port	/	Hardware reset function. Press it for 3 to 5 seconds; system hardware can restore default setup.

Please refer to the follow sheet for detailed I/O port information.

Port Name	SN	Name	Note
I/O Port	1	ALARM_COM	Alarm output public port.
	2	ALARM_NO	Alarm output port. It is to output the alarm signal to the alarm device. NO: normal open alarm output port. It works with the ALARM_COM port.
	3	ALARM_IN1	Alarm input port 1. It is to receive the on-off signal from the external alarm source.
	4	ALARM_IN2	Alarm input port 2. It is to receive the on-off signal from the external alarm source.
	5	GND	Ground port

2.2 Framework and Dimension

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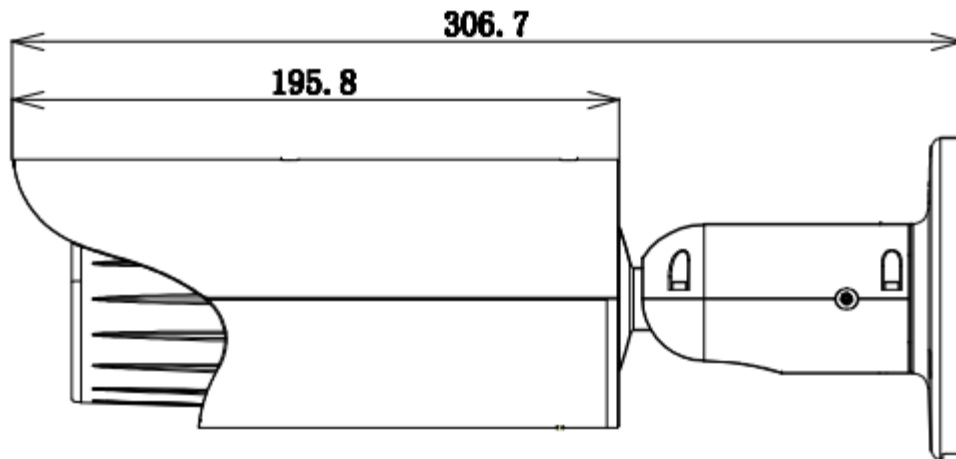
Figure 2-2
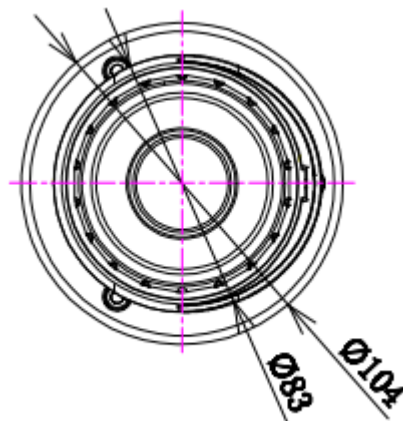
Figure 2-3

2.3 Bidirectional talk

2.3.1 Device-end to PC-end
Device Connection

Please connect the speaker or the MIC to the audio input port of the device. Then connect the earphone to the audio output port of the PC.

Login the Web and then click the Audio button to enable the bidirectional talk function.

You can see the button becomes orange after you enabled the audio talk function.

Click Audio button again to stop the bidirectional talk function.

Listening Operation

At the device end, speak via the speaker or the pickup, and then you can get the audio from the earphone or sound box at the pc-end.

2.3.2 PC-end to the Device-end
Device Connection

Connect the speaker or the MIC to the audio input port of the PC and then connect the earphone to the audio output port of the device.

Login the Web and then click the Audio button to enable the bidirectional talk function.

You can see the button becomes orange after you enabled the audio talk function.

Click Audio button again to stop the bidirectional talk function.

Please note the listening operation is null during the bidirectional talk process.

Listening Operation

At the PC-end, speak via the speaker or the pickup, and then you can get the audio from the earphone or sound box at the device-end.

2.4 Alarm Setup

The alarm interface is shown as in Figure 2-4. Please follow the steps listed below for local alarm input and output connection.

1) Connect the alarm input device to the alarm input port (No.3 pin or No.4 pin) of the I/O cable.

