Milesight

USER MANUAL

Network Camera

Version: V5. 04

More in Sight

About this Document

This Manual explains how to use and manage Milesight network cameras on your network. Previous experience of networking will be of use when using the products. This manual applies to the following camera models, except where otherwise indicated.

Type \ Megapixel	1.3MP	2MP	3MP	5MP
Mini Dome Camera	MS-C2181-P MS-C2681-P	MS-C3581-P	MS-C3586-P	MS-C3688-P
IR Mini Dome Camera	MS-C2182-P MS-C2682-P	MS-C3582-P	MS-C3587-P	MS-C3689-P
Mini Bullet Camera	MS-C2163-PN	MS-C3263-PN MS-C3363-PN	MS-C3367-PN MS-C3567-PN	-
Motorized Mini Bullet	MS-C2163-FPN	MS-C3263-FPN MS-C3363-FPN	MS-C3367-FPN MS-C3567-FPN	
Mini Cube Camera	MS-C2191-PW	MS-C3291-PW	MS-C3596-PW	-
Vandal-proof Mini Dome	MS-C2173-P	MS-C3273-P MS-C3373-P	MS-C3377-P MS-C3577-P	
IR Dome Camera	MS-C2172-P	MS-C3272-P MS-C3372-P	MS-C3376-P MS-C3576-P	-
Varifocal IR Dome Camera	MS-C2172-VP	MS-C3272-VP MS-C3372-VP	MS-C3576-VP MS-C3376-VP	--
Varifocal Bullet Camera	MS-C2162-VP	MS-C3262-VP MS-C3362-VP	MS-C3566-VP MS-C3366-VP	-
Remote Focus Zoom Bullet Camera	MS-C2162-FP	MS-C3262-FP MS-C3362-FP	MS-C3566-FP MS-C3366-FP	-
New Remote Focus Zoom Bullet Camera	MS-C2162-F(I)PN	MS-C3262-F(I)PN MS-C3362-F(I)PN	MS-C3366-F(I)PN MS-C3566-F(I)PN	-
Box Camera	MS-C2151-PM	-	MS-C3356-PM	MS-C3658-PM
External Varifocal Bullet Camera	MS-C2162-EP	MS-C3262-EP MS-C3363-EP	MS-C3366-EP MS-C3566-EP	-

Please read this manual carefully before operation and retain it for future reference.

Copyright Statement

WarningsSerious injury or death may be caused if any of these warnings are neglected.
CautionsInjury or equipment damage may be caused if any of these cautions are neglected.

WarningsPlease follow these safeguards to prevent injury or death.

CautionsPlease follow these precautions to prevent potential injury or material damage.

Warning

- This installation must be conducted by a qualified service person and should strictly comply with the electrical safety regulations of the local region
- To avoid risk of fire and electric shock, do keep the product away from rain and moisture
- Do not touch components such as heat sinks, power regulators, and processors, which may be hot
- Source with DC 12V or PoE
- Please make sure the plug is firmly inserted into the power socket
- When the product is installed on a wall or ceiling, the device should be firmly fixed
- If the product does not work properly, please contact your dealer. Never attempt to disassemble the camera yourself

Cautions

- Make sure that the power supply voltage is correct before using the camera
- Do not store or install the device in extremely hot or cold temperatures, dusty or damp locations, and do not expose it to high electromagnetic radiation
- Only use components and parts recommended by manufacturer
- Do not drop the camera or subject it to physical shock
- To prevent heat accumulation, do not block air circulation around the camera
- Laser beams may damage image sensors. The surface of image sensors should not be exposed to laser beam where a laser beam equipment is used
- Use a blower to remove dust from the lens cover

- Use a soft, dry cloth to clean the surfaceof the camera. Stubborn stains can be removed using a soft cloth dampened with a small quantity of detergent solution, then wipe dry
- Do not use volatile solvents such as alcohol, benzene or thinners as they may damage the surface finishes
- Save the package to ensure availability of shipping containers for future transportation

Environmental Protection

Please recycle this device in a responsible manner. Refer to local environmental regulations for proper recycling. Do not dispose of devices in unsorted municipal waste.

Table of Contents

Chapter I Product Description

1.1 Product Overview

Milesight provides a consistent range of cost-effective and reliable network cameras to fully meet your requirements. Based on embedded LINUX operating system, Milesight network cameras could be easily accessed and managed either locally or remotely with great reliability. With the TI DaVinci processor and built-in high-performance DSP video processing modules, the cameras pride on low power consumption and high stability. They support state-of-the-art H.264 video compression algorithm and industry-leading HD dual-stream technology to achieve the highest level of video image quality under the limited network resources. It is fully functional, supporting for flexible and comprehensive alarm linkage mechanism, day and night auto switch, smart PTZ control and privacy masking, etc.

In practical applications, Milesight network camera could either work independently in the local, or be networked to form a powerful safety monitoring system. It is widely used in fields such as finance, education, industrial, civil defense, health care for security's sake.

1.2 Key Features

- ✧ Based on LINUX OS with high reliability
- ✧ H.264/MPEG-4/MJPEG video compression capability
- ✧ G.711/AAC audio compression capability
- ✧ Support ONVIF, PSIA protocol
- ✧ Dual-stream
- ✧ Power over Ethernet
- ✧ Audio input/output, alarm input/output(built-in for box cameras, optional for bullet and dome cameras)
- ✧ IR cut filter with auto switch, true day/night
- ✧ Built-in WEB server, support IE/Firefox/Chrome/Safari browser
- ✧ Real-time video electronic amplification
- ✧ Three-privilege levels of users for flexible management
- ✧ SD/SDHC card local storage support, expand the edge storage(applicable for box and Dome cameras)
- ✧ Local PAL/NTSC signal output
- ✧ Standard RS-485 interface, multiple PTZ control protocol
- ✧ Motion detection, privacy masking, network fault detection and image snapping
- ✧ UPNP protocol for the easy management of IPC
- ✧ True Wide Dynamic Range (Optional feature according to the model selected)

1.3 Hardware Overview

1. Box Camera

Figure1-1

*Note:

1) Error LED: Error LED is on when the device starts up or runs error.
2) Reset Button: Press 'Reset' button for 5 seconds, the device will be restored to factory default.
3) The network camera provides a general I/O terminal block which is used to connect external input/output devices. Please refer to the following instruction for the connection method.

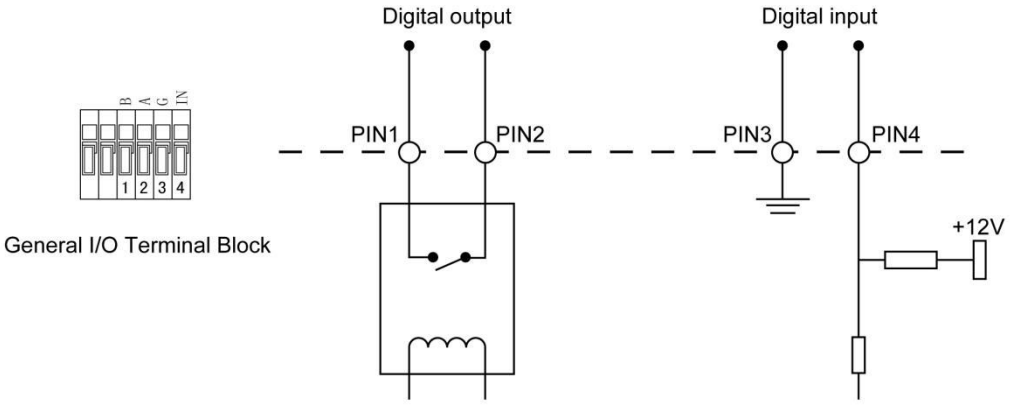

Figure1-2

2. Bullet Camera

Figure 1-3

*Note:

1) The network camera provides a general I/O terminal block which is used to connect external input/output devices. Please refer to the following instruction for the connection method.

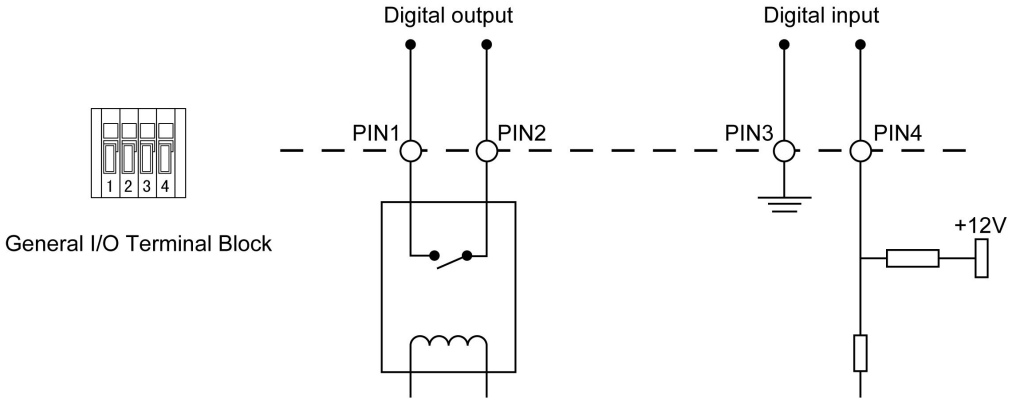

Figure 1-4

3. Dome Camera

Figure 1-5

*Note:

1) The network camera provides a general I/O terminal block which is used to connect external

input/output devices. Please refer to the following instruction for the connection method.

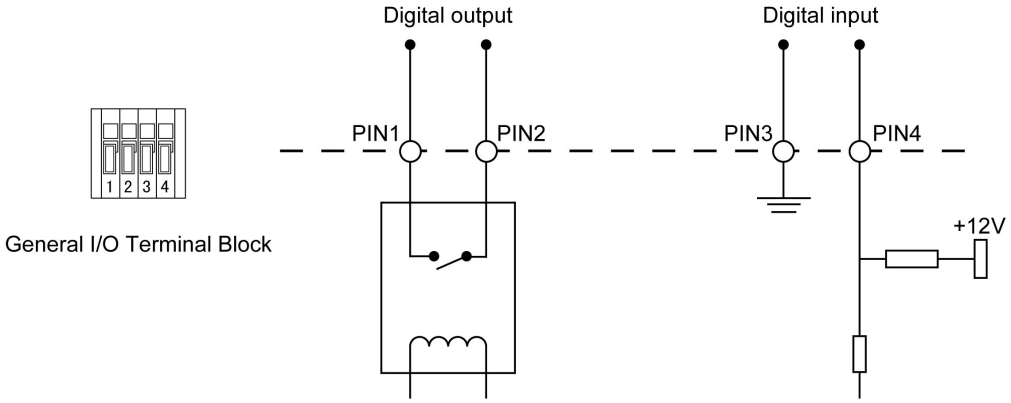

Figure 1-6

1.4 Hardware Installation

1. Connect the camera to the network and power using one of the methods listed below:

1) Basic connection (without PoE):

Step 1: connect the DC 12V end of the power adapter to the power port of the camera and connect the other end to a wall outlet;

Step 2: connect the camera to a switch using an Ethernet cable.

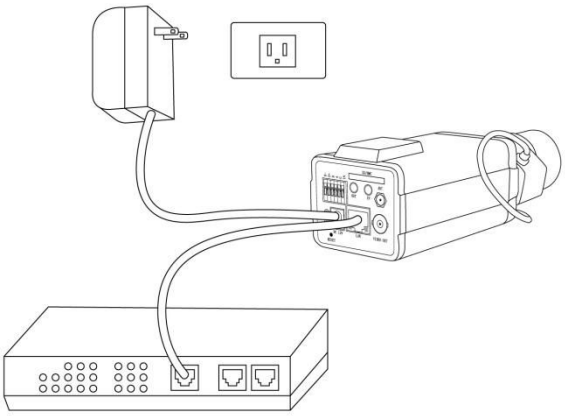

Figure 1-7 Box Camera

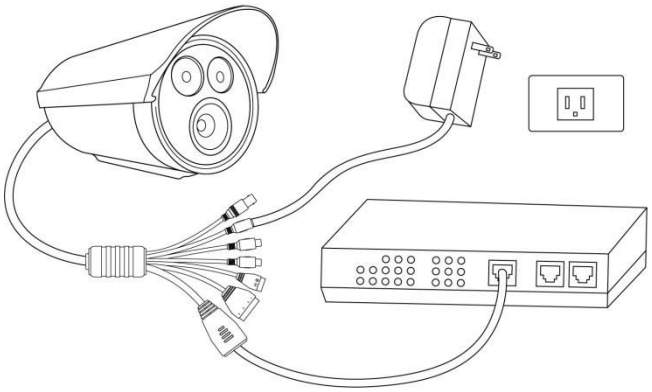

Figure 1-8 Bullet Camera

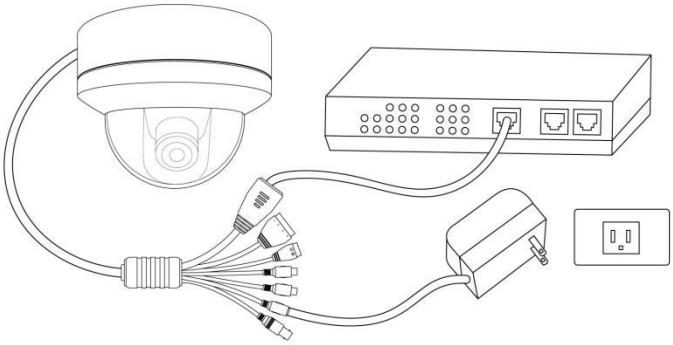

Figure1-9 Dome Camera

2) **Power over Ethernet (PoE) connection.** PoE will be automatically detected when the Ethernet cable is connected. The camera can either be connected to a PoE-enabled switch or a non-PoE switch.

A. Connect the camera to a PoE switch using a single Ethernet cable.

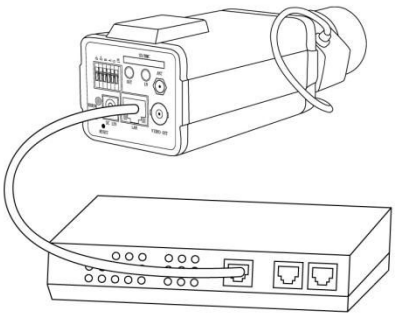

Figure 1-10 Box Camera

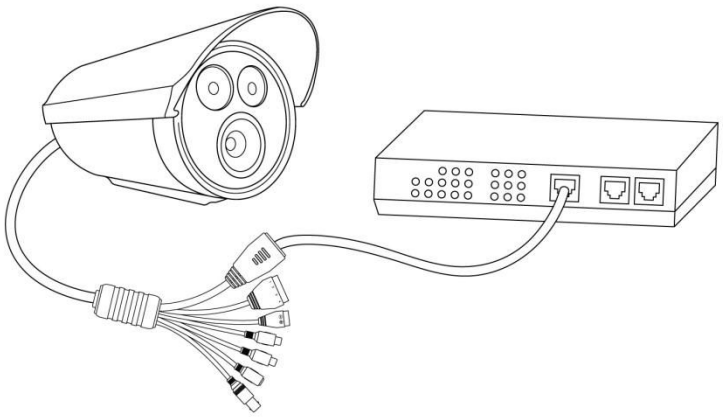

Figure 1-11 Bullet Camera

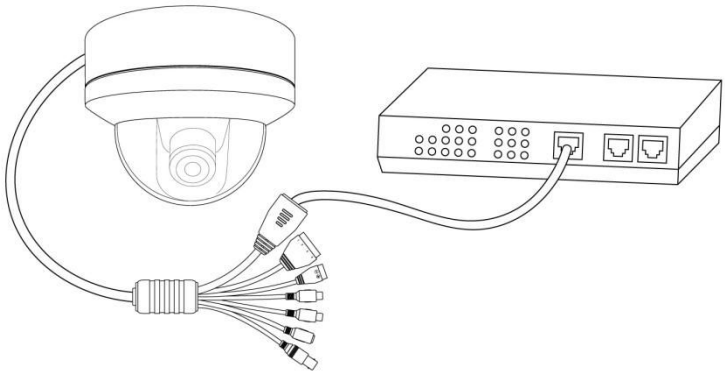

Figure 1-12 Dome Camera

B. Connect the camera to a non-PoE switch using the PoE injector

Step 1: Connect the camera to a PoE injector using an Ethernet cable.

Step 2: Connect the PoE injector to the non-PoE switch using an Ethernet cable.

Step 3: Connect the PoE injector to a power outlet.

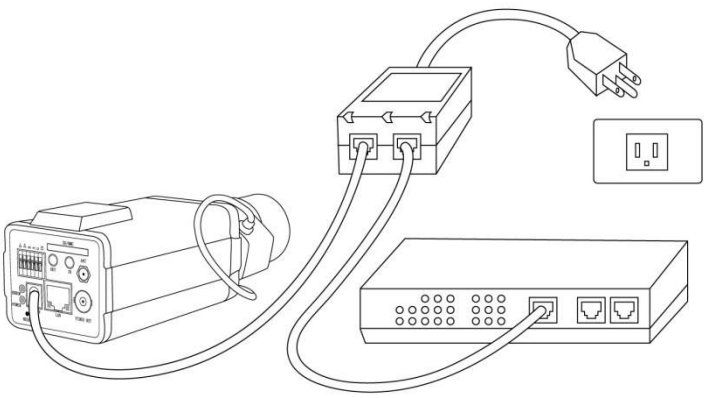

Figure 1-13 Box Camera

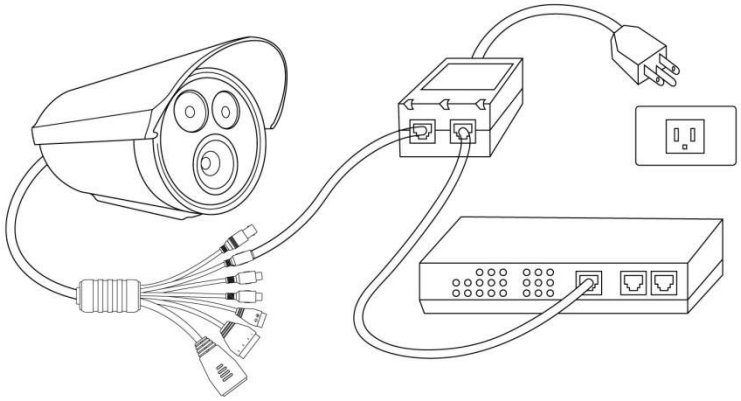

Figure 1-14 Bullet Camera

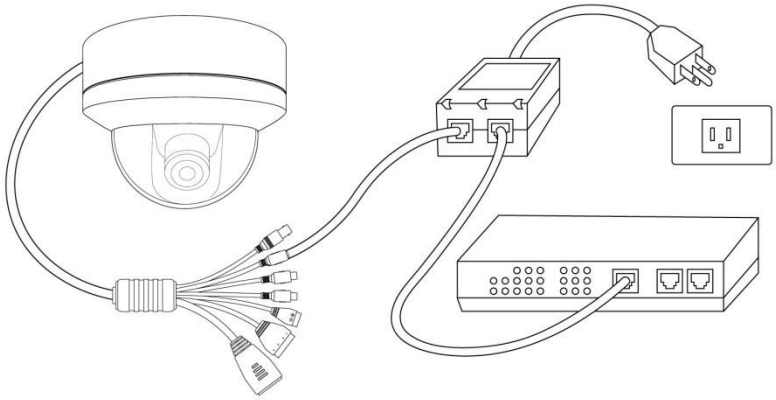

Figure 1-15 Dome Camera

- *The power LED will light steady red when the camera is connected to a power source*

2. Optionally connect external input/output devices, such as alarm devices.
3. Optionally connect an active speaker or external microphone.
4. Optionally connect the camera to a monitor using a BNC cable.

1.5 System Requirements

Operating Syestem: Windows XP/7/Vista/Server 2000/Server 2008
CPU: 1.66GHz or higher
RAM:1G or higher
Graphic memory:128MB or more
Internet protocol: TCP/IP (IPv4)
Web Browsers: Interner Explorer 8.0 and above version,Mozilla Firefox ,Google Chrome and Safari.

Chapter II Network Connection

There are several methods to connect the camera to the network.

2.1 Setting the camera over the LAN

Connecting the camera to a switch or a router is the most common connection method. The camera must be assigned an IP address that is compatible with its LAN.

2.1.1 Connect the camera to the PC directly

In this method, only the computer connected to the camera will be able to view the camera. The camera must be assigned a compatible IP address to the computer. Details are shown as below figure.

Figure 2-1 Connect the camera to the PC directly

2.1.2 Connect via a Switch or a Router

Refer to the following figure to set network camera over the LAN via the switch or router.

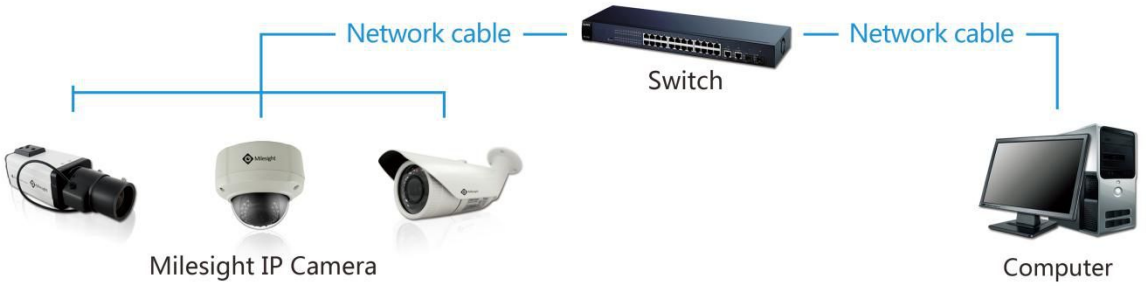

Figure 2-2 Connect via a Switch or a Router

2.2 Setting the camera over the WAN

The camera could be connected to the WAN directly. You need to set the static or dynamic WAN IP address assigned by the ISP (Internet Service Provider).

2.2.1 Static IP Connection

◆ Connecting the network camera with static IP directly

You can also save the static IP in the camera and directly connect it to the internet without using a router. Details are as follow.

Figure2-3 Connecting the network camera with static IP directly

◆ Connecting the network camera via a router

Steps:

1. Connect the network camera to the router.
2. Assign a LAN IP address, the subnet mask and the gateway.
3. Save the static IP in the router.
4. Set port mapping, E.g., 80, 8000 and 554 ports. The steps for port mapping vary depending on different routers. Please call the router manufacturer for assistance with port mapping.
5. Visit the network camera through a web browser or Milesight VMS over the internet.

Figure 2-4 Connecting the network camera via a router using static IP

2.2.2 Dynamic IP Connection

◆ Connecting the network camera via a router

Steps:

1. Connect the network camera to the router.
2. In the camera, assign a LAN IP address, the subnet mask and the gateway.
3. In the router, set port mapping. E.g. 80, 8000 and 554 ports. The steps for port mapping vary depending on different routers. Please call the router manufacturer for assistance with port mapping.
4. Apply a domain name from a domain name provider.
5. Configure the DDNS settings in the setting interface of the router.
6. Visit the camera via the domain name.

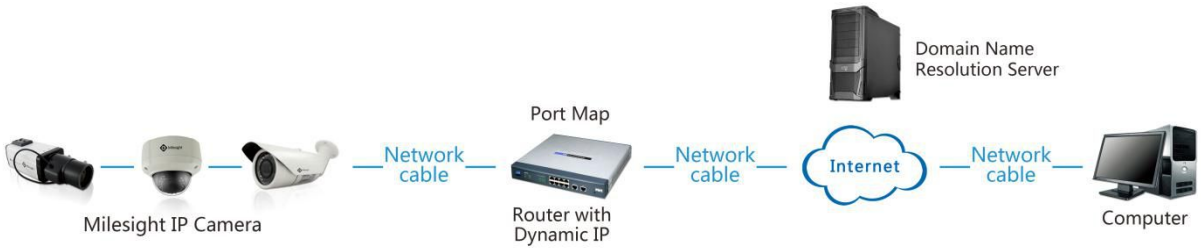

Figure 2-5 Connecting the network camera via a router using dynamic IP

Chapter III Accessing the Network Camera

3.1 Assigning An IP Address

The camera must be assigned an IP address to be accessible. The default IP address of Milesight network camera is 192.168.5.190. The default user name is admin, and password is ms1234.
You can either change the IP address of the camera via IPCTools or manually. Please connect the camera in the same LAN of your computer.

3.1.1 Assigning An IP Address Using IPCTools

IPCTools is a software tool which can automatically detect multiple online Milesight network cameras connected in the LAN, set IP addresses, and manage firmware upgrades. It's recommended when assigning IP addresses for multiple cameras.
Step 1: Install IPCTools (The software could be downloaded from CD.)
Step 2: Start IPCTools, and the device information including IP address, MAC address, Port number, Netmask, and Gateway of all Milesight network cameras will be displayed. Details are shown as Figure 3-1.

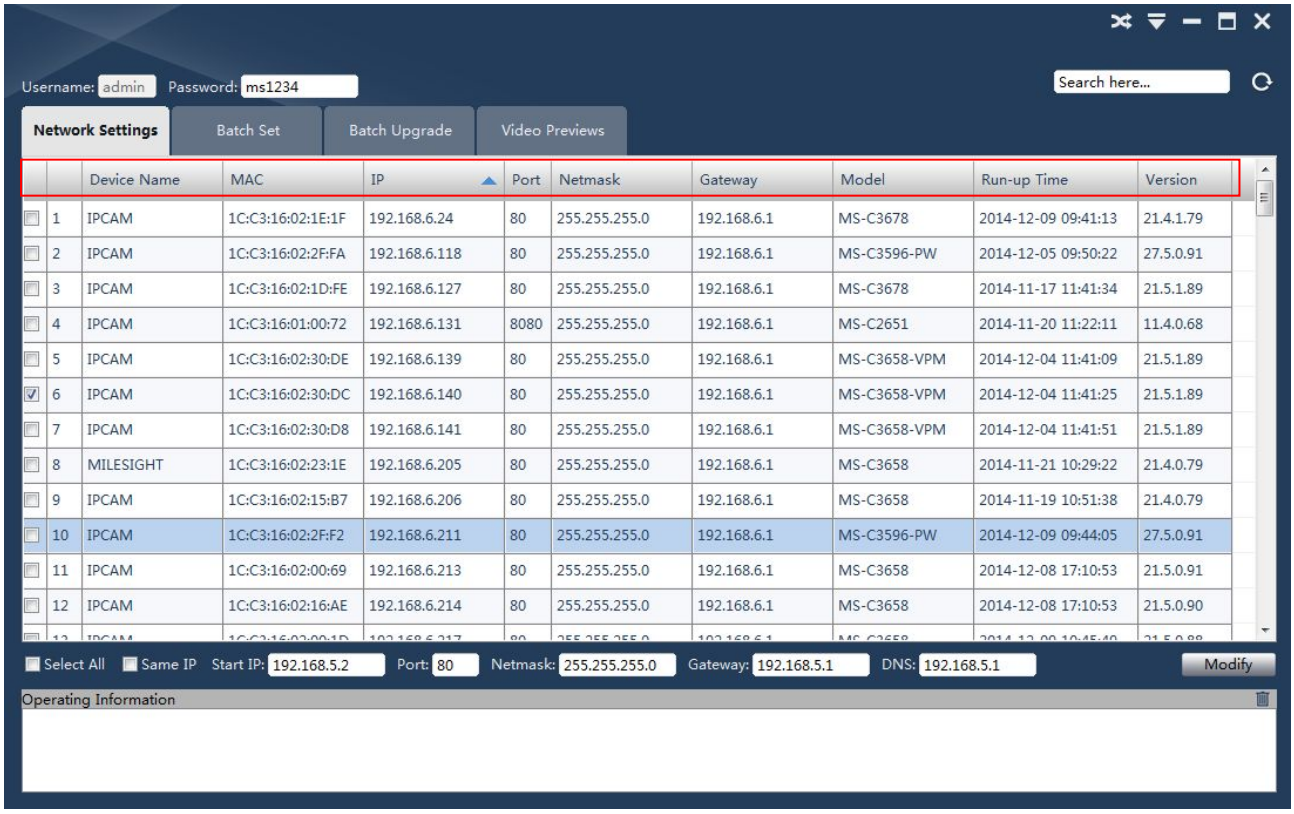

Figure 3-1

Step 3: Select a camera or multiple cameras according to the MAC address.

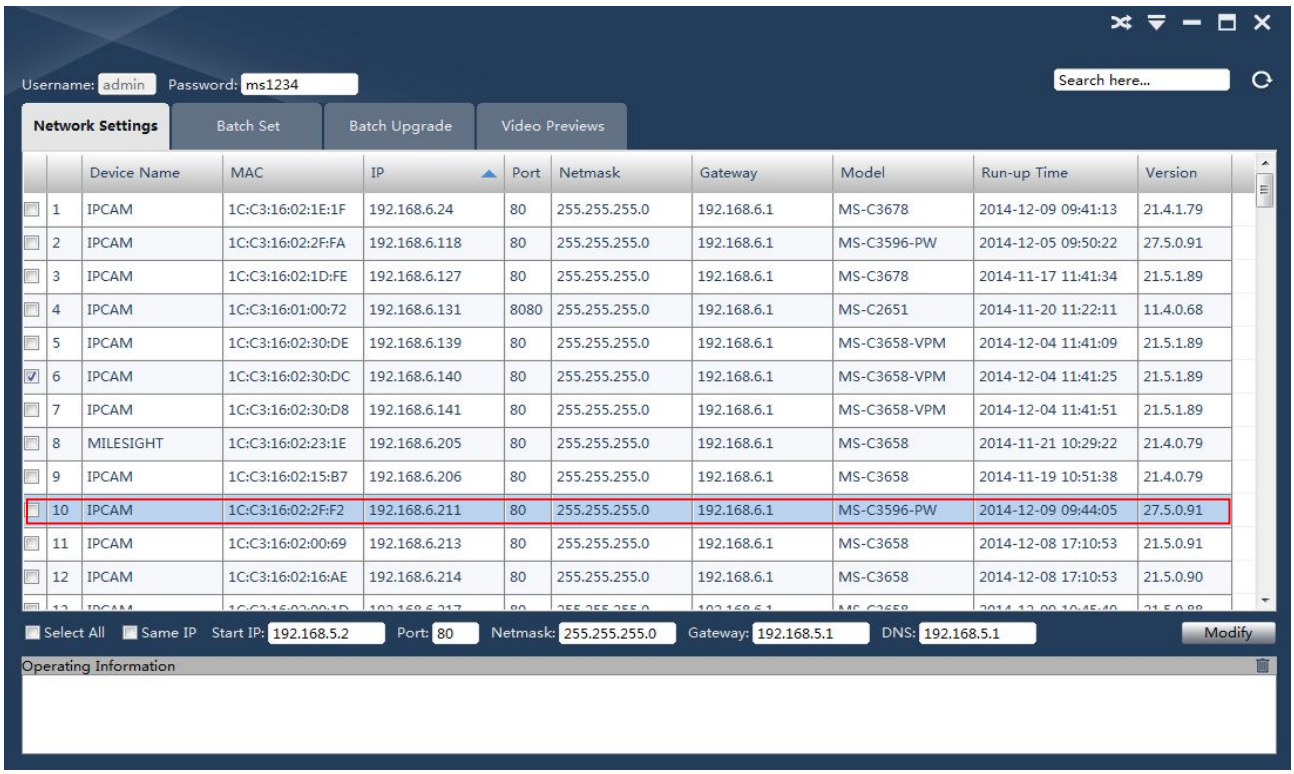

Figure 3-2 Select single camera

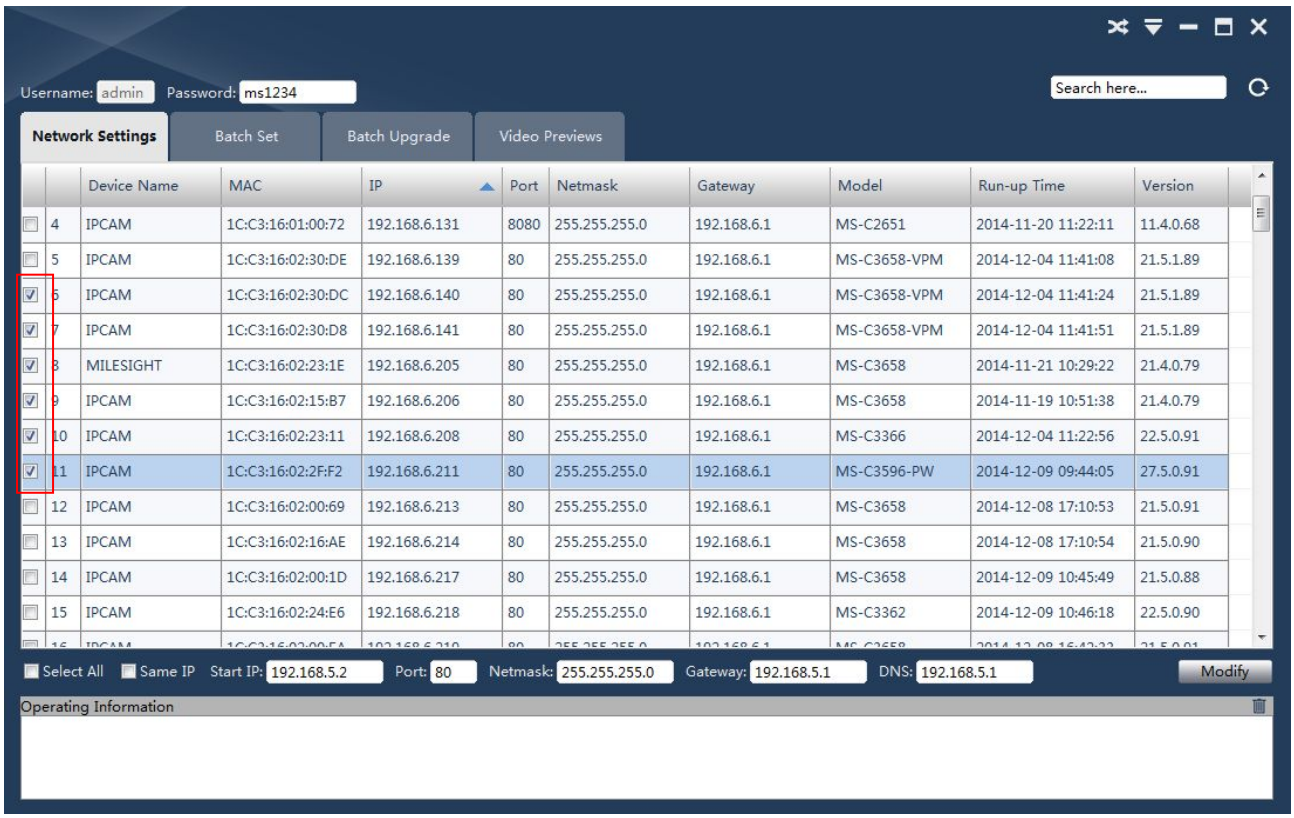

Figure 3-3 Select multiple cameras

Step 4: Type the User Name and Password (if they are not default value.)

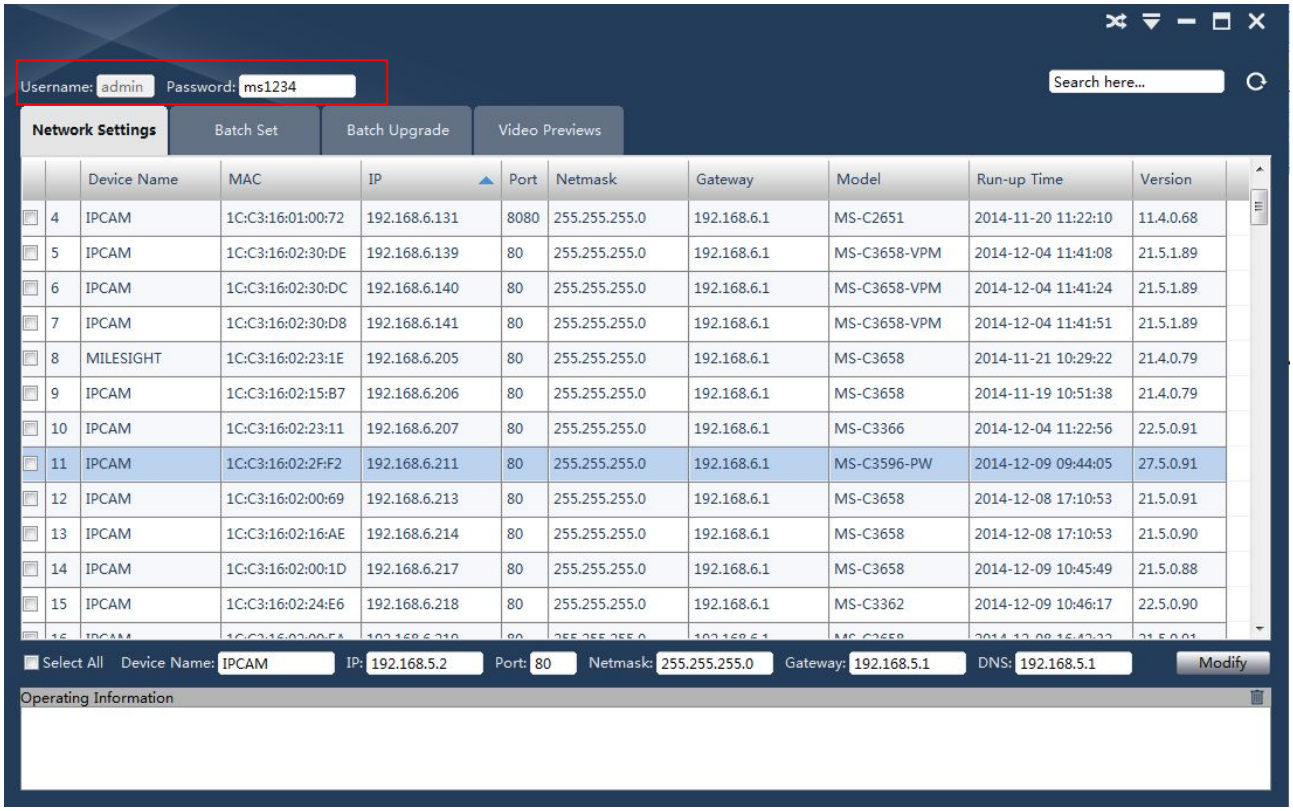

Figure 3-4

Step 5: Change the IP address or other network values, and then click “Modify” button.

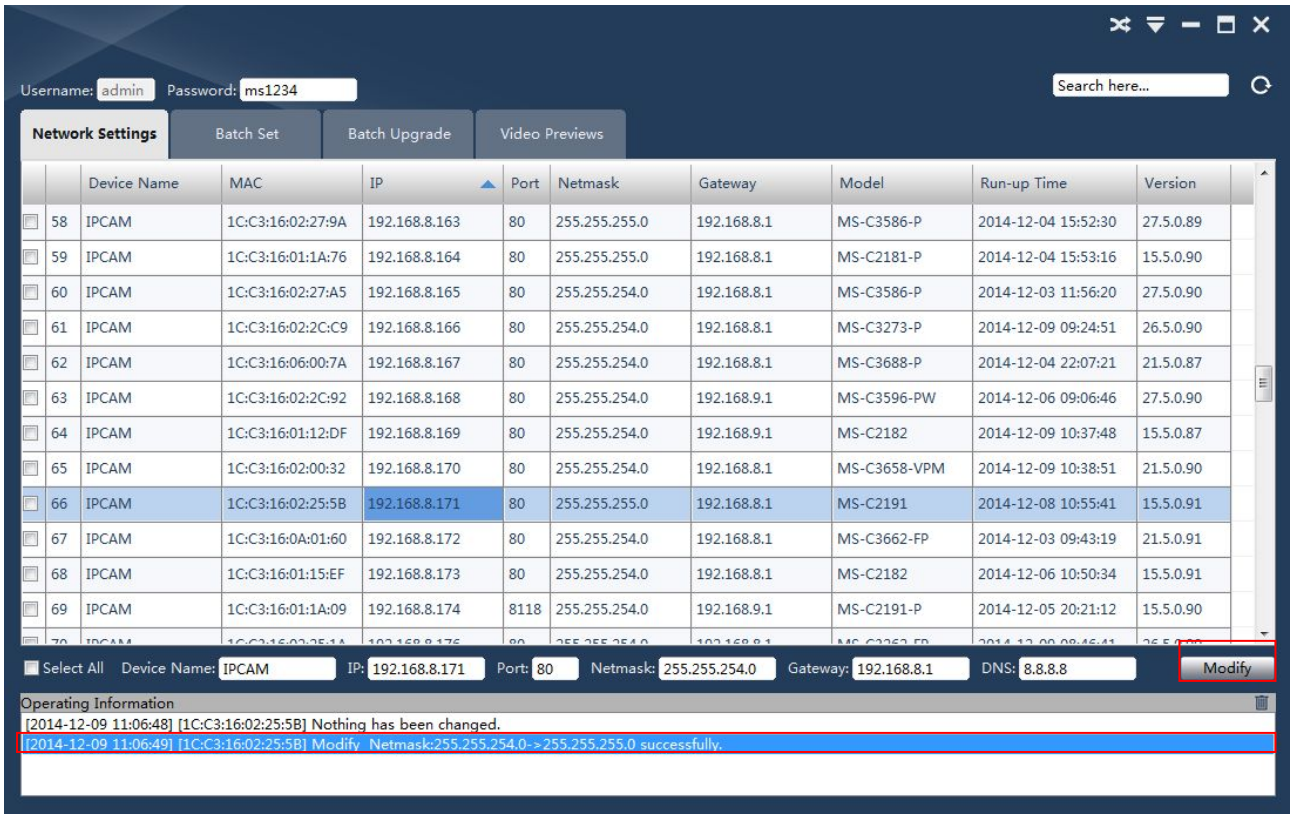

Figure 3-5

Step 6: Change the IP address successfully.