2) Connect the alarm output device to the alarm output port (No.2 pin) and alarm output public port (No.1 pin). The alarm output port supports NO (normal open) alarm device only.

3) Open the Web, go to the Figure 2-4. Please set the alarm input 01 port for the first channel of the I/O cable (No.3 pin). The alarm input 02 is for the 2nd channel of I/O cable (No.4 pin). Then you can select the corresponding type (NO/NC.)

4) Set the WEB alarm output. The alarm output 01 is for the alarm output port of the device. It is the No.2 pin of the I/O cable.
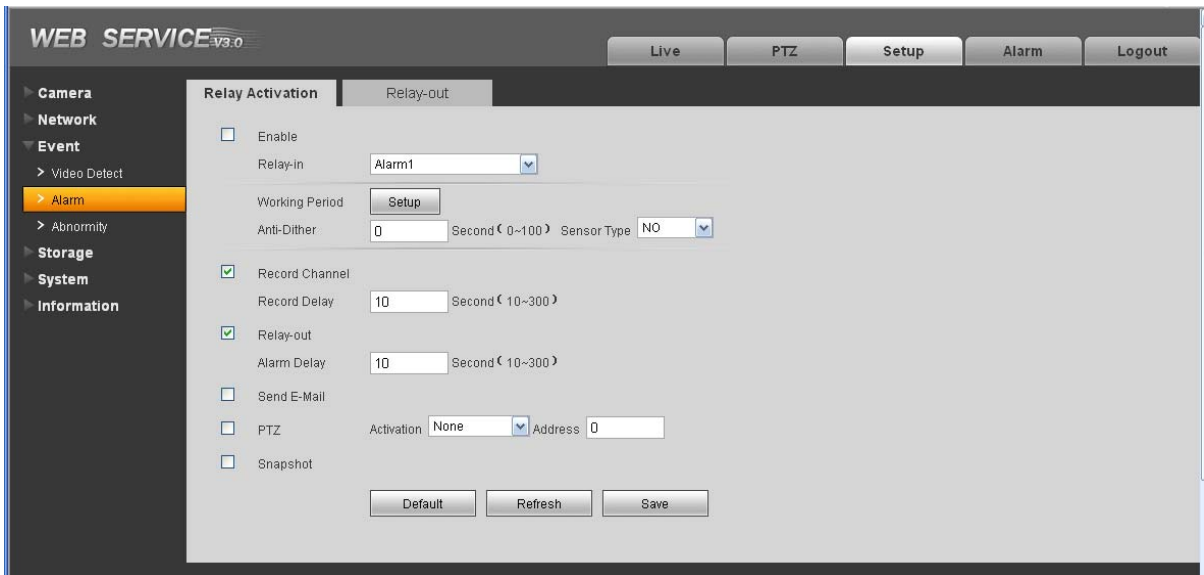
Figure 2-4

Please refer to the following figure for alarm input information. See Figure 2-5.
Alarm input: When the input signal is idle or grounded, the device can collect the different statuses of the alarm input port. When the input signal is connected to the 5V or is idle, the device collects the logic "1". When the input signal is grounded, the device collects the logic "0".
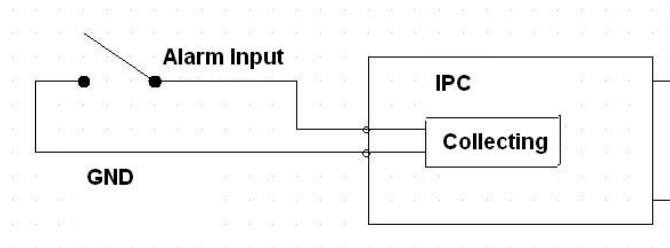