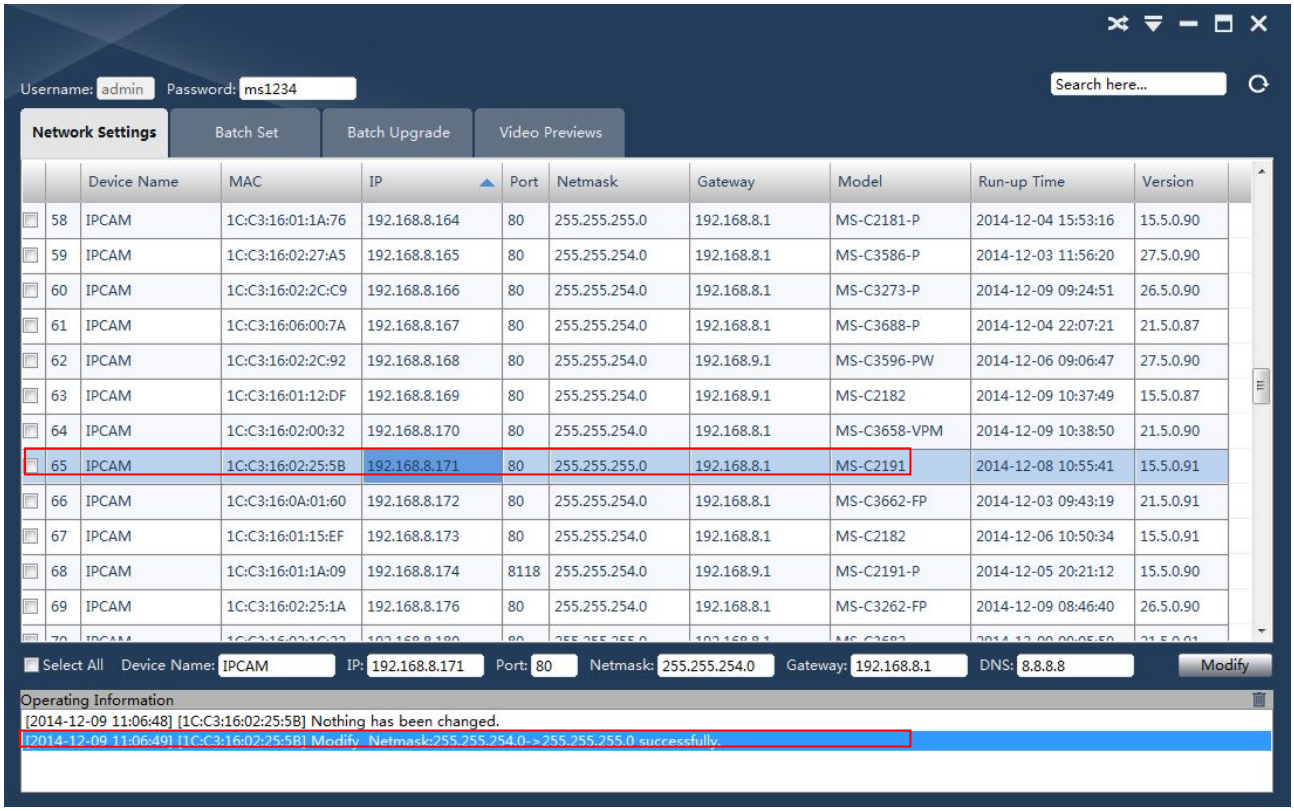

Figure 3-6 Change IP address successfully

Step 7: By double clicking the selected camera, you can access the camera via web browser directly. The Internet Explorer window will pop up.

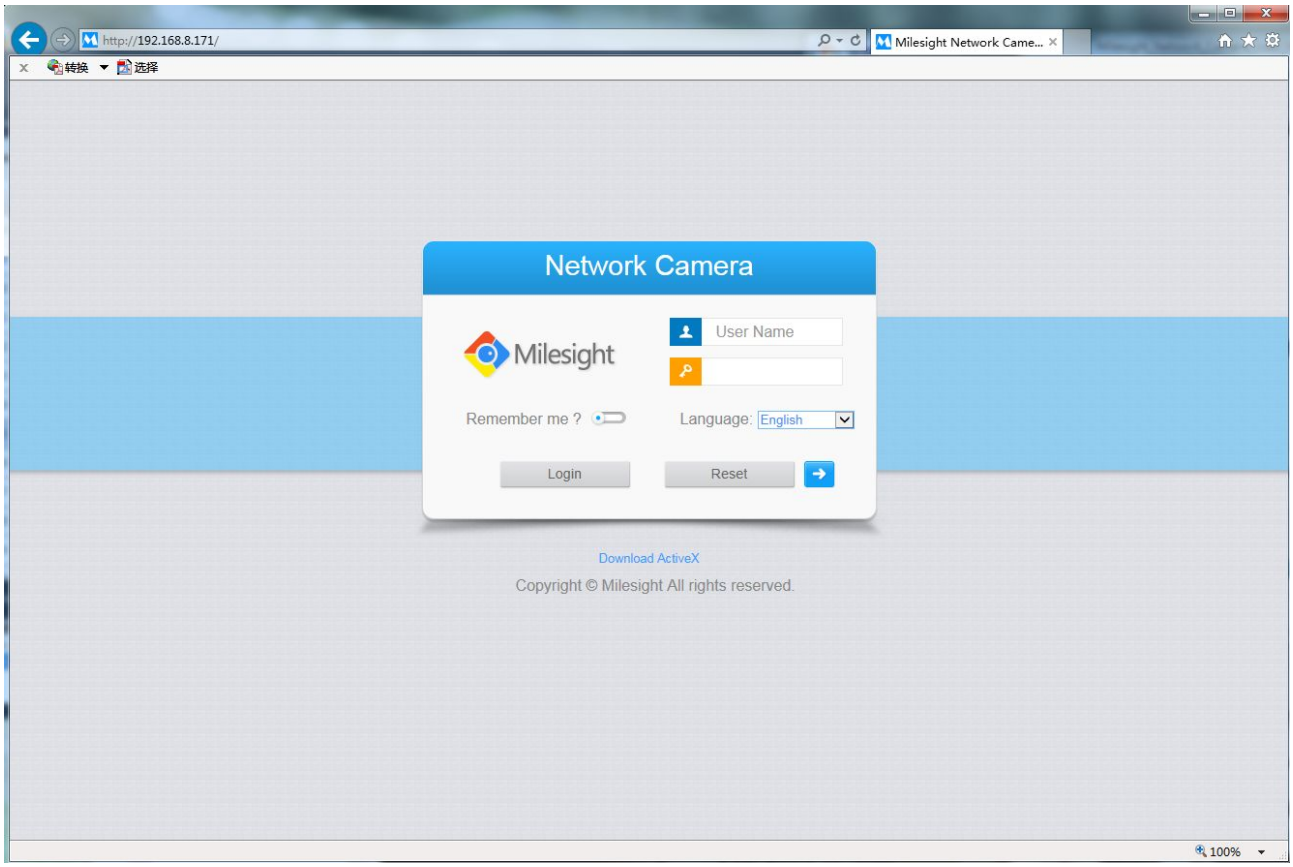

Figure 3-7

3.1.2 Assign An IP Address Manually

If the network segments of the computer and that of the camera are different, please follow the steps to change the IP address:

Step 1: Change the IP address of computer to 192.168.5.0 segment.

a. Start-> Control Panel->Network and Internet Connection->Network Connection->Local Area Connection, and double click it. (See Figure3-8)

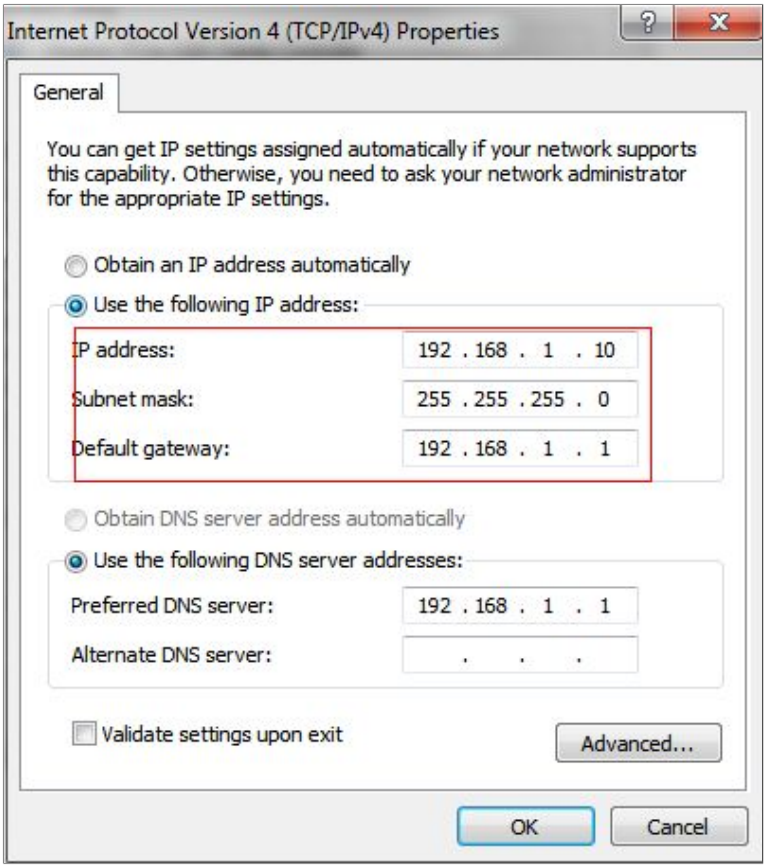

Figure 3-8

b. Click “Advanced”, and then click “IP settings”->”IP address”->”Add” (See Figure 3-9). In the popup window, enter an IP address with a same segment with Milesight network camera (e.g.: 192.168.5.61, but please note that this IP address shall not conflict with the IP address on the existing network), see Figure 3-9.

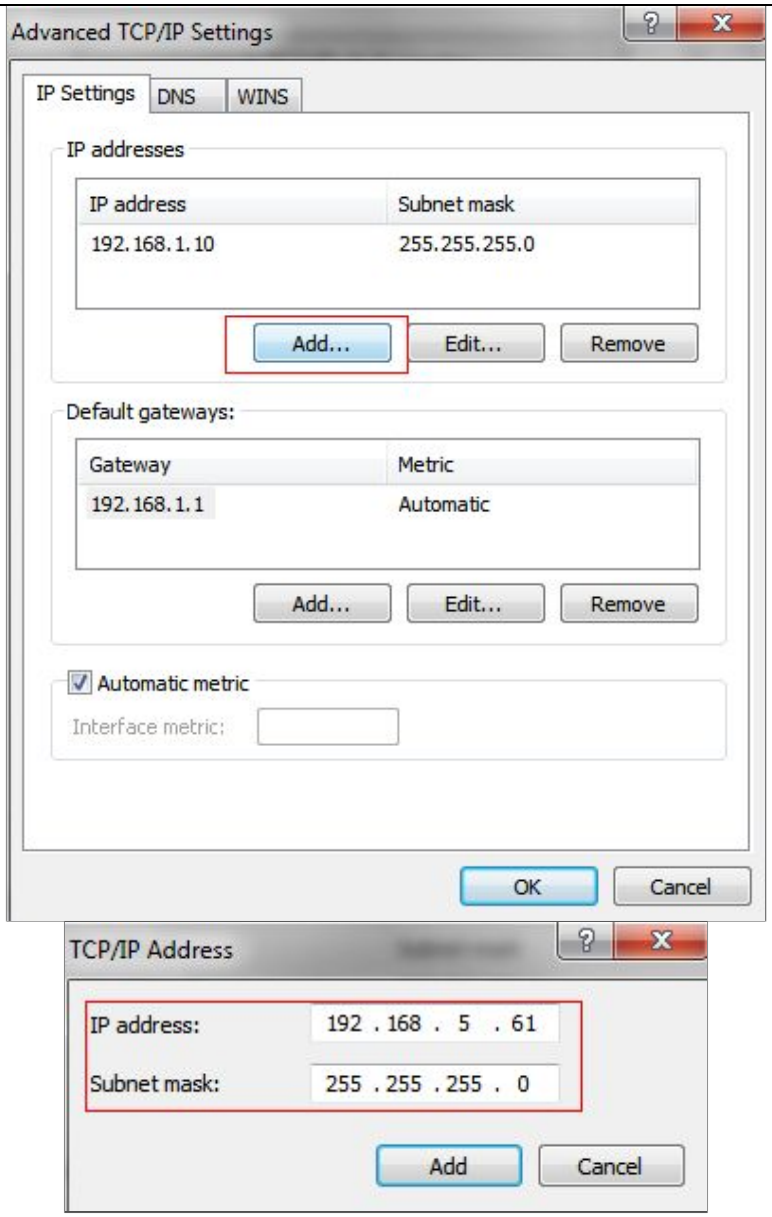

Figure 3-9

Step.2: Start the browser. In the address bar, enter the default IP address of the camera: http://192.168.5.190.

Step.3: Enter the user name and password when the login page appears.

Default user name: admin

Default password: ms1234

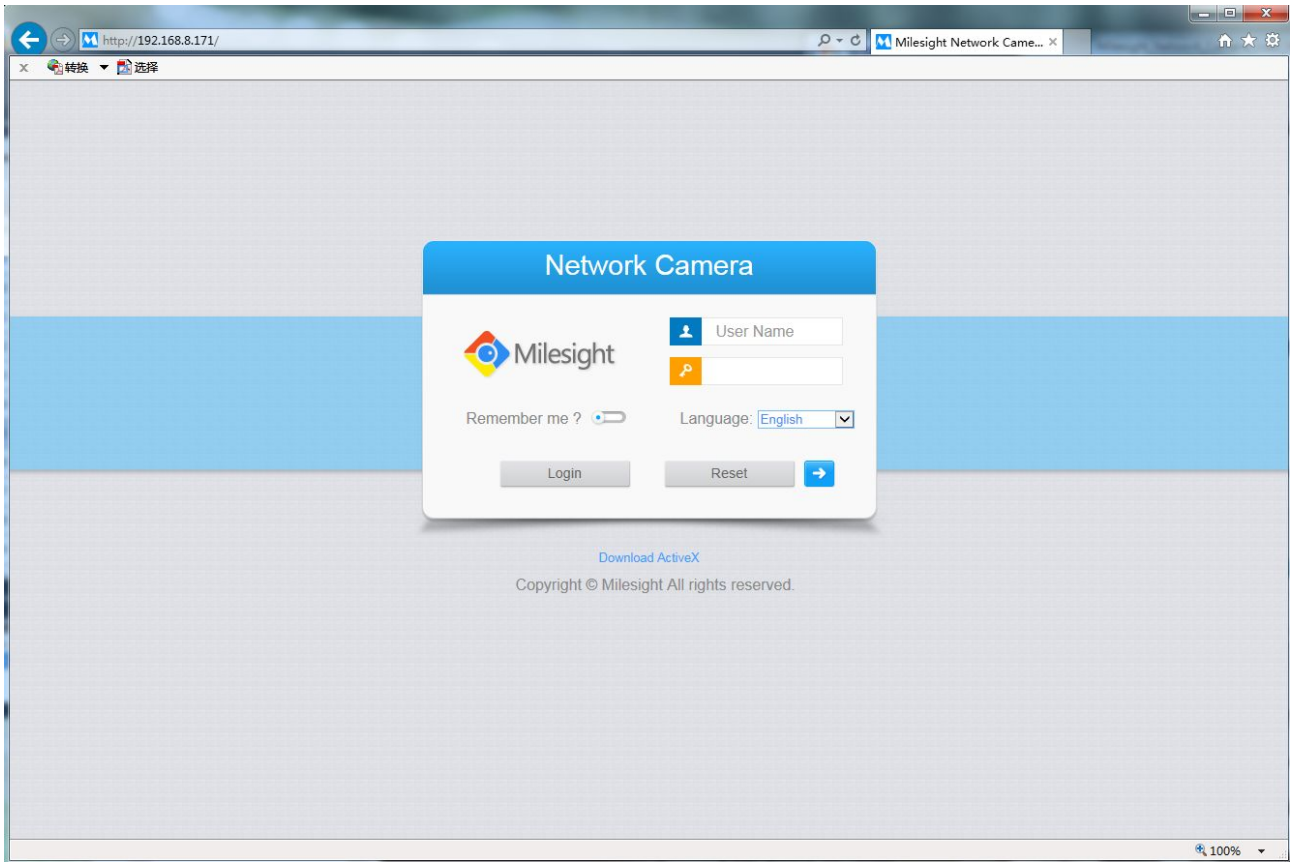

Figure 3-10

Step.4: After login, please select the “Configuration”→”Basic Settings”→”Network”. The Network Settings page appears. (Shown as Figure 3-11)

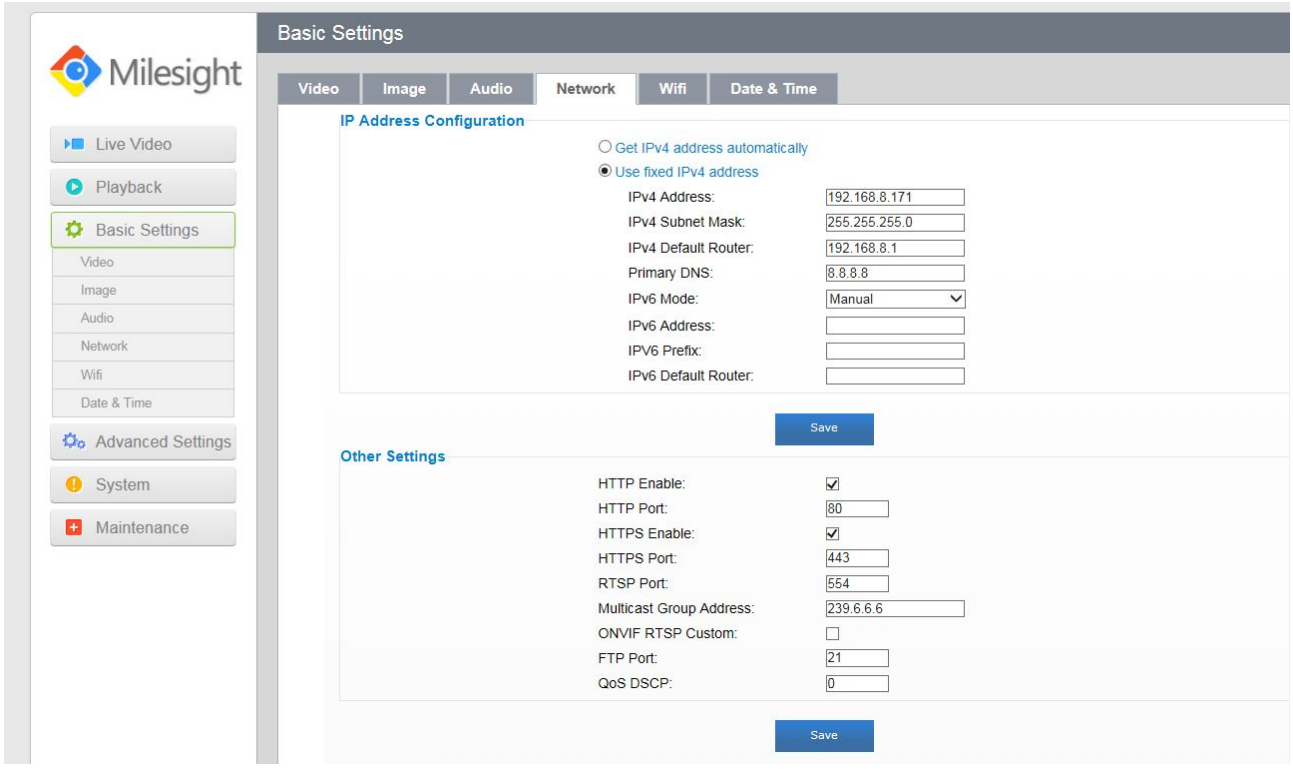

Figure 3-11

Step.5: Change the IP address or other network values. Then click “Save” button.
Step.6: The change of default IP address is completed.

3.2 Accessing from the Web Browser

The camera can be used with the most standard operating systems and browsers. The recommended browsers are Internet Explorer, Firefox, Chrome, Safari.