Figure 2-5

Please refer to the following figure for alarm output information. See Figure 2-6.
Port NO and Port C composes an on-off button to provide the alarm output.
If the type is NO, this button is normal open. The button becomes on when there is an alarm output.
If the type is NC, this button is normal off. The button becomes off when there is an alarm output.
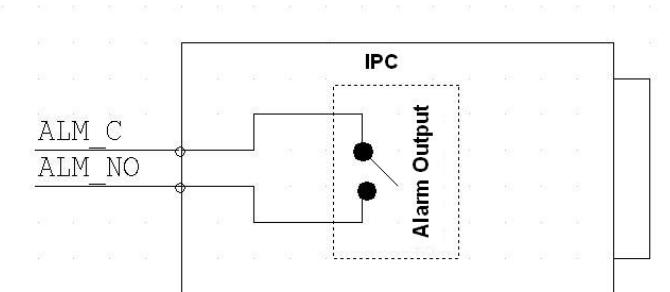
Figure 2-6

3 Device Installation

Please follow the steps listed below to install the device. Please refer to Figure 3-1 for reference.

- Please draw the installation holes in the installation surface and then mark three expansion bolts holes in the surface. Insert three bolts in the hole and secure firmly.
- Please line up the installation holes of the bottom of the pendant mount bracket to the installation holes in the surface. Then insert the three bolts to the holes of the bottom of the bracket. Finally fasten the device on the installation surface.
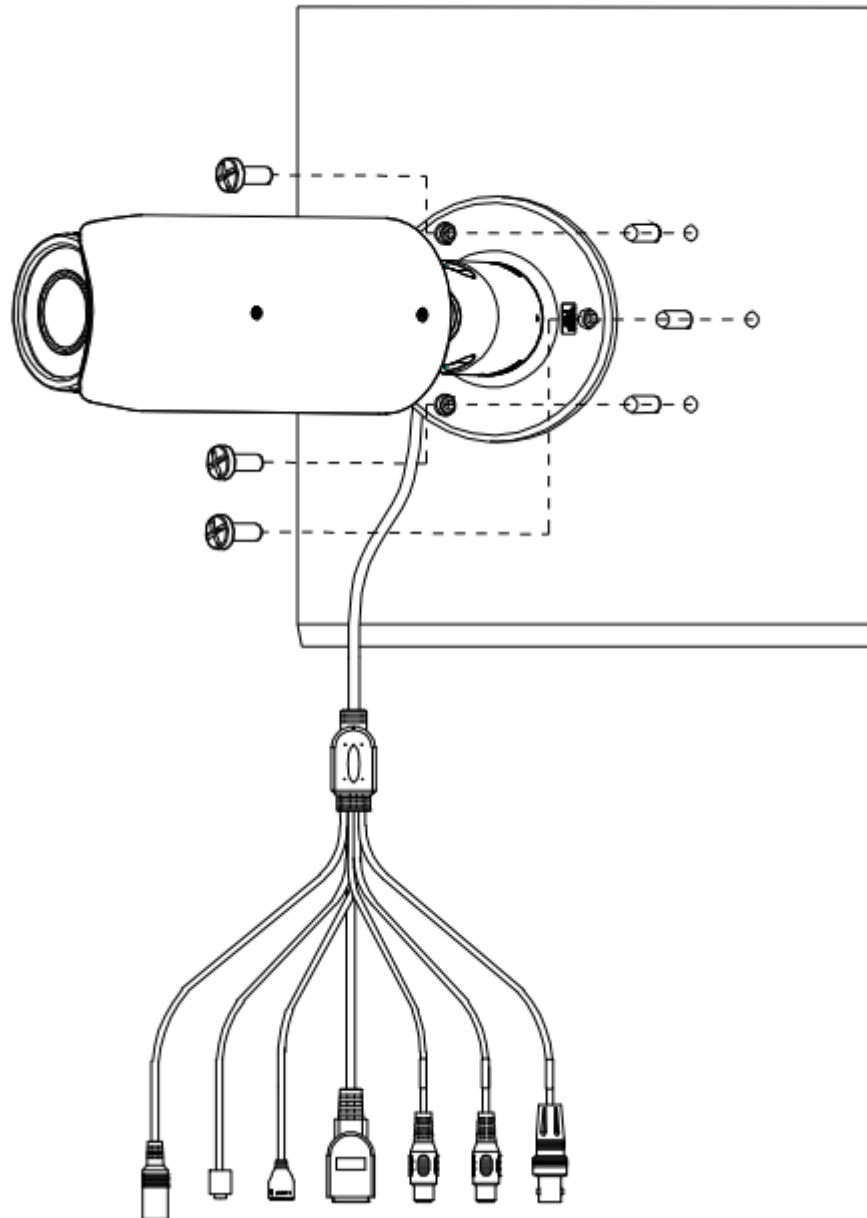
Figure 3-1

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.
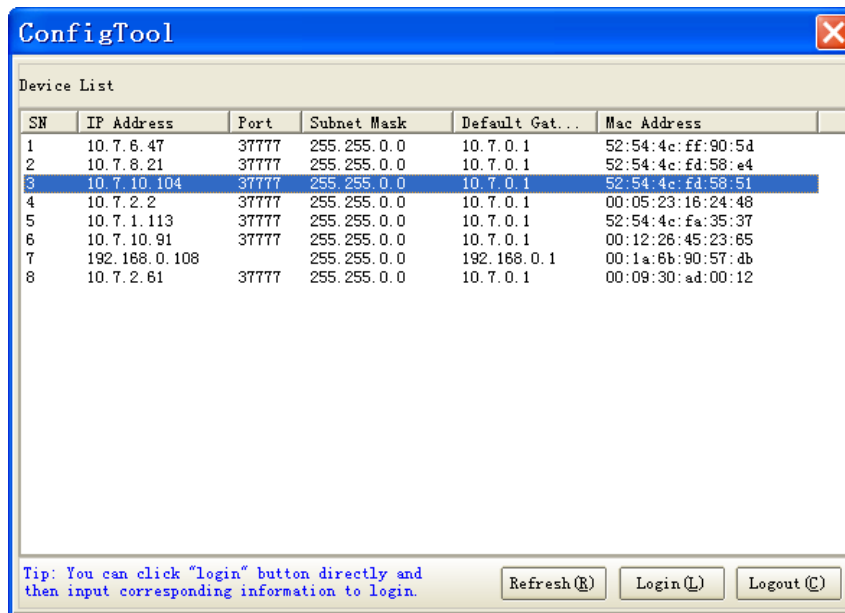
Figure 4-1

Select one IP address and then right click mouse, you can see an interface is shown as in Figure 4-2.
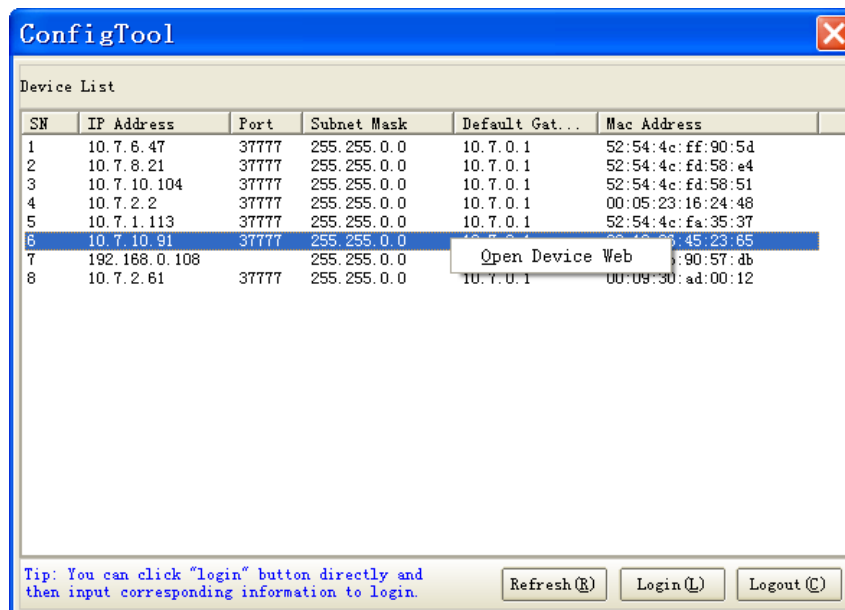
Figure 4-2