3.2.1 Access over IE Browser

- ✧ Launch the IE browser and enter the IP address of the camera.
- ✧ Enter the User Name and Password and click “Login”.
  Note: The default user name is “admin”, password is “ms1234”
- ✧ At the first time to log on the device, the browser will prompt to install controls, please click '**Click here to download and install controls manually**' as Figure 3-12.

Figure 3-12

- ✧ Follow the prompts to install the controls, when it`s finished, it will pop out a window as Figure 3-13. Please click 'Finish' and refresh the browser, then you will see the video.

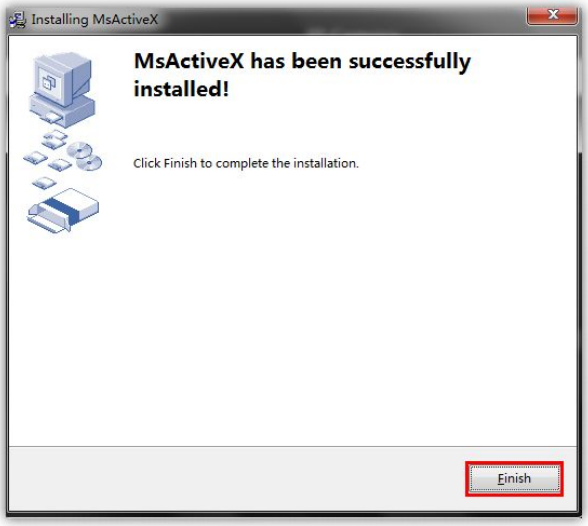

Figure 3-13

Note: If IE9or higher version browser is used, it is suggested that the Milesight camera web link should be added as a trusted site. See the instructions as below:
Step 1: Start the IE9 or higher version browser, and select “Tools”→select“Internet Options”.

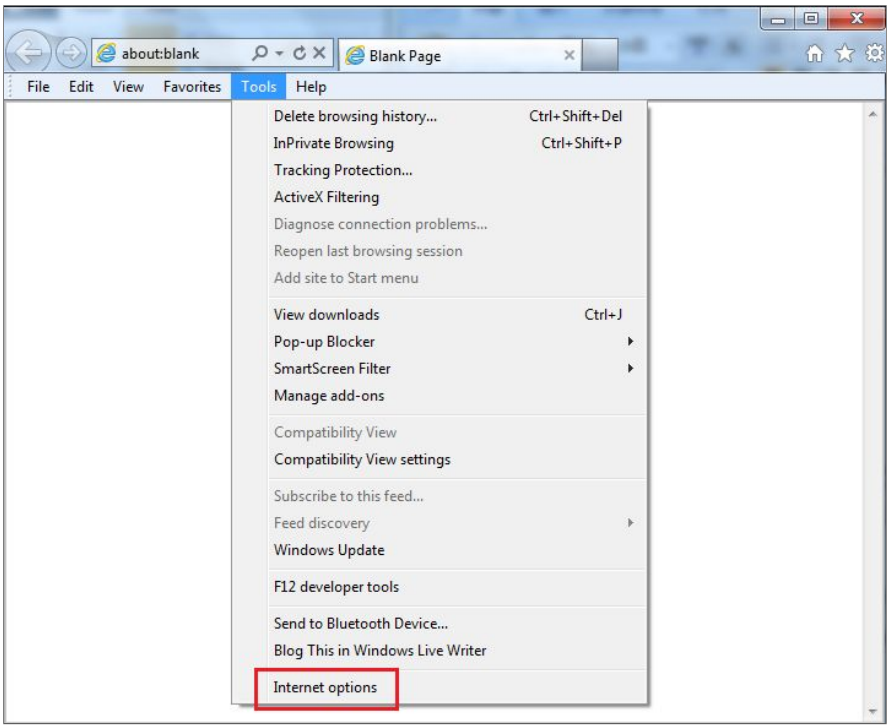

Figure 3-14

Step 2: Select “Security”→”Trusted

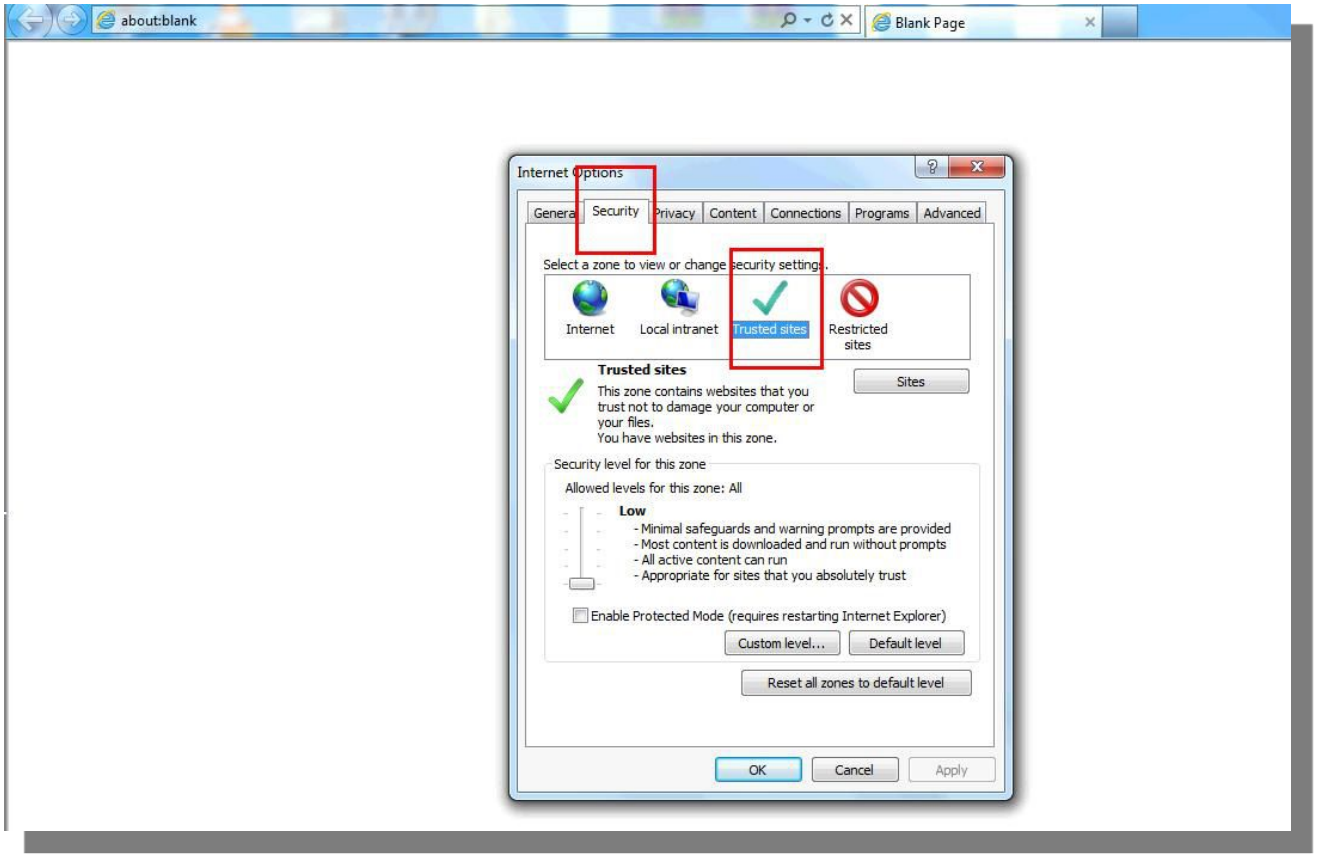

Figure 3-15

Step 3: Enter the IP address of the camera in the blank and click “Add”

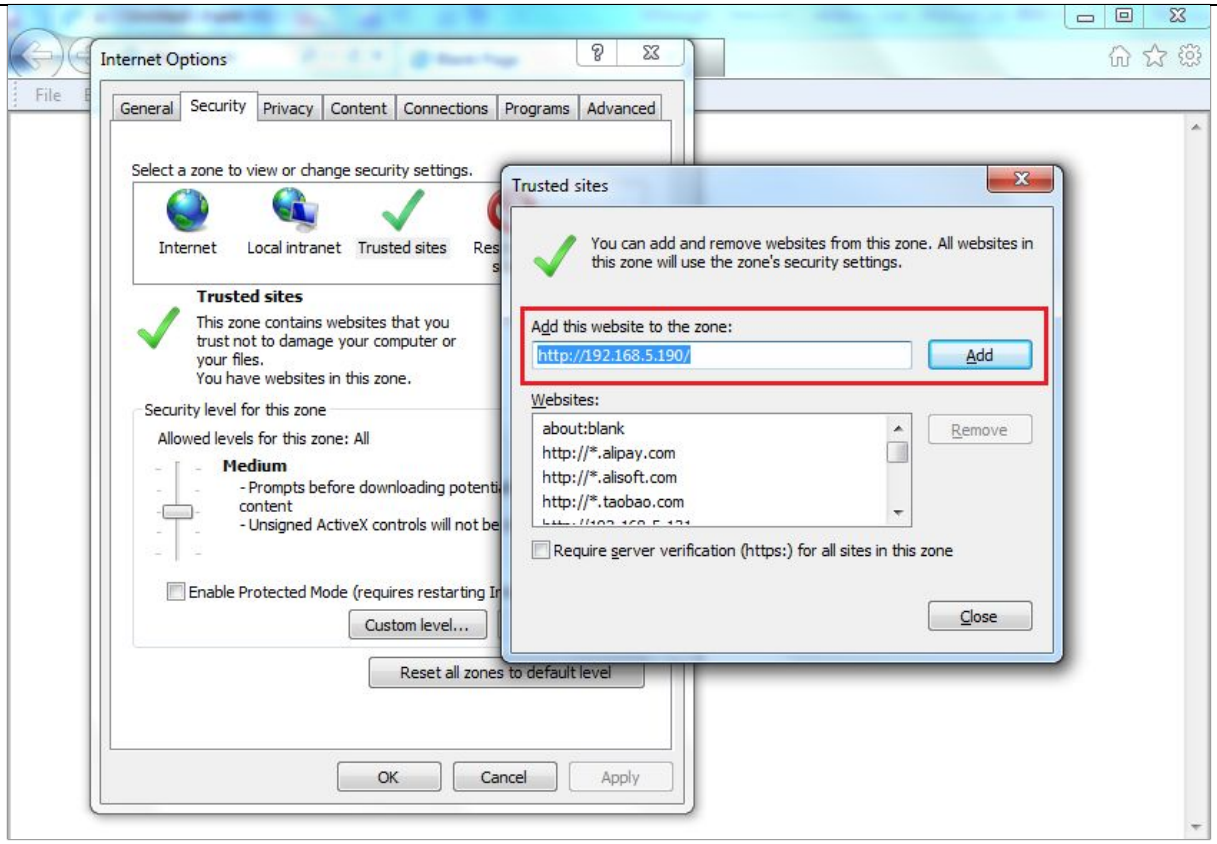

Figure 3-16

Step4: Enter the IP address. After logging on IP camera`s web GUI successfully, user is allowed to view live video as bellow.

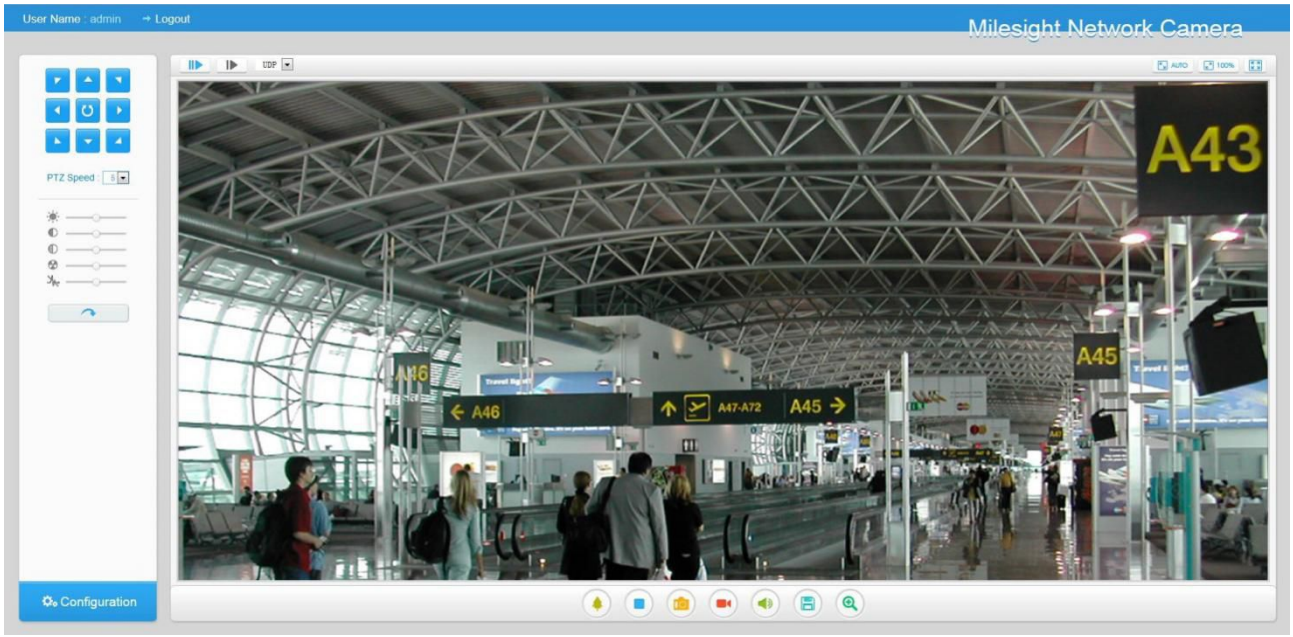

Figure 3-17

3.3 Accessing from Milesight VMS (Video Management Software)

MilesightVMS(ONVIF compatible) is a handy and reliable application designed to work with IP

cameras in order to provide video surveillance, recording settings and event management functions. The interface of MilesightVMS is very easy to use, intuitive, with easy access to the most common activities, such as viewing live video, searching through recordings and exporting videos and snapshots. It's able to integrate with other devices through ONVIF and you can connect up to 64 cameras. It is designed to work on Windows XP/7/8/Vista/Server 2000/Server 2008.The software is contained in the CD or could be downloaded from our website www.milesight.com.

Please install Milesight VMS; then launch the program to add the camera to the channel list. For detailed information about how to use the software, please refer to user manual of Milesight VMS.

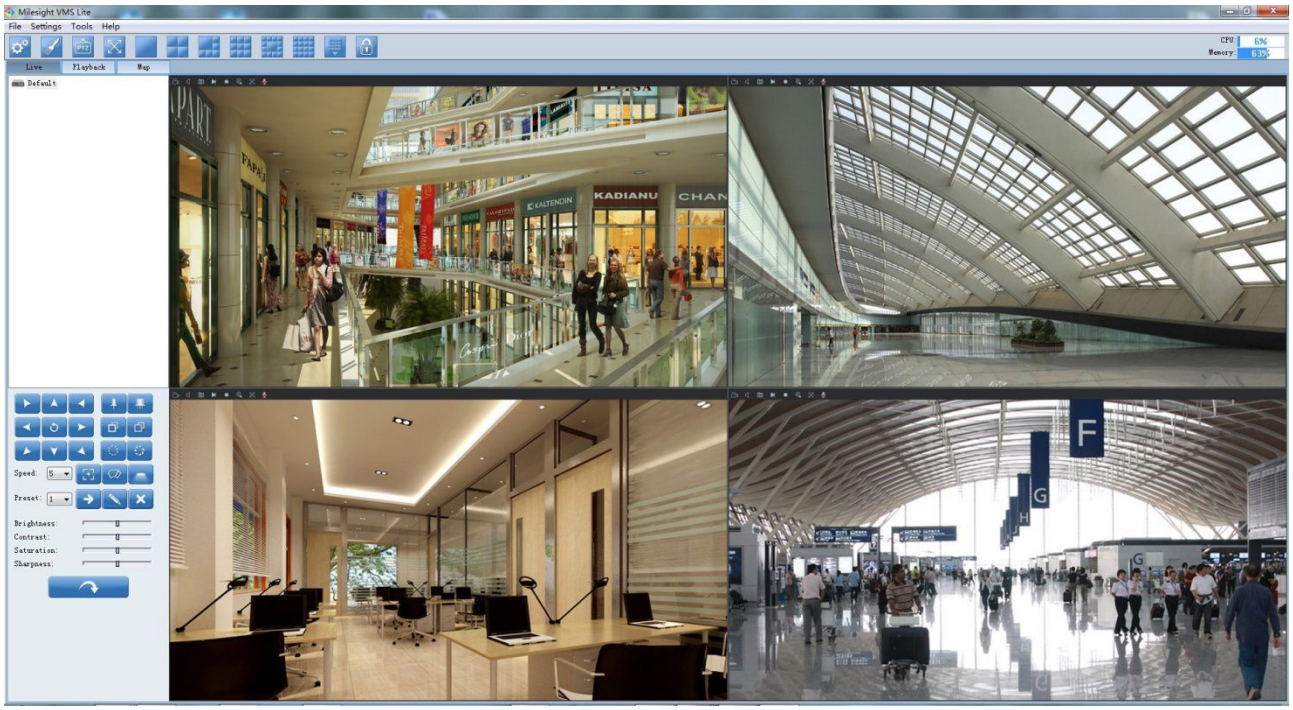

Figure 3-18

Chapter IV System Operation Guide

4.1 Live Video

After logging on the network camera web GUI successfully, user is allowed to view live video as bellow.

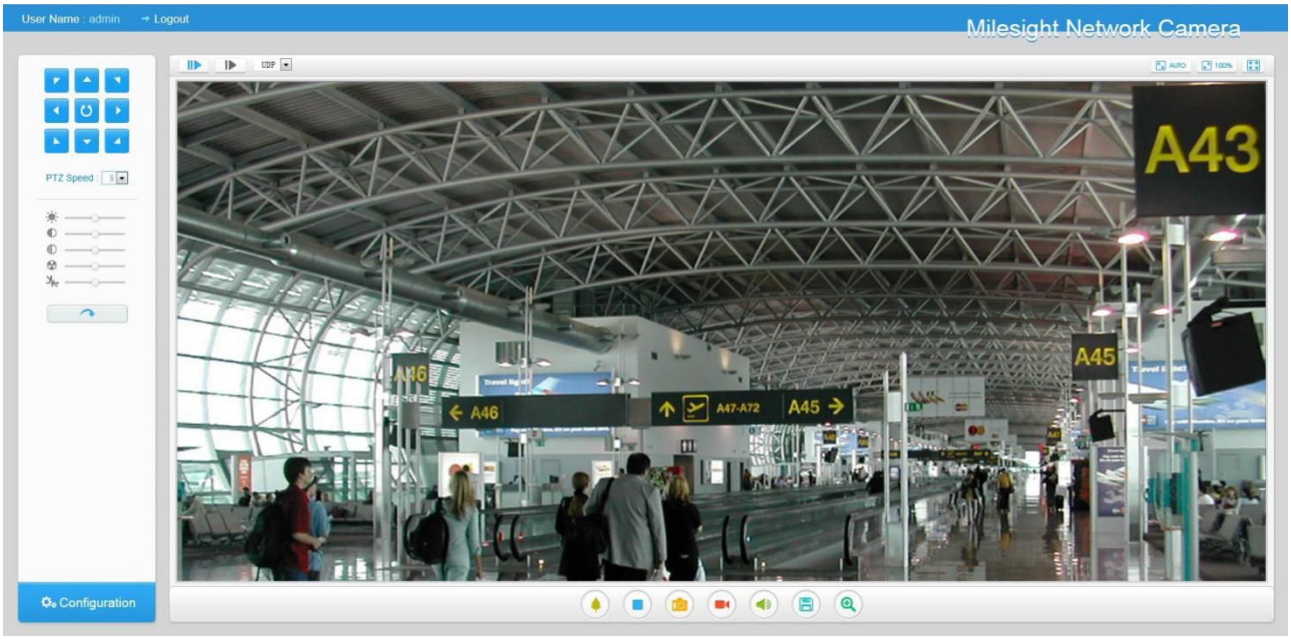

Figure 4-1 Live view interface

Table 4-1 Description of the buttons

No.	Parameter	Description
①	 PTZ Control	Navigation key is used to control the direction. The rotation key is used for auto-rotation
②	PTZ Speed	PTZ rotation speed control
③	Image Adjustment	**Brightness** A brighter scene appears, if a higher level of brightness is chosen
		ContrastThe difference in color and light between parts of an image
		Saturation A more vivid scene appears, if a higher level of saturation is chose
		Sharpness Make image more sharp
		Noise Reduction Level Adjust the noise

		reduction level
		Default Settings Restore brightness, contrast and saturation to default settings
④		Click to access the configuration page
⑤		Choose the Stream to show on the current video window
⑥	 Window size	Click to display images in a window size
⑦	 Real size	Click to display images in a real size
⑧	 Full Screen	Click to display images in a full-screen
⑨	 Recording	When an alarm causes recording, the icon will turn red
⑩	 Alarm	When enabled, an alarm occurs, the icon will turn red
		Adjust the focal length of the lens
		Adjust focus of the lens
		Adjust the size of IRIS
		Auxiliary Focus and Lens Initialization
⑫	 /	Start/Stop live view
⑬	 Capture	Click to capture the current image and save to the configured path. Default path is C:VMS\+-1\ IMAGE-MANUAL
⑭	 Start Recording	Click to start recording video and save to the configured path. Default path is C: VMS\+-1\MS_Record. Click again to stop recording
⑮	 Saving Path Settings	Set the saving path for capture and recording

⑯	Play Audio	Enable Audio Input/output. It can also be set in Audio configuration page
⑰	Enable Zoom	When enabled, you can zoom in on a specific area of video image with your mouse wheel
⑱	E-PTZ	Able to use PTZ to move the position(only support under 720P with MS-C26XX or MS-C36XX)

4.2 Playback

Purpose:

This section explains how to view the remotely recorded video files stored in the SD cards or the network disks.