Select the "Open Device Web" item; you can go to the corresponding web login interface. See Figure 4-3.
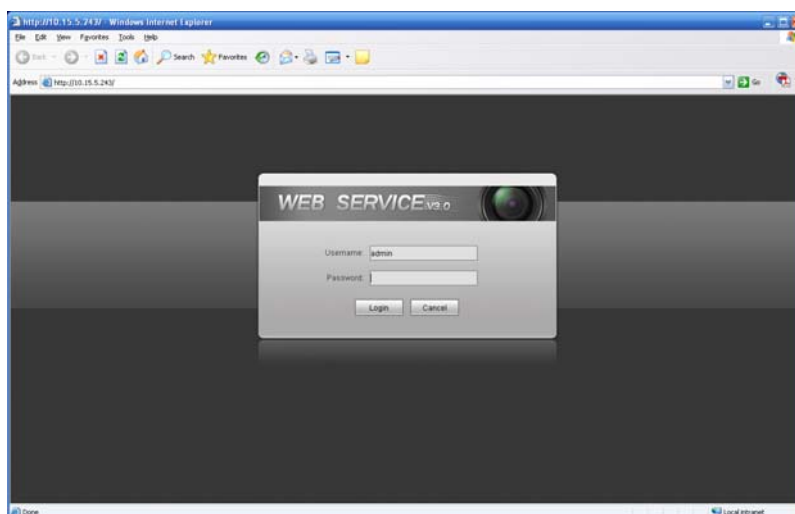
Figure 4-3

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 4-4.

In Figure 4-4, 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.

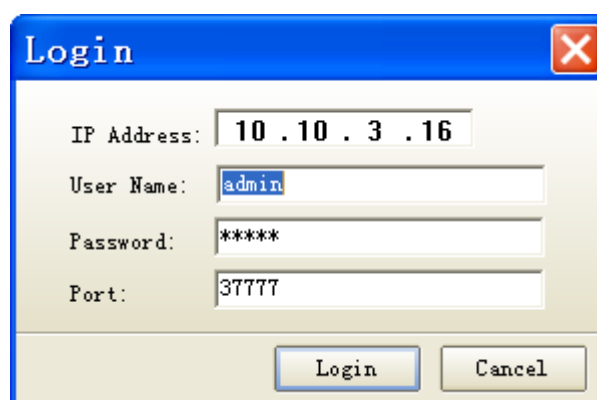If you are use device background upgrade port 3800 to login, other setups are all invalid.

Figure 4-4

After you logged in, the configuration tool main interface is shown as below. See Figure 4-5.
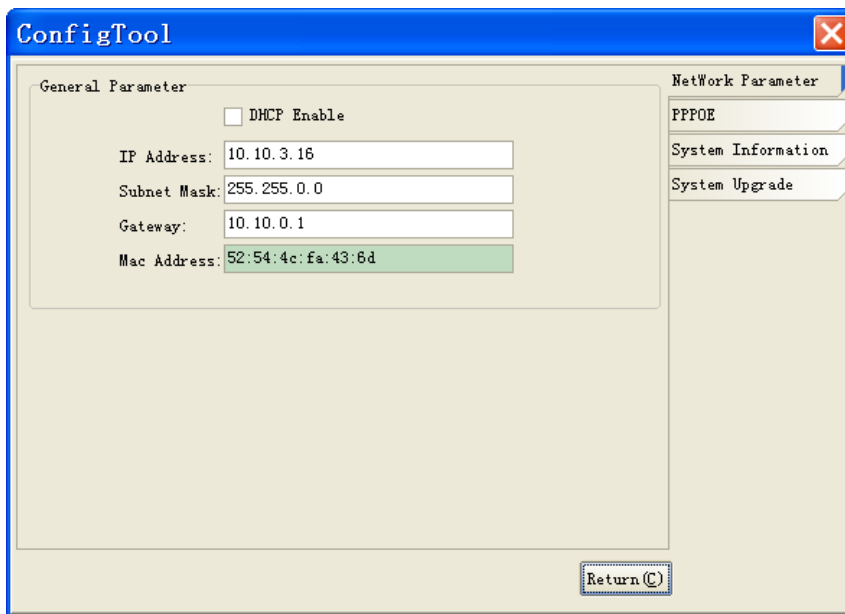
Figure 4-5

5 Web Operation

This series IPC product support the Web access and management via PC.

Web includes several modules: monitor channel preview, PTZ control, system configuration, alarm and etc.

5.1 Network Connection

Please follow the steps listed below for network connection.

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

5.2 Login and Logout

Open IE and input IP camera address in the address bar.

For example, if your camera IP is 192.168.1.108, then please input http:// 192.168.1.108 in IE address bar. See Figure 5-1.
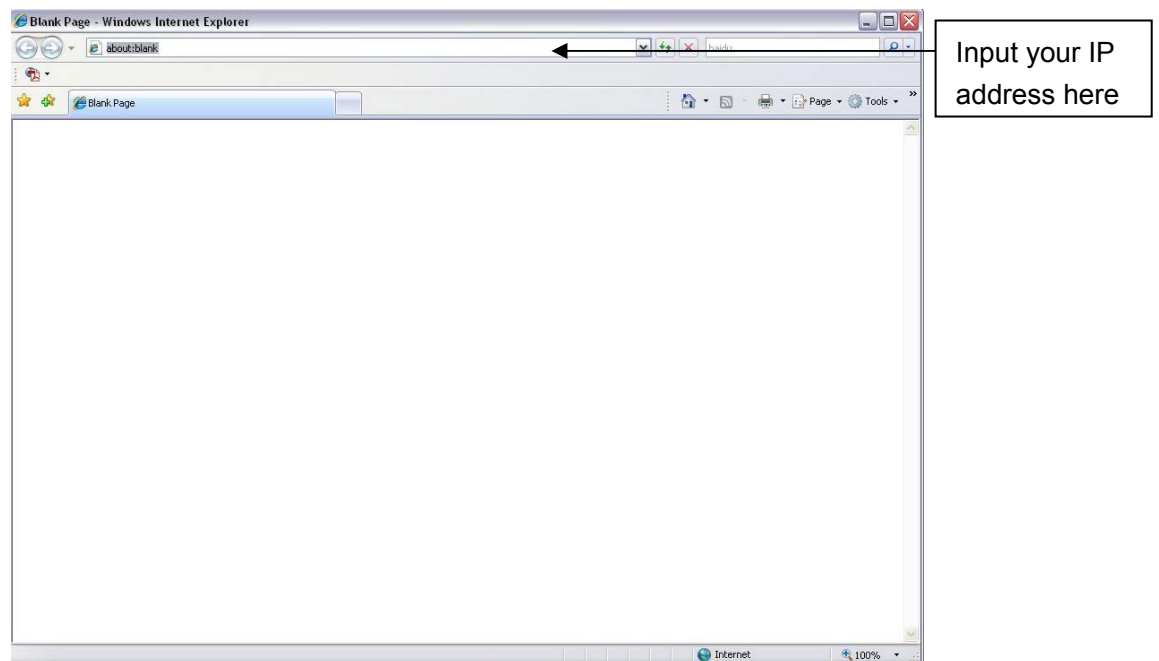