Steps:

1. Click **Playback** on the menu bar to enter playback interface.

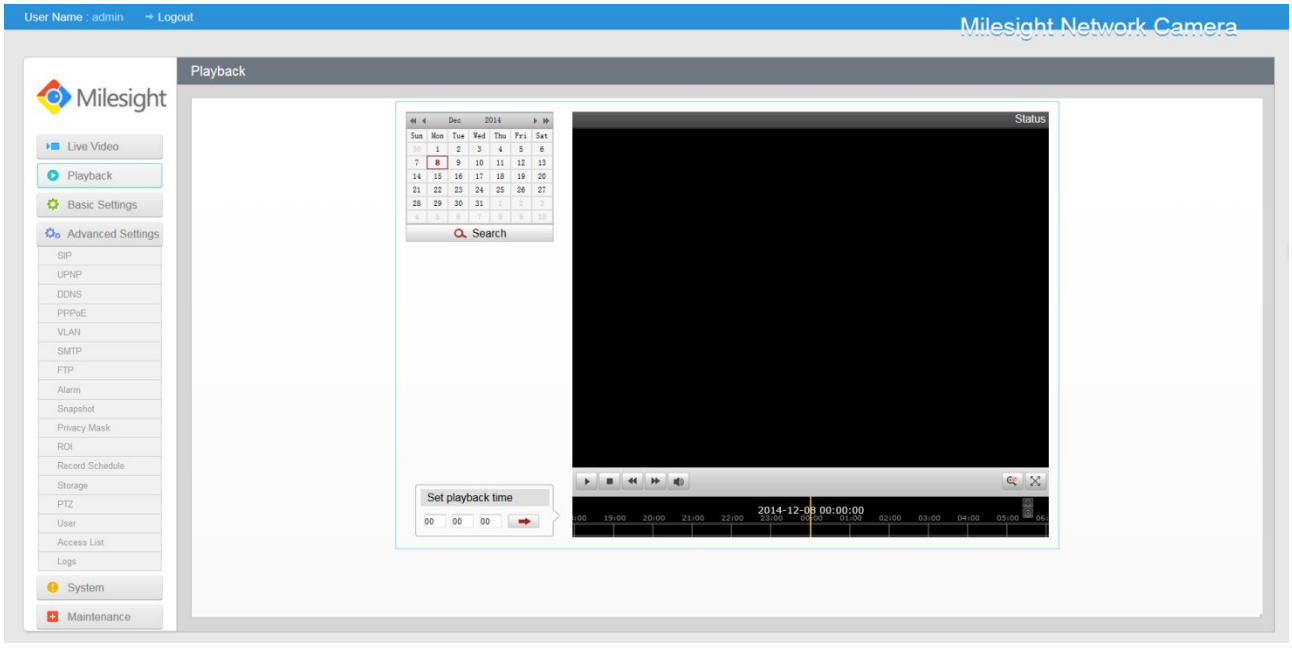

Figure 4-2 Playback interface

2. Select the date and click **Search**.

Figure 4-3 Search Video

3. Click  to play the video files found on this date.

The toolbar on the buttom of playback interface can be used to contrlo playing progress.

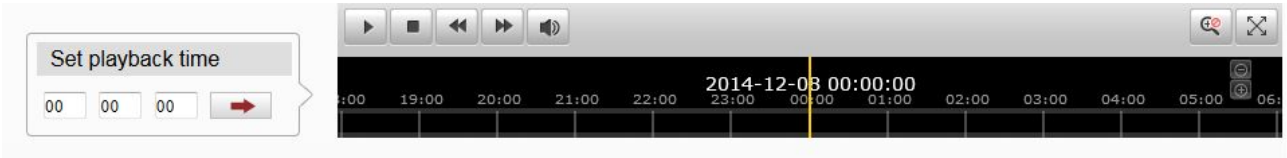

Figure 4-4 Playback Toolbar

Table 4-2 Description of the buttons

Button	Operation
	Play
	Pause
	Stop
	Speed down
	Speed up
	On/Off audio
	Enable/Disable digital zoom
	Full screen

Note:

Drag the progress bar with the mouse to locate the exact playback point.You can also input the time and click  to locate the playback point in the set playback time filed.You can also click

 to zoom out/in the progress bar.

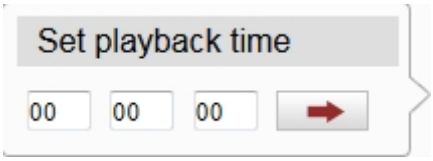

Figure 4-5 Set Payback Time

4.3 Basic Settings

4.3.1 Video

OSD (On Screen Display) content and video time can be displayed to rich the video information. Stream parameters can also be set on this page, to adapt to different network environments and demands.

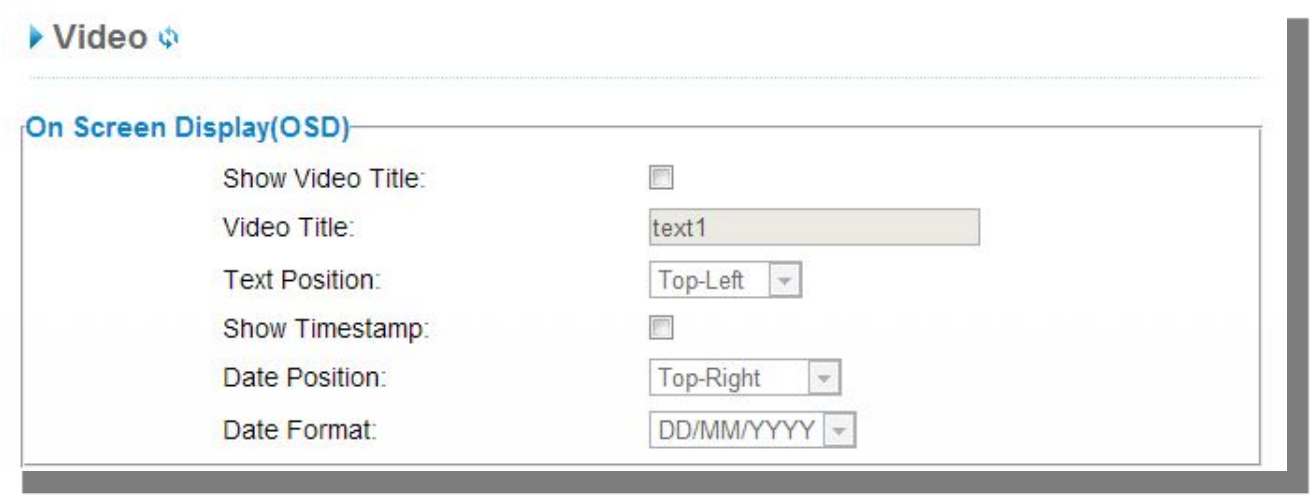

Figure 4-6

On Screen Display(OSD)

Parameters	*Function Introduction*
Show Video Title	Check the checkbox to show video title
Video Title	OSD content customized
Text Position	OSD display position on the image
Show Timestamp	Check the checkbox to display date on the image
Date Position	Date display position on the image

Date Format	The format of date

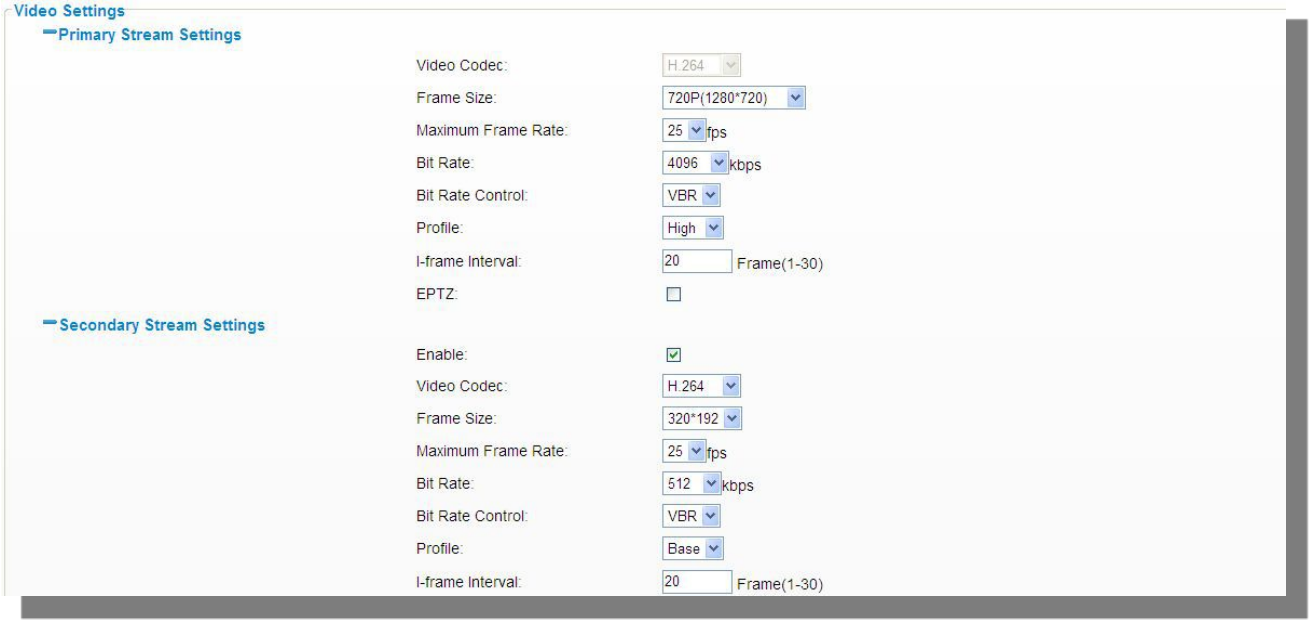

Figure 4-7

Primary Stream Settings

Parameters	***Function Introduction***
Video Codec	H.264/MPEG-4/MJPEG available (Main stream only support H.264)
Frame Size	Options include 5M(2560 × 1920), 3M(2048 × 1536), 1080P(1920× 1080), 2M(1600 ×1200), 1.3M(1280×960), 720P(1280×720),D1 (704×576)
Maximum Frame Rate	Maximum refresh frame rate of per second
Bit Rate	Transmitting bits of data per second
Bit Rate Control	***CBR :*** Constant Bitrate. The rate at which a codec's output data should be consumed is constant
	VBR : Variable Bitrate. VBR files vary the amount of output date per time segment
Profile	The option of codec, select Base/Main/High according to your needs
I-frame Interval	Set the I-frame interval to 1~30

Note:

The options of ***Frame Size*** are variable according to the model selected.

Secondary Stream Settings

Parameters	Function Introduction
Enable	Click to enable the secondary steam
Video Codec	H.264/MPEG-4/MJPEG available
Frame Size	The optional resolutions of the secondary stream depend on theCodec of the primary stream and the secondary stream
Maximum Frame Rate	Maximum refresh frame rate of per second
Bit Rate	Transmitting bits of data per second
Bit Rate Control	***CBR :*** Constant Bitrate. The rate at which a codec's output data should be consumed is constant
	VBR : Variable Bitrate. VBR files vary the amount of output date per time segment
Profile	The option of codec, select Base/Main/High according to your needs
I-frame Interval	Set the I-frame interval to 1~30

4.3.2 Image

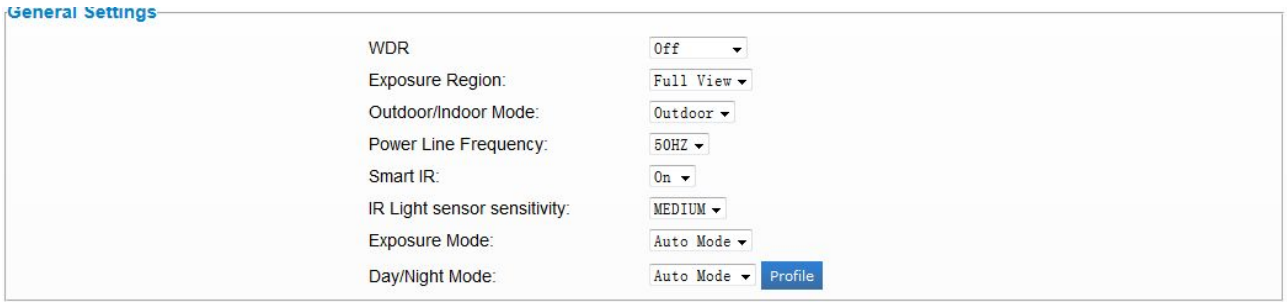

Figure 4-8

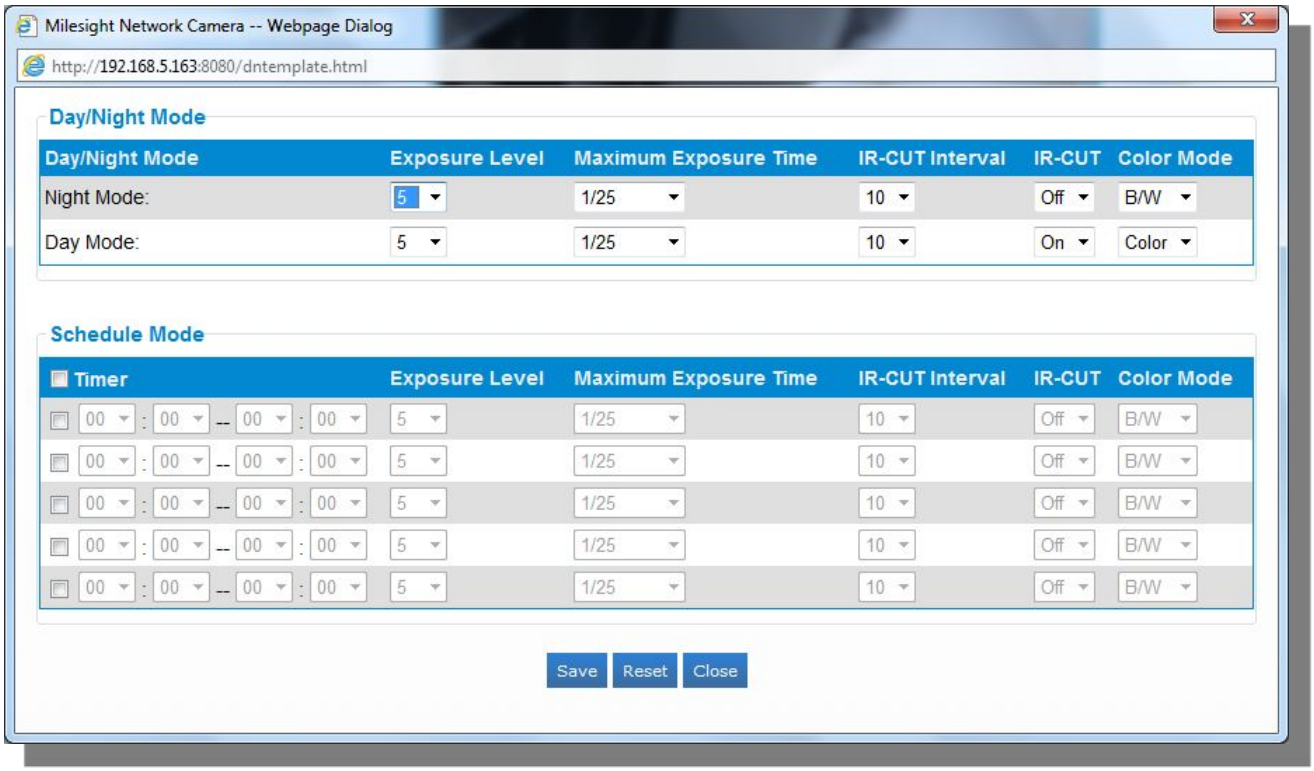

Figure 4-9

General Settings

Parameters	*Function Introduction*
Wide Dynamic Range	This function enables the capture and display of both bright and dark areas in the same frame, in a way that there aredetails in both areas **Off:** Disable WDR function **On:** Enable WDR function **Customize:** Customize the time when the WDR function will be enabled
Exposure Region	Full View, Custom, and BLC are selectable **Full view**: Calculate the full range of view and offer appropriate light compensation **Custom**: This option enables you to add customized windows as inclusive or exclusive regions manually **BLC (Back Light Compensation)**: This option will automatically add an inclusive region in the middle of the window and give the necessary light compensation
Outdoor/Indoor Mode	Select indoor or outdoor mode according to your needs
Power Line Frequency	60HZ flicker for NTSC mode and 50HZ flicker for PAL mode
Smart IR	Gives user an option to turn On/Off the IR LED.Select smart IR on, and the IR LED changes according to the actual luminance.

Exposure Mode	Auto mode/Customize mode.If you choose customize mode,the camera adjusts the brightness according to the value you set.The higher the value,the brighter the image is.
Maximum Exposure Time	Set the maximum exposure time to 1/5~1/100000
IR-CUT Interval	IR-CUT switch time between each mode
IR-CUT	Choose to turn on or turn off under the mode
Color Mode	Here can choose B/W or color mode under Day/Night mode
Schedule Mode	Here you can customize your special demands for different time, then the Day mode and Night mode will switch according to your settings

Note:

Wide Dynamic Range The function is only applicable for models MS-C23XX, MS-C33XX.

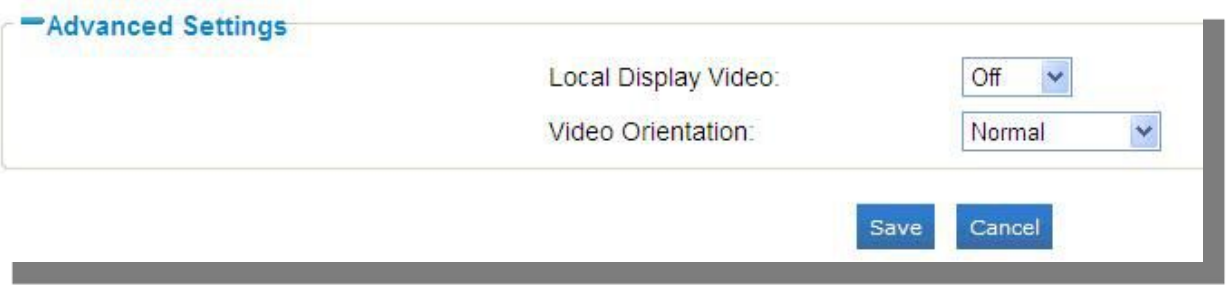

Figure 4-10

Advanced Settings

Parameters	***Function Introduction***
Local Display Video	**Off:** Switch off the Video **NTSC:** Switch video to NTSC standard **PAL ：** Switch video to PAL standard
Video Orientation	**Normal:** Remain the image in normal direction **Flip Horizontal:** Flip the image horizontally **Flip vertical:** Flip the image vertically **Rotating 180°：** The images is presented upside down

4.3.3 Audio

Audio input and output can work with alarms to achieve various alarm functions. Alarm willbetriggered when there is audio input or play the configured audio when an alarm occurs.