Figure 5-1

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.
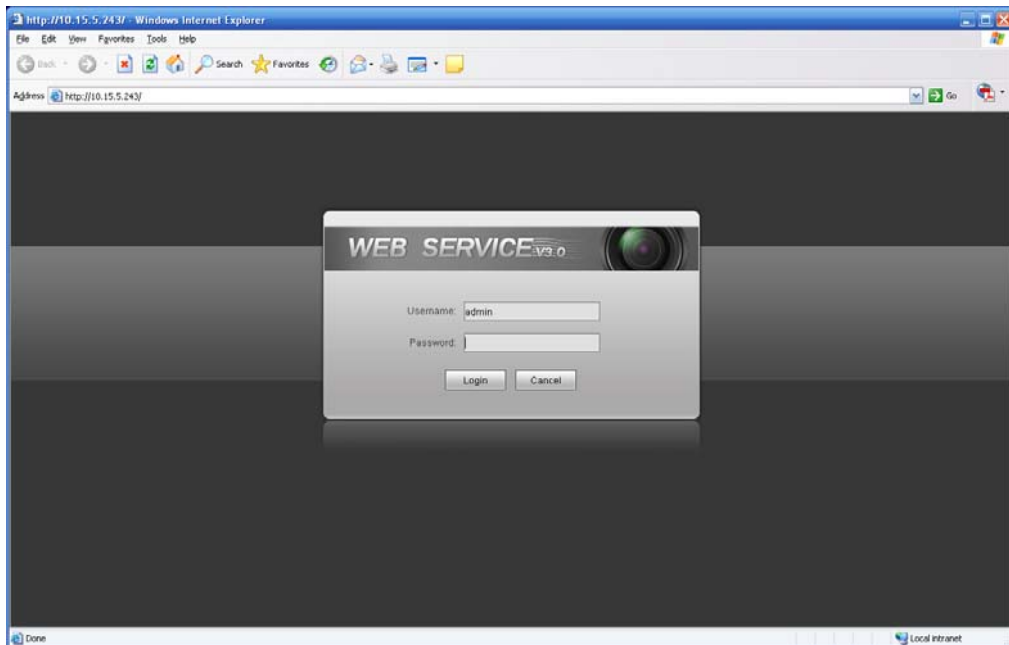
Figure 5-2

If it is your first time to login in, system pops up warning information to ask you whether install control webrec.cab or not after you logged in for one minute. Please click OK button, system can automatically install the control. When system is upgrading, it can overwrite the previous Web too. If you can't download the ActiveX file, please check whether you have installed the plug-in to disable the control download. Or you can lower the IE security level. See Figure 5-3.
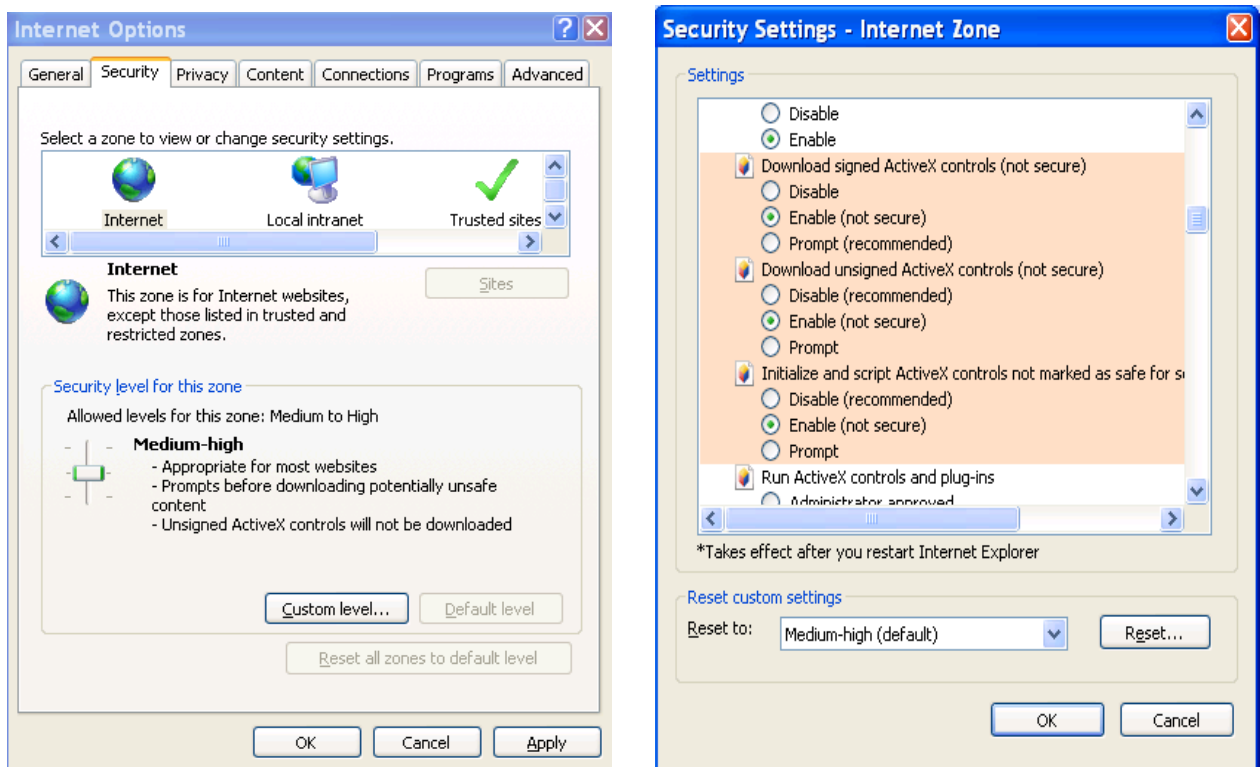