Figure 4-11

Audio

Parameters	*Function Introduction*
Enable Audio	Check on the checkbox to enable audio feature
Audio Mode	Enable audio input/output
Audio Input	***Denoise:***Set it as On/Off.When you set the function on the noise detected can be filtered ***Encoding:***G711-Ulaw,G711-Alaw and AAC LC are selectable. ***Input Gain:***Input audio gain level ,0-100 ***Alarm Level:***Alarm will be triggered if voice alarm is enabled and input gained volume is higher than the alarm level,0-100
Output Volume	The volume of alarm audio output

Note: ***The Audio mode and audio output is only for certain modules.***

4.3.4 Network

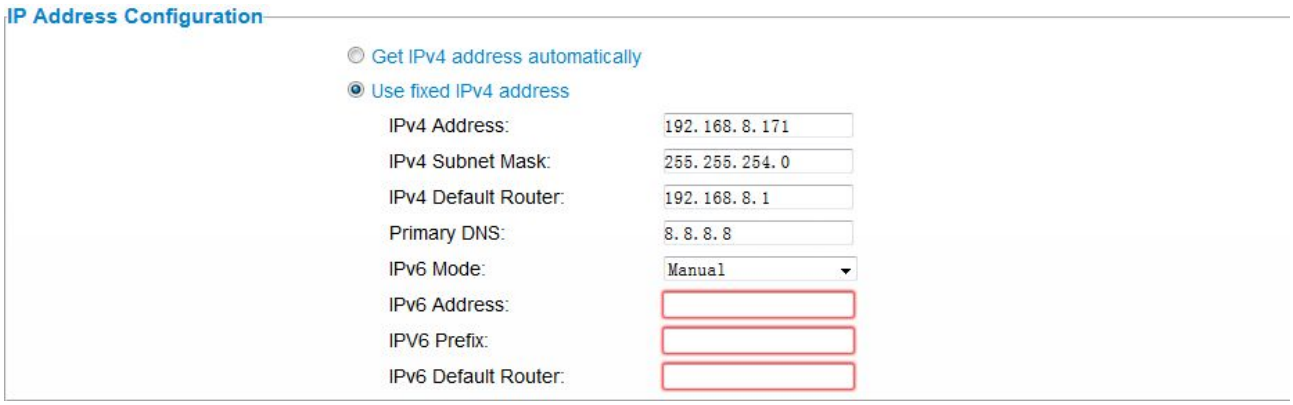

Figure 4-12

IP Address Configuration

Parameters	Function Introduction
Enable DHCP	Get an IP address from the DHCP server automatically
Use fixed IP address	***IPv4 Address:*** Address used to identify a network camera on the network ***IPv4 Subnet Mask:*** It is used to identify the subnet wherethe network camera is located ***IPv4 Default Router:*** The default router address ***Primary DNS:*** The DNS Server translates the domain name to IP address ***IPv6 Mode:*** Choose different mode for IPv6:Manual/Route Advertisement/ DHCPv6 ***IPv6 Address:*** IPv6 Address used to identify a network camera on the network ***IPv6 Prefix:*** Define the prefix length of IPv6 address ***IPv6 Default Router :*** The default router IPv6 address

Other Settings

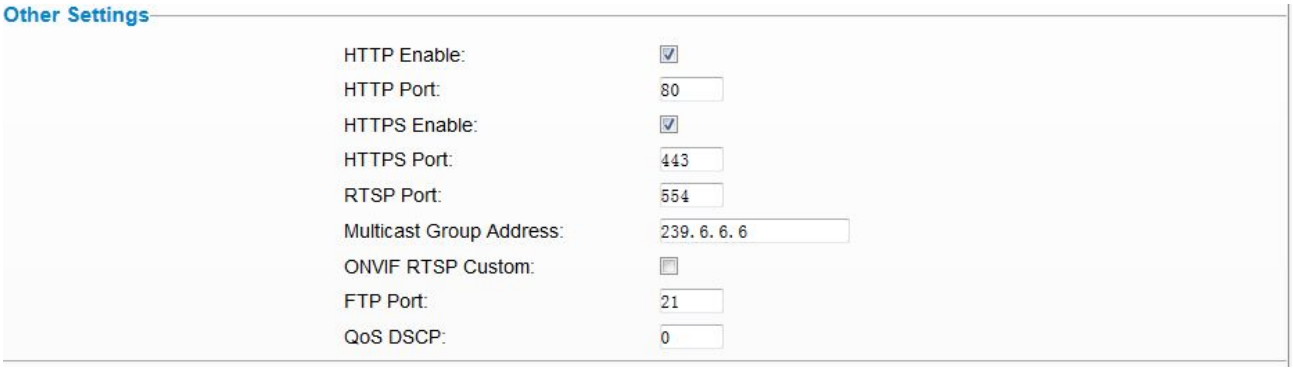

Figure 4-13

Parameters	Function Introduction
HTTP Enable	Start or stop using HTTP
HTTP Port	Web GUI log on port, the default is 8080
RTSP Port	Web GUI log on port via HTTPS, the default is 443
Multicast Group Address	Support multicast
ONVIF RTSP Custom	If you want to remote access the camera via ONVIF, you need to enter your public IP here
FTP Port	The port of the FTP. Generally it is 21
QoS DSCP	The valid value range of the DSCP is 0-63.The bigger the DSCP value is ,the higher the priority is.

Note:1)DSCP refers to the Differentiated Service Code Point;and the DSCP value is used in the IP header to indicate the priority of the data.

2)A reboot is required for the settings to take effect.

4.3.5 Wi-Fi*

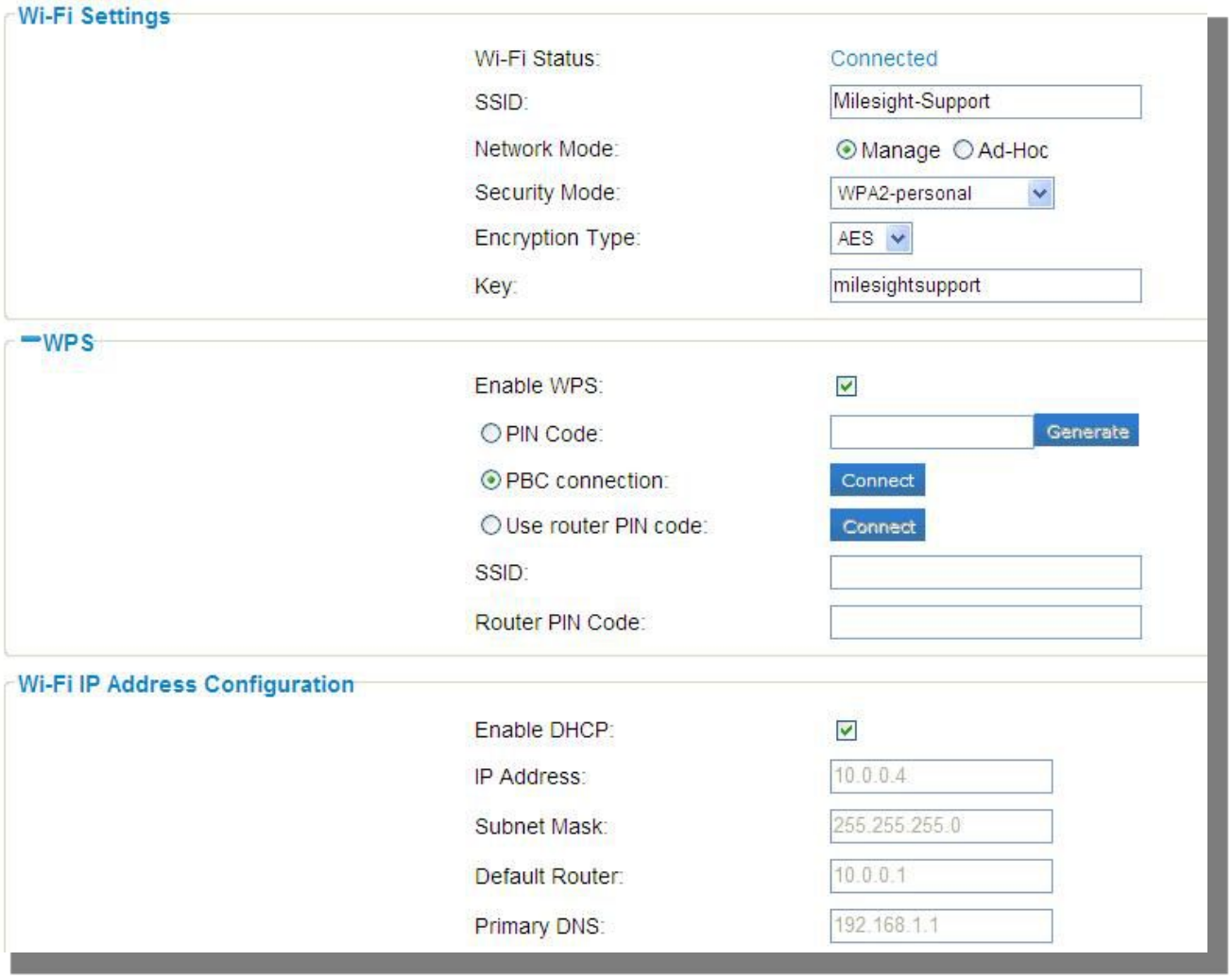

Figure 4-14

WI-FI Settings*

Parameters	*Function Introduction*
WI-FI Status	Connected/Disconnected

SSID	WIFI source
Network Mode	WI-FI option for Manage and Ad-Hoc mode
Key	Enter the password of WI-FI connection
Security Mode	Select WI-FI connection security mode
Encryption Type	WI-FI encryption type
Key	Password for WI-FI

WPS(Wi-Fi Protected Setup)

Originally Wi-Fi Simple Config, it's a network security standard that allow users to easily secure a wireless home network. the goal of the protocol is to allow home users who know little of wireless security and may be intimidated by the available security options to set up Wi-Fi Protected Access, as well as making it easy to add new devices to an existing network without entering long passphrases.

PIN Method

It's a personal identification number (PIN) has to be read from either a sticker or the display on the new wireless device. You can add the PIN code to the router or you add the Router PIN code on this camera.

Push-Button-Method

The user simply has to push a button, either an actual or virtual one, on both the access point and the new wireless client device. Support of this mode is mandatory for access points and optional for connecting devices.

Enable WPS Enable or Disable WPS

PIN Code Click on the 'Generate' to get a code, you need to add this PIN code to the router

PBC Connecting Connect via PBC button, click on the PBC button on the router, then click 'Connect' button again

Use Router PIN Code Enter the router PIN code here, and also with the SSID

Note:

(1) WI-FI function is only applicable for box and cube cameras if purchased, WPS need supports from WI-FI router.

(2) *If you use Fixed IP, please set the IP same segment with WI-FI router .*

4.3.6 Date &Time

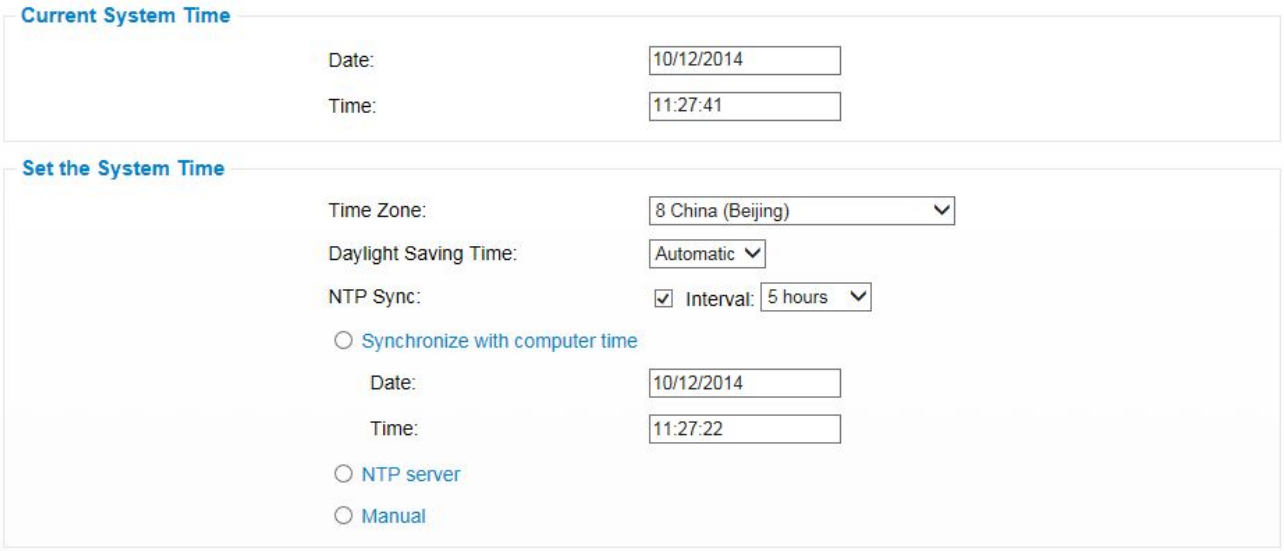

Figure 4-15

Current System Time

Current date &time of the system

Set the System Time

Parameters	*Function Introduction*
Time Zone	Choose a time zone for your location
Daylight Saving time	Enable the daylight saving time
NTP Sync	Regularly updated your time according to the interval time
Synchronize with computer time	Synchronize the time with your computer
NTP server	Select WI-FI connection security mode
Encryption Type	Synchronize the time with configured SNTP server and selected time zone
Manual	Set the system time manually

4.4 Advanced Settings

4.4.1 SIP

The Session Initiation Protocol (SIP) is a signaling communications protocol, widely used for controlling multimedia communication sessions such asvoice and video calls over Internet Protocol (IP) networks.
This page allows user to configure SIP related parameters.
Milesight cameras can be configured as SIP endpoint to call out when alarm trigged; or allow permitted number to call in to check the video if the video IP phone is used.
To use this function, the settings in SIP page must be configured properly.
SIP can be achieved in two ways to get the video, the one is to dial the IP address directly, the other one is account registration mode, the details are as follows:
Method 1: IP Direct mode
Dial on the camera's IP address directly through SIP phone, so you can see the video (note: SIP phone and the camera should in the same network segment)
Method2: Account registration mode
(1) Before using the SIP, you need to register an account for the camera from the SIP server;
(2) Register another user account for the SIP device from the same SIP server;
(3) Call the camera User ID from the SIP device, you will get the video on the SIP device.

SIP Settings

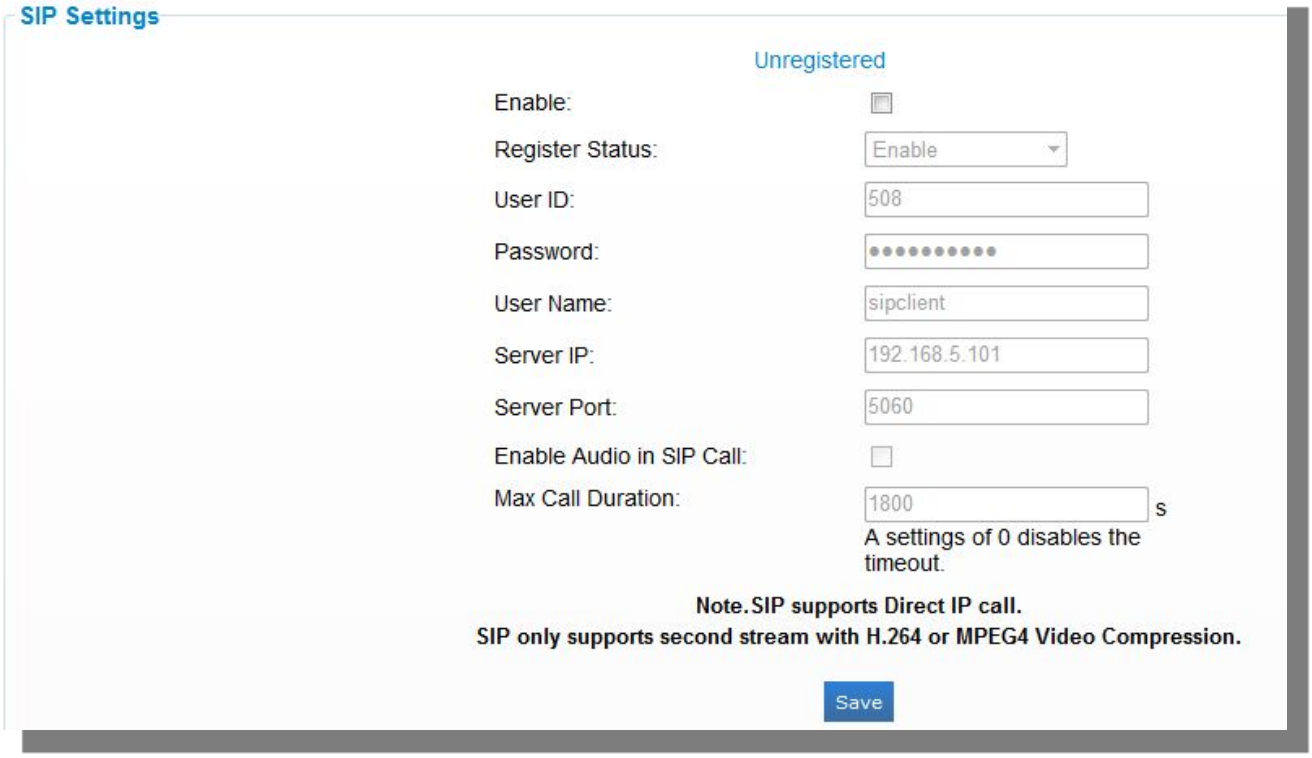

Figure 4-16

Parameters	Function Introduction
Unregistered/Registered	SIP registration status. Display “Unregistered” or “Registered”
Enable	Start or stop using SIP
Register Status	Choose to use Enable mode or Disable mode. Enable mode means to use with are sister account. Disable mode refers to use SIP without resister account, just use the IP address to call.
User ID	SIP username, or telephone number from ITSP
Password	SIP account password
User Name	SIP account name.
Server IP	FQDN or IP of SIP server from VoIP service provider.(IPPBX)
Enable Audio in SIP Call	Start or stop using Audio
Max Call Duration	The max call duration when use SIP

Note: (1) SIP supports Directly IP call.

(2) SIP only supports second stream with H.264 or MPEG4 Video Compression.

Alarm Phone List

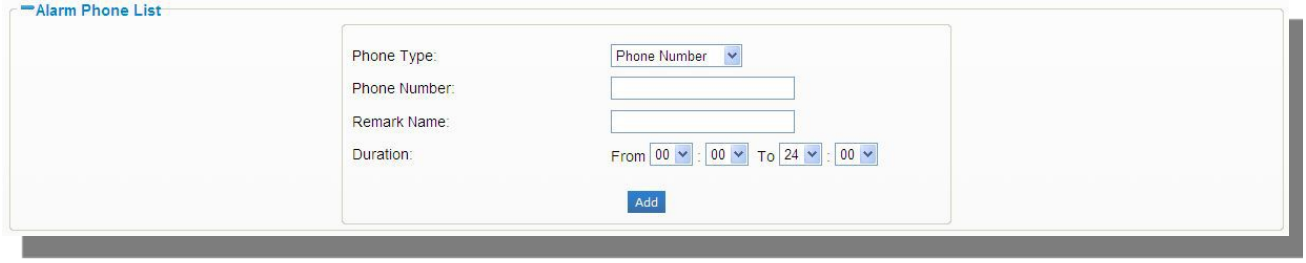

Figure 4-17

Parameters	Function Introduction
Phone Type	Phone Number (Call by phone number) & Direct IP Call (Check to accept peer to peer IP call).
Phone Number/IP Address	Call by phone number or IP address.
Remark Name	Display name.
Duration	The time schedule to use SIP.

White List

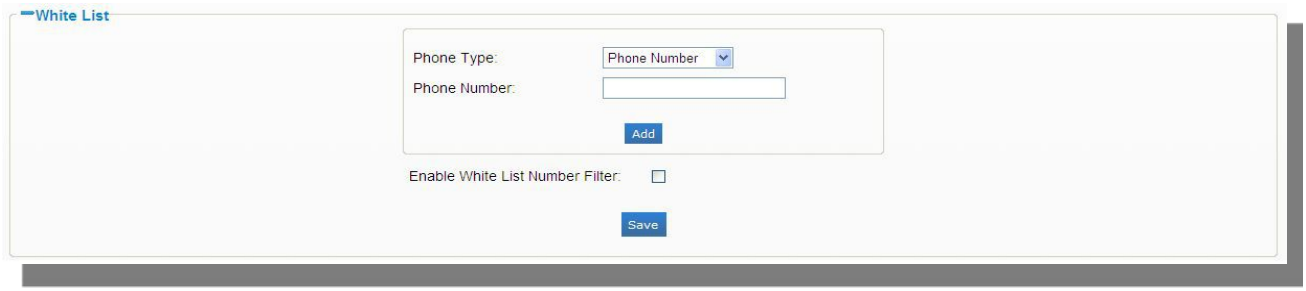

Figure 4-18

Parameters	*Function Introduction*
Phone Type	Phone Number (Call by phone number) & Direct IP Call
Phone Number/IP Address	Including the phone number or IP address on the whitelist
Enable White List Number Filter	When enabled, only the designated phone number or IP address can visit

4.4.2 UPNP

Universal Plug and Play (UPNP) is a networking architecture that providescompatibility among networking equipment, software and other hardware devices.
The UPnP protocol allows devices to connect seamlessly and to simplify theimplementation of networks in the home and corporate environments.
With the function enabled, you don't need to configure the port mapping for eachport, and the camera is connected to the Wide Area Network via the router.