Figure 5-3

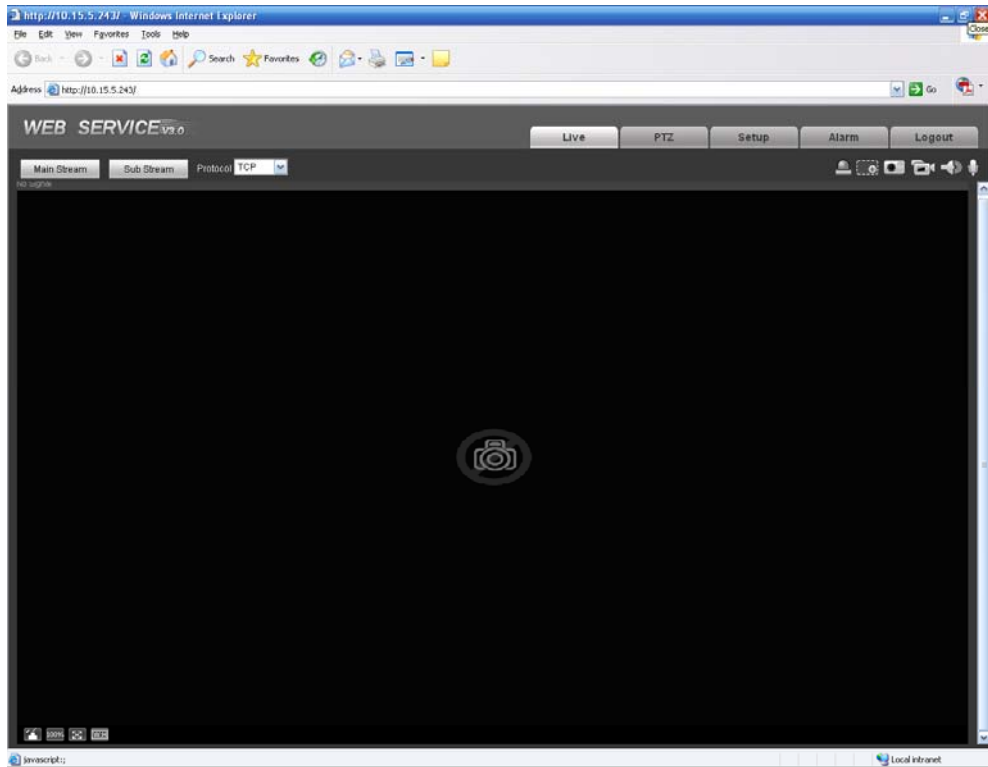After you logged in, you can see the main window. See Figure 5-4.

Figure 5-4

Please refer to the Web Operation Manual included in the resource CD for detailed operation instruction.

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 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).
I can not upgrade the device via network.	When network upgrade operation failed, you can use port 3800 to continue upgrade.
Recommended SD card brand	Kingston 4GB, Kingston 1GB, Kingston 16GB, Transcend 16GB, SanDisk 1G, SanDisk 4G Usually we recommend the 4GB (or higher) high speed card in case the slow speed results in data loss.
Audio function	Please use active device for the audio monitor input, otherwise there is no audio in the client-end.
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 adapter	The power adapter included in the accessories bag 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.
I can not fix the bracket firmly.	Please use the No.2 slot (150mm or higher) screwdriver to secure the cross-head screws of the bracket firmly. Please use your hands to test the camera is firm or not after the installation.

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 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 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.**