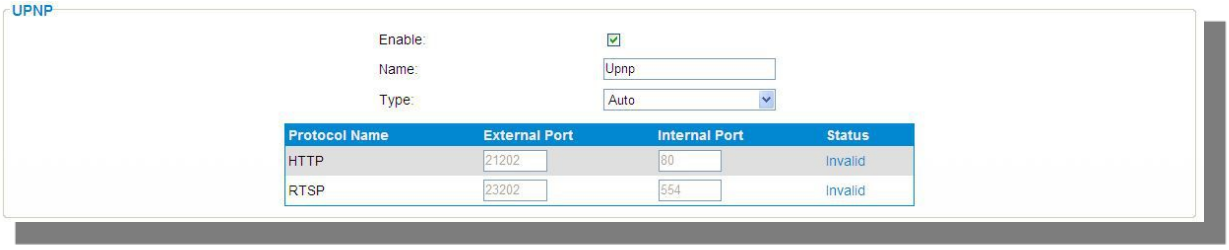

Figure 4-19

Parameters	*Function Introduction*
Enable	Check the checkbox to enable the UPNP function
Name	The name of the device when detected online can be edited
Type	**Auto:** Automatically obtain the corresponding HTTP and RTSP port, without any set

	Manual: Need to manually set the appropriate HTTP port and RTSP Port. When choose manual, you can customize the value of the port number by yourself

4.4.3 DDNS

DD NS allows you to access the camera via domain names instead of IP address. It manages to change IP address and update your domain information dynamically. You need to register an account from the provider first.

DDNS allows you to access the camera via domain names instead of IP address. It manages to change IP address and update your domain information dynamically. You need to register an account from the provider

Figure 4-20

Parameters	*Function Introduction*
Enable DDNS	Check the checkbox to enable DDNS service
Provider	Support DDNS from now dyndns.org, freedns.afraid.org,www.no-ip.com, www.zoneedit.com
User name	Account name from the DDNS provider
Password	Account password
Host name	DDNS name enabled in the account

4.4.4 PPPoE

This camera supports the PPPoE auto dial-up function.The camera gets a public IP address by ADSL dial-up after the camera is connected to a modem.You need to configure the PPPoE parameters of the network camera.

Steps:

1. Enter the PPPoE setting interface:
   Configure > Advanced Settings > PPPoE

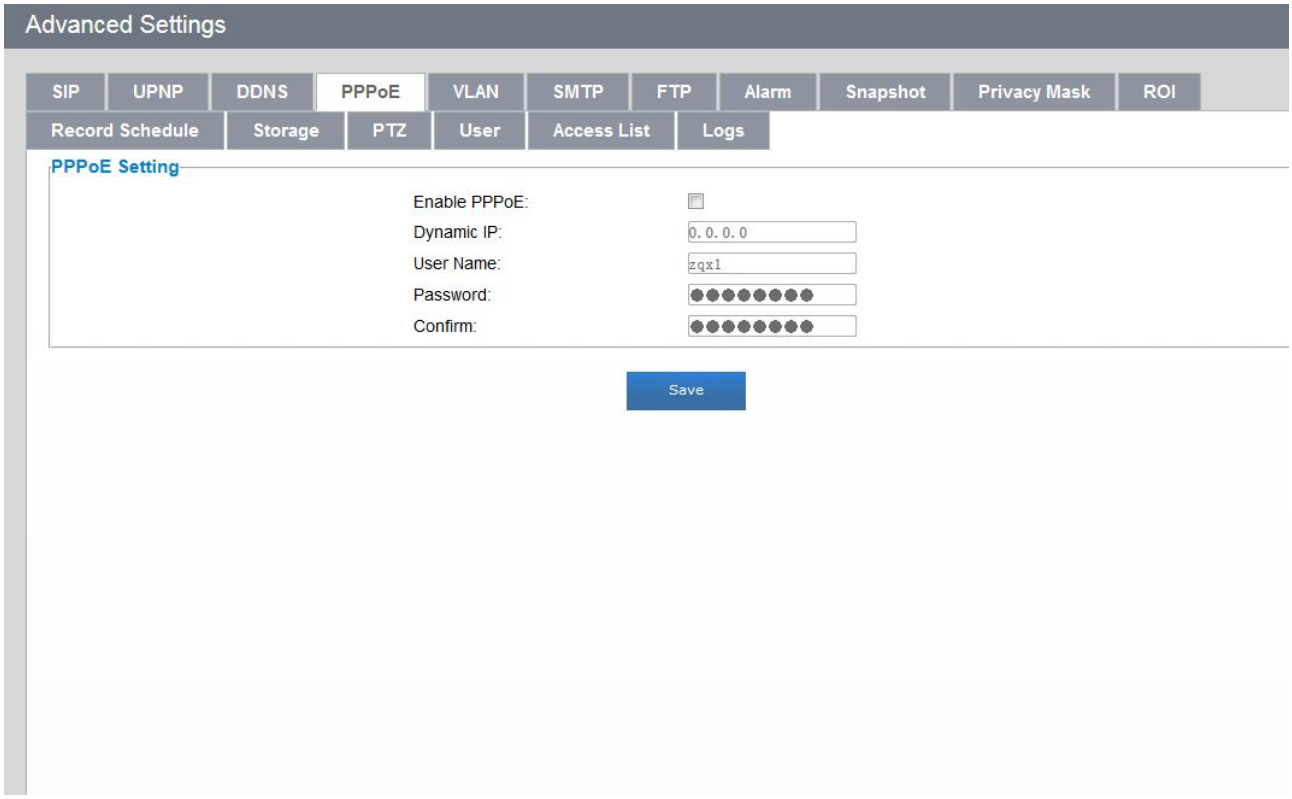

Figure 4-21

2. Check the Enable PPPoE checkbox to enable this feature.
3. Enter User name,Password and Confirm password for PPPoE access.

Note:

1) The obtained IP address is dynamically assigned via PPPoE,so the IP address always changes after rebooting the camera.To solve the inconvenience of thedynamic IP, you need to get a domain name from the DDNS provider (E.g.DynDns.com).Refers to 4.4.3.

2) The user name and password should be assigned by your ISP.

4.4.5 VLAN

VLAN (Virtual Local Area Network) from the logical rather than physical, the entire LAN split into several different broadcast domains, data can only be exchanged within a VLAN.

A slightly large scale network if there are only a broadcast domain, so constantly send broadcast packets within the network, it is easy to cause the broadcast storm network overall bandwidth consumption, and to give the network to bring extra burden to the host.After the division of VLAN, the data will only be broadcast in own VLAN, so you can control the broadcast storm, also can enhance network security, simplified network management.

Routers provide the VLAN function based on port,the number of the router LAN can logically divided into multiple VLANs.

Figure 4-22

Note:

How to divide VLAN in routers,please refers to your router user manual.

4.4.6 SMTP

Alarm video files can be sent to specific mail account through SMTP server. You must configure the SMTP settings correctly before using it.

Figure 4-23

SMTP

Parameters	***Function Introduction***
User Name	The sender's name. It is usually the same as the account name
Sender Email Address	Email address to send video files attached emails
Password	The password of the sender
Server Address	The SMTP server IP address or host name(e.g.smtp.gmail.com)
Server Port	The port of SMTP server.The default TCP/IP port for SMTP is 25(not secured).For SSL/TLS port depends on the mail you use
Recipient Email Address	Email address to receive video files
Encryption	Check the checkbox to enable SSL or TLS if it is required by the SMTP server.

4.4.7 FTP

Alarm video files can be sent to specific FTP server. You must configure the FTP settings correctly

before using it.

Figure 4-24

FTP

Parameters	*Function Introduction*
Server Address	FTPserver address
Server Port	The port of the FTP server. Generally it is 21
User Name	User name used to log on the FTP sever
Password	User password
FTP Folder Name	Path where video will be uploaded to on the FTP server
Delete Files	Delete video files

4.4.8 Alarm

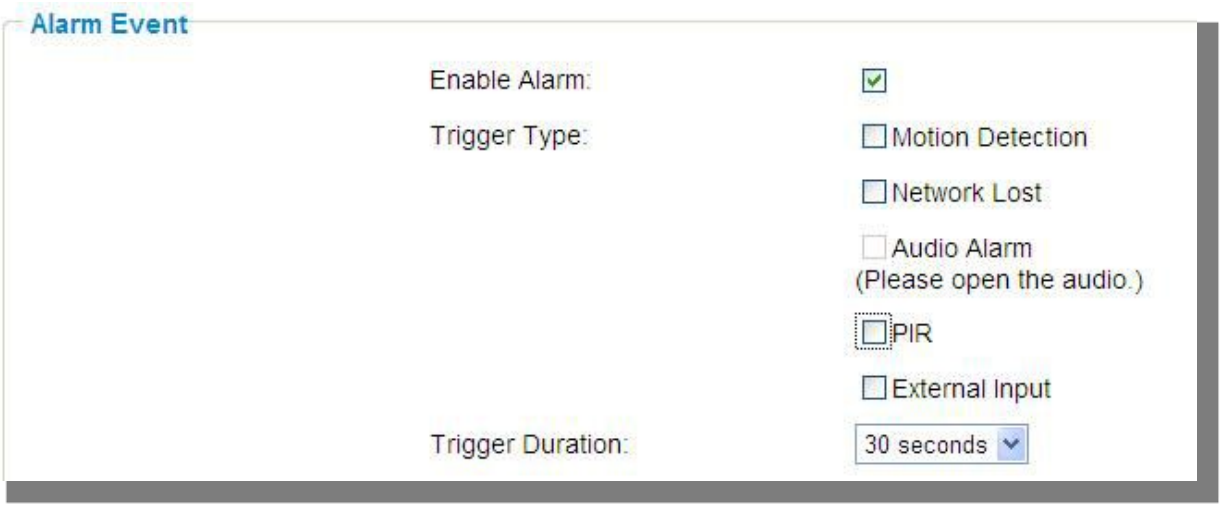

Figure 4-25

Alarm Event

Parameters	*Function Introduction*

Enable Alarm	FTPserver address
Trigger Type	***Motion Detection:*** Trigger alarm when any movement is detected in motion detection monitored area. The image is divided into 4*3 areas, and you can select your preferred areas ***Network Lost:*** Trigger alarm when the network connection is down ***Audio Alarm (Please open the audio):*** Trigger alarm when the input gained volume is higher than alarm level
PIR	PIR detection (only for cube camera)
External Input	User password
FTP Folder Name	Trigger alarm when there is external input
Trigger Duration	Length of time an alarm lasts

Note:

Audio Alarm and***External Input*** The functions are only applicable when the selected model has "Audio Input" and "Alarm Input" interfaces.

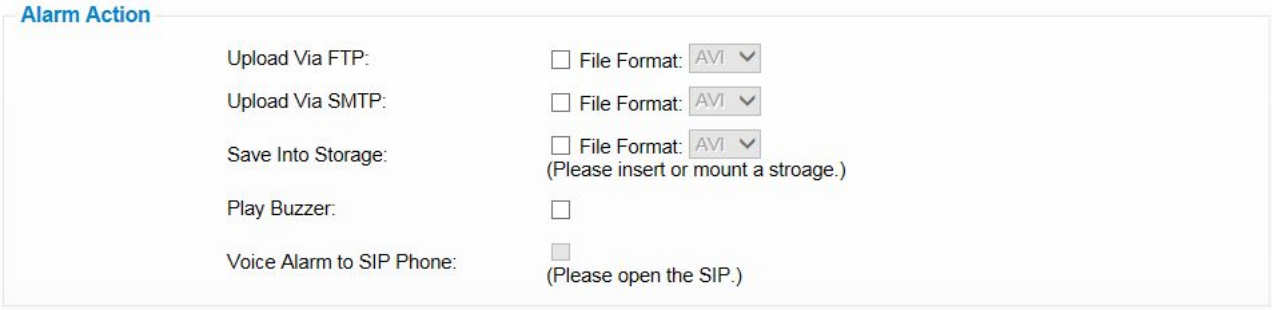

Figure 4-26

Alarm Action

Parameters	***Function Introduction***
Upload Via FTP	Upload alarm recording files to the configured FTP server
Upload Via SMTP	Upload alarm recording files to SMTP with the configured format
Save Into Storage	Save alarm recording files into storage
External Output	Output a level signal when an alarm is triggered
Play Audio	Play specific audio file when an alarm is triggered
Voice Alarm to SIP Phone	Choose to call the sip phone when alarm is triggered

Note:
External Output and Play Audio functions are only applicable when the selected model has "Alarm Output" and "Audio Output" interfaces.

Alarm Setting

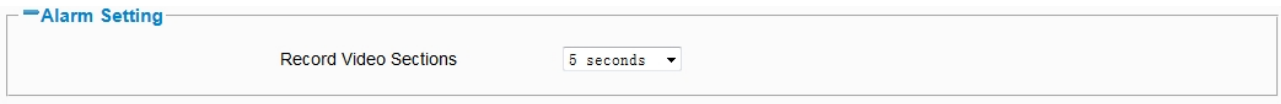

Figure 4-27

Record Video Sections Length of each video file

4.4.9 Snapshot

You can configure the timing snapshot and alarm snapshot .The captured pictures can be stored in the SD card(if supported) or the NAS(For detailed information ,please refer to 4.4.13).You can also upload the captured pictures to a FTP server or SMTP.

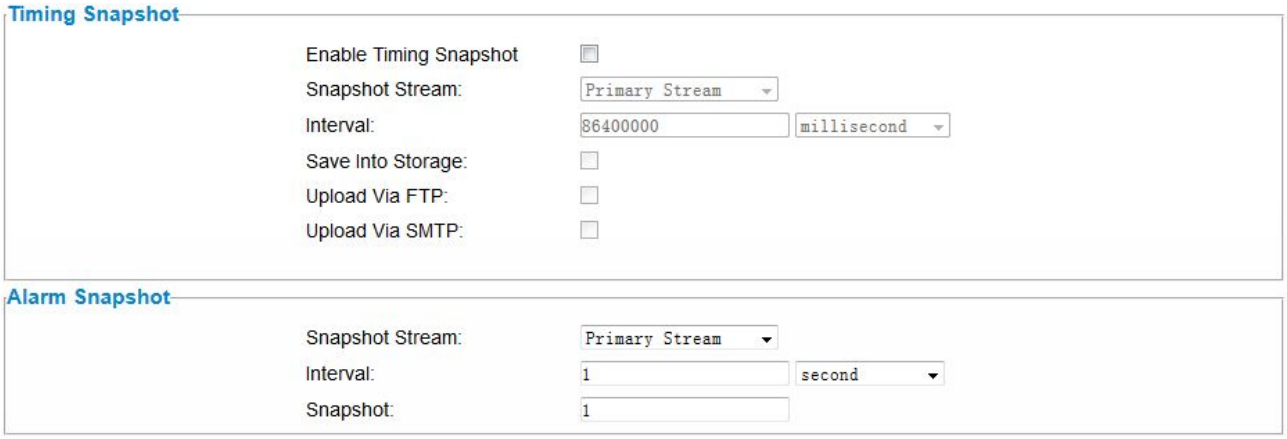

Figure 4-28

4.4.10 Privacy Masking

Privacy Masking is used to protect personal privacy by concealing parts of the image from view with a masked area. Examples of this use would be masking windows of domestic properties or car number plates which are not subject to surveillance.

After enabling the privacy masking, you can select a region No.1-4 and type of mask. Then draw a square covering your sensitive area by mouse. Click "set"will bring the masking into effect. Click 'Clean' to cancel a specific privacy masking area.

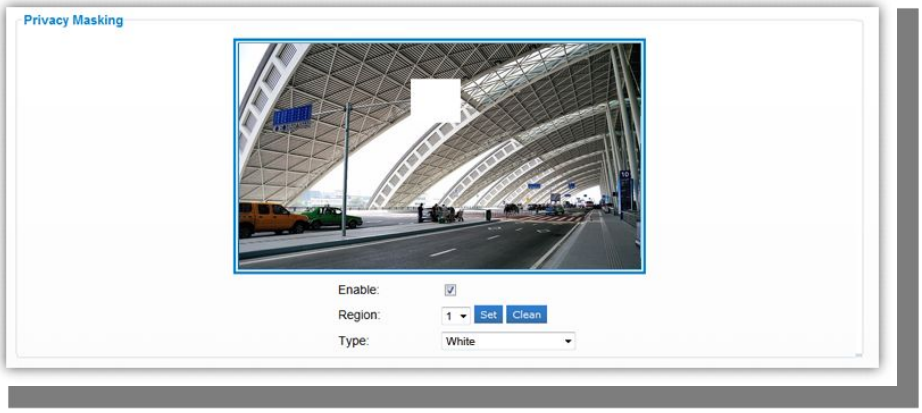

Figure 4-29

4.4.11 ROI

ROI is an image cropping feature designed to assist users in achieving bandwidth and storage optimization. Users can select up to 4 key regions of a scene to transmit as separate streams for targeted preview and recording.

With the Region of Interest (ROI) technology, things can be different now! By using Milesight ROI technology can save more than 50% of bitrate and therefore demand less bandwidth and reduce the storage usage. So according to this, you can set the small bitrate for high resolution.

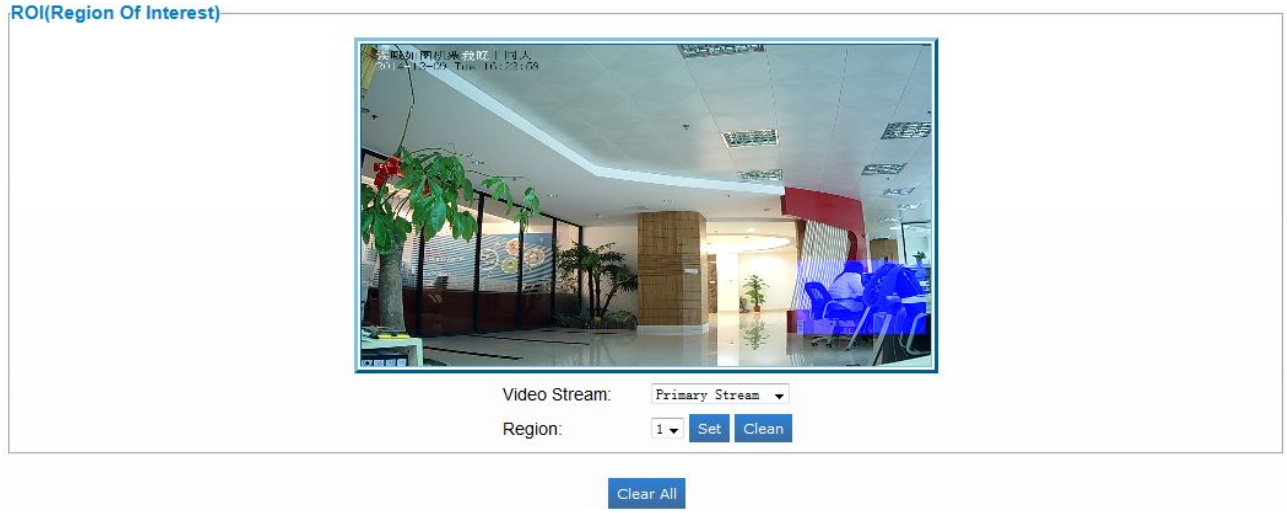

Figure 4-30

Note: You can set the bitrate to small first.

4.4.12 Record Schedule

There are three kinds of recording for the cameras:manual recording ,timing recording and alarm recording.In this section,you can follow the instructions to configure the timing recording.The record files of timing recording are stored in the storage(Refer to 4.4.13)

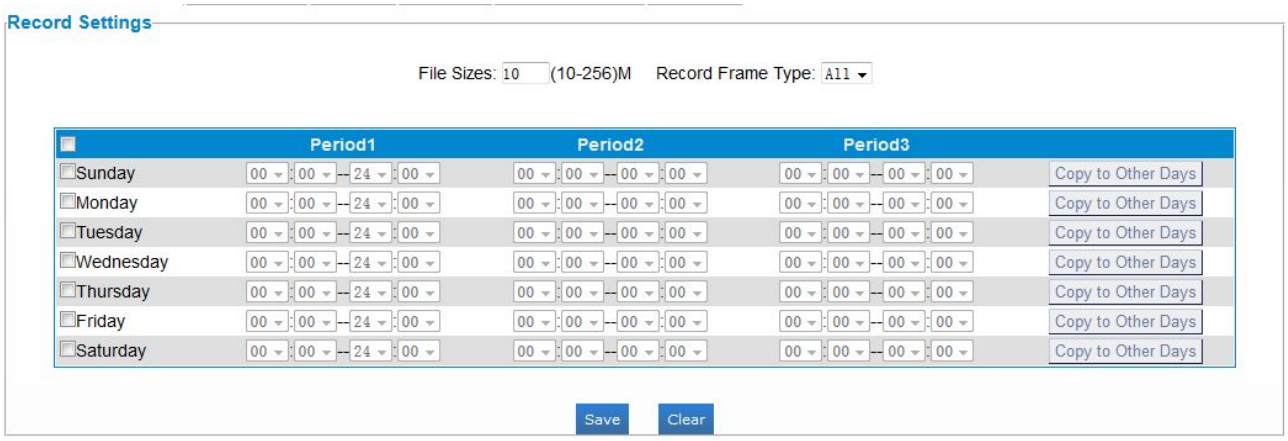

Figure 4-31

File Sizes You can set file sizes from 10 to 256M

Record Frame Type Choose the timing record type

4.4.13 Storage

Before you start:

To configure record settings,please make sure that you have the network storage device within the network or the SD card inserted in your camera.

You can check “Enable cyclic storage” then it will delete the files when the free diskspace reach a certain value . Choose the storage mode depends on your needs.

Storage Settings

Figure 4-32

Parameters	***Function Introduction***
Enable cyclic storage	Enable/Disable cyclic storage
Storage Choose	Only storage SD Card:Only storage files in SD card Only storage NAS: Only storage files in NAS SD Card first:storage files in sd card first,when the sd card is full,then it will storage files in NAS NAS first:storage files in NAS first,when the NAS is full ,then it will storage files in sd card
Delete	Enable cyclic storage,when the free diskpace reach at a certain time, it will automatically delete the files at certain percentage according to your settings

SD Card Explorer

Files will be seen on this page when they are configured to save onto SD card. You can configure time schedules of video recording everyday and save video files to your desired location.

Note: Files are visible once SD card is inserted. Don't insert or plug out SD card when power on

SD card video files are arranged by date, the each day files will display under the corresponding date, from here you can copy and delete files etc. by the way of access to shared video files, such as ftp://192.168.5.190 is consistent with the default user name and password.

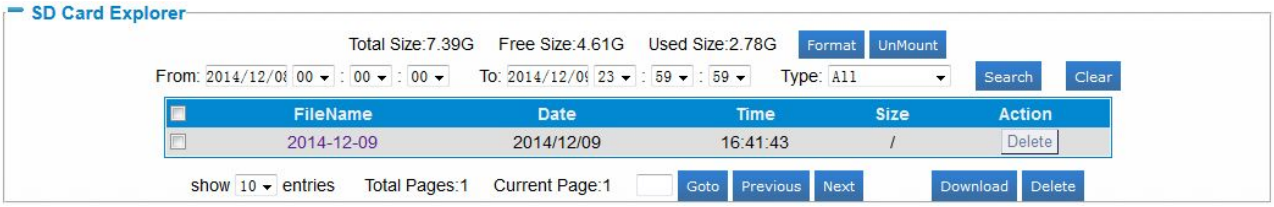

Figure 4-33

SD Card

Parameters	*Function Introduction*
Format	Format the SD card
UnMount	Unmount the SD card. Once unmounted, the files will not be listed
File Name	File name of the video files
Date	Date files saved
Time	Length of the files in seconds
Size	File size
Action	Delete files

NAS

The network disk should be available within the network and properly configured to store the recorded files,etc.

NAS(Network-Attached Storage) ,connect the storage devices to the existing network,providing data and files services.

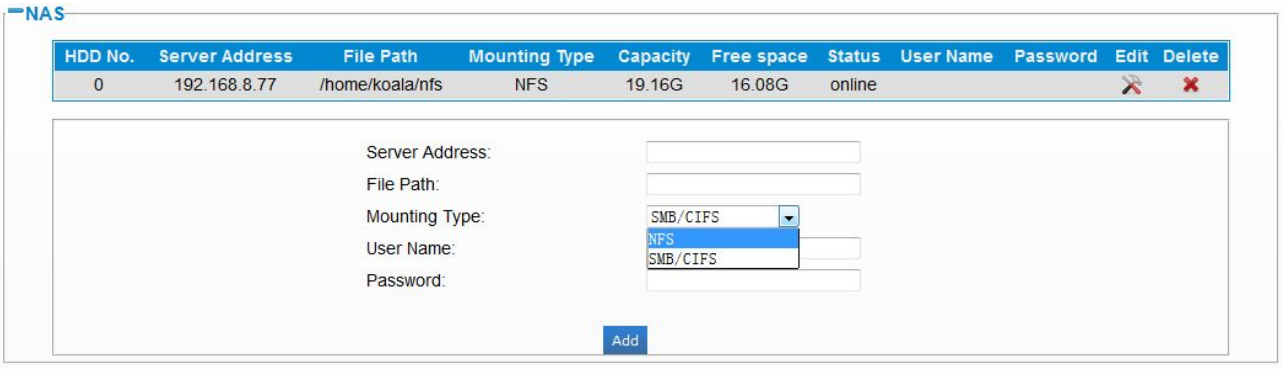

Figure 4-34

Parameters	Function Introduction
Server Address	IP address of NAS server
File Path	Input the NAS file path
Mouting Type	NFS and SMB/CIFS are selectable.And you can set the user name and password to guarantee the security if SMB/CIFS is selected

Note:

Up to 5 NAS disks can be connected to the camera.

4.4.14 PTZ

Figure 4-35

PTZ Settings

Parameters	Function Introduction
Protocol	Select the PTZ protocol your camera support
Baudrate	Select the Baudrate from the drop down menu. Baud rate is the number of distinct symbol changes (signaling events) made to the transmission medium per second in a digitally modulated signal or a line code

4.4.15 User

Anonymous Visit

Enabling this function allows visit for whom doesn't have the user name and password of the

device.

Steps:

1. Enter the Anonymous visit interface:

Configuration > Advanced Settings > User > Manage privilege

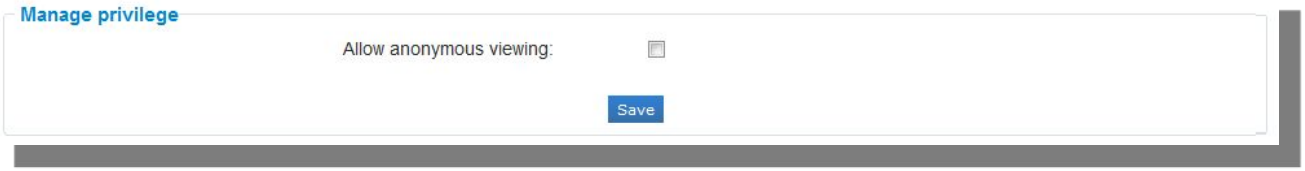

Figure 4-36

2. Set the Anonymous visit permission Enable or Disable in the drop-down list to enable or disable the anonymous visit.
3. Click Save to save the settings.

   There will be a checkbox of Anonymous by the next time you logging in.

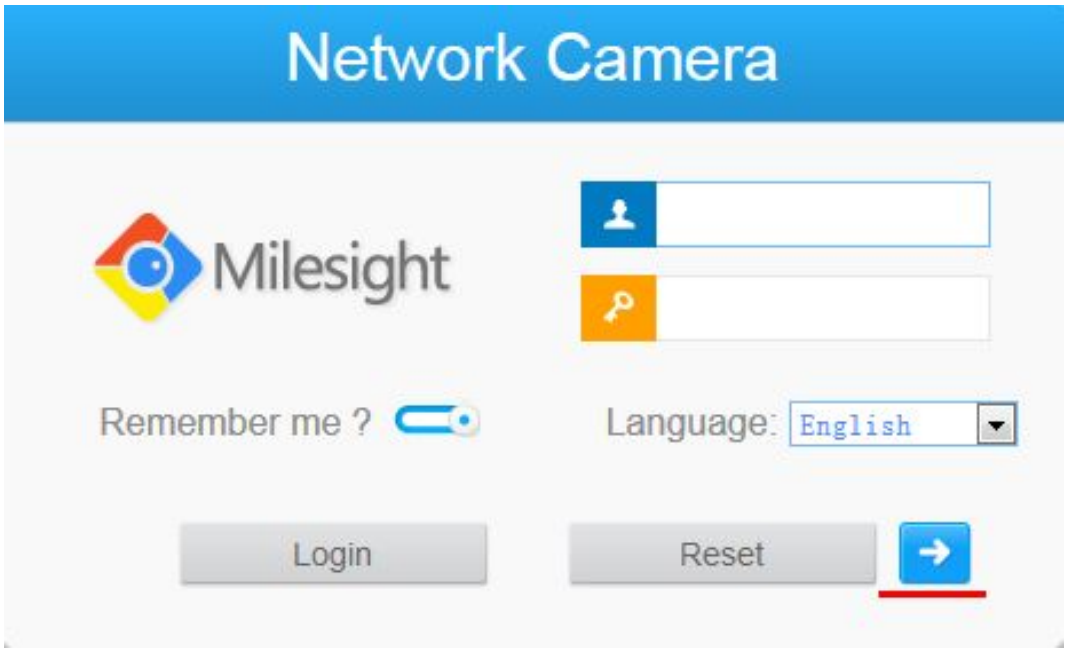

Figure 4-37

4. Click Anonymity and login.

Note:

Only live view is available for the anonymous user.

Account Managemetn:

Three privilege levels are available, including admin, operator and viewer. Up to 10 users can be added to this system. It's also able to log on the web with anonymous viewing, no need to enter the username and password.

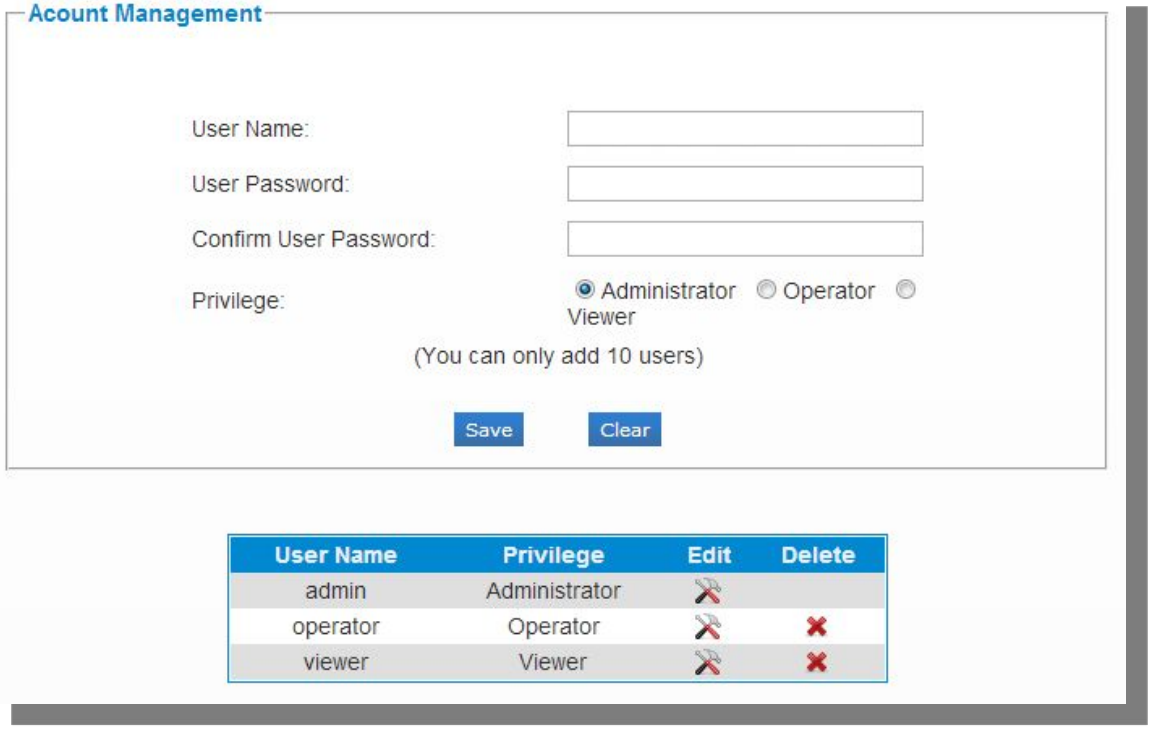

Figure 4-38

Parameters	*Function Introduction*
Administrator	An administrator can manage all configuration pages of the device. Including change user password, add or delete users (the default user 'admin' cannot be deleted)
Operator	An operator can manage all configuration pages except the User page
Viewer	A viewer can`t change any settings

4.4.16 Access List

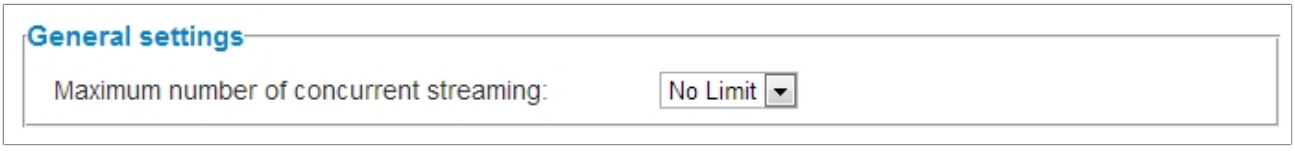

Figure 4-39

General Settings

Maximum number of concurrent streaming Select the maximum number of concurrent Streaming. Options include No Limit, 1, 2, 3, 4, 5.

Filter

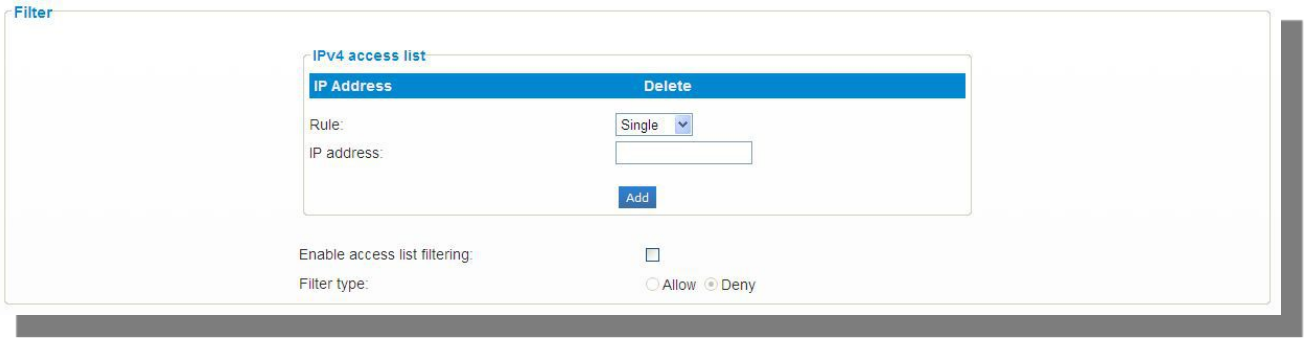

Figure 4-40

Parameters	Function Introduction
Enable access list filtering	Able to access or restrict access for some IP address
Filter type	Access or restrict access
IPv4 access list	The IP address to access or restrict access

4.4.17 Logs

The logs contain the information about the time and IP that has accessed the camera through web.

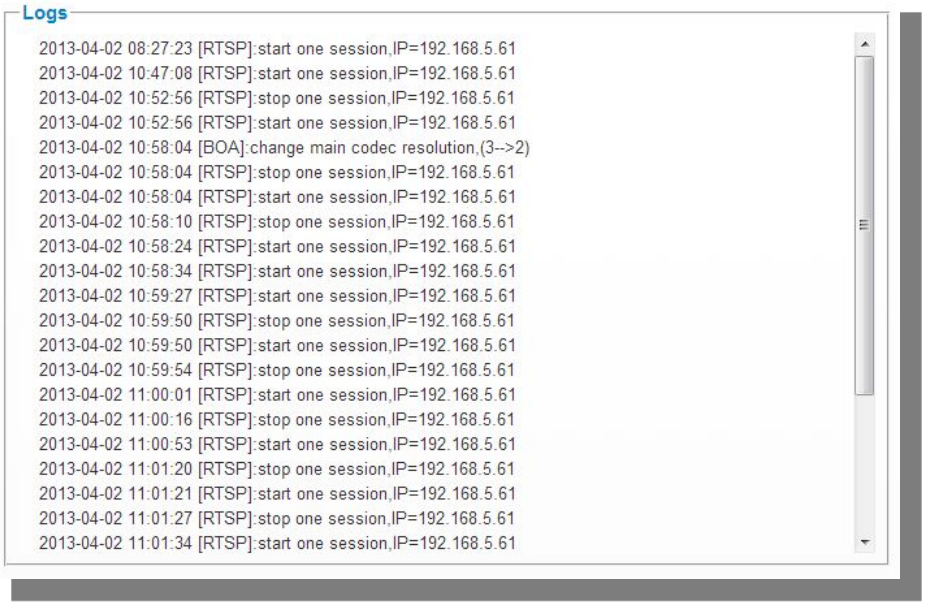

Figure 4-41

4.5 System

All information about the hardware and software of the camera can be checked on this page.

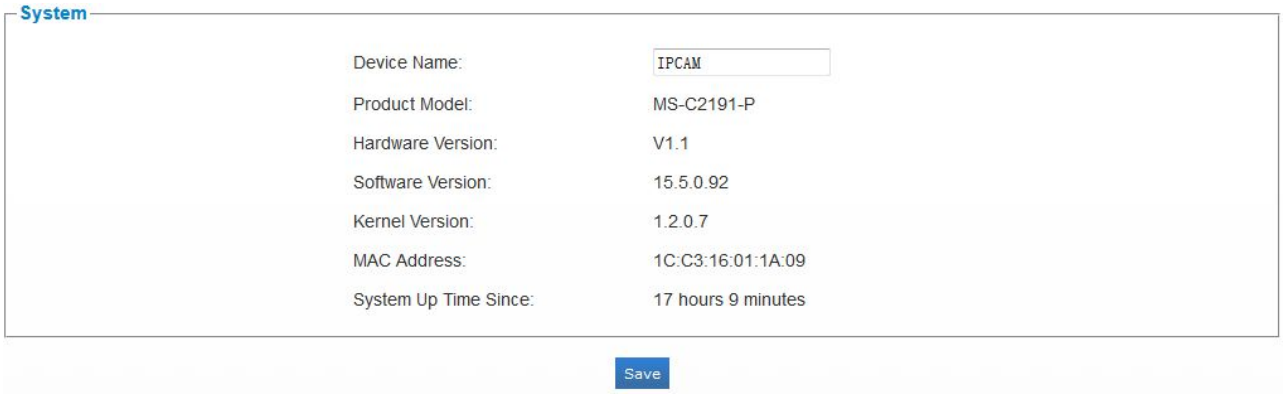

Figure 4-42

System

Parameters	*Function Introduction*
Device Name	The device name can be customized. It will be seen in file names of video files
Product Model	The product model of the camera
Hardware Version	The hardware version ofthe camera
Software Version	The software version of the camera can be upgraded
Kernal Version	The kernel version
MAC Address	Media Access Control address
System Up Time Since	The elapsed time since the device was last restarted

4.6 Maintenance

The software can be upgraded by the following steps

1. Browse and select the upgrading file.
2. Click the 'upgrade' button after it prompts upload file successfully. After the system reboots successfully, the update is done.

Note: Do not disconnect the power of the deviceduring the update. The device will be restarted to complete the upgrading.

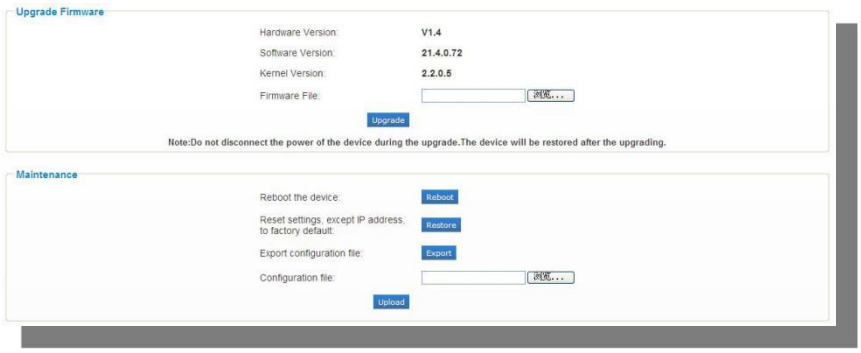

Figure 4-43

Upgrade Firmware

Parameters	*Function Introduction*
Hardware Version	The hardware version of the camera
SoftwareVersion	The software version of the camera
Kernal Version	The kernel version
Firmware File	Select the firmware used to upgrade

Maintenance

Parameters	*Function Introduction*
Restart the device	Click 'restart' button to restart the device immediately
Restore settings, except IP address to Factory Default	Click 'Restore' button to restore the camera to factory defaultsettings
Export configuration file	Click this button to export the configuration file
Configuration file	Click this button to import the old configuration file

Chapter V Services

Milesight Technology Co., Ltd provides customers with timely and comprehensive technical support services. End-users can contact your local dealer to obtain technical support. Distributors and resellers can contact directly with Milesight for technical support.

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Online Problem Submission System: http://www.milesight.com/service/feedback.asp
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