Network Camera User Manual

Contents

About this Manual

This Manual is applicable to Network Camera. The Manual includes instructions for using and managing the product. Pictures, charts, images and all other informations hereinafter and for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons.
Please use this user manual under the guideance of professionals.

Safety Instruction

These instructions are intended to ensure that the user can use the product correctly to avoid danger or property loss.
The precaution measure is divided into "Warnings" and "Cautions".

Warnings: Serious injury or death may be caused if any of these warnings are neglected.
Cautions: Injury or equipment damage may be caused if any of these cautions are neglected.

⚠	⚠
Warnings Follow these safeguards to prevent serious injury or death.	**Cautions** Follow these precautions to prevent potential injury or material damage.

Warnings

- Please adopt the power adapter which can meet the safety extra low voltage (SELV) standard.
- To reduce the risk of fire or electrical shock, do not expose this product to rain or moisture.
- This installation should be made by a qualified service person and should conform to all the local codes.
- Please install blackouts equipment into the power supply circuit for convenient supply interruption.
- Please make sure that the ceiling can support the camera and bracket if the camera is fixed to the ceiling.
- If the product does not work properly, please contact your dealer or the nearest service center. Never attempt to disassemble the camera yourself. (We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.)

Cautions

- Make sure the power supply voltage is correct before using the camera.
- Do not drop the camera or subject it to physical shock.
- Do not touch sensor modules with fingers. If cleaning is necessary, use a clean cloth with a bit of ethanol and wipe it gently.
- If the camera will not be used for an extended period of time, put on the lens cap to protect the sensor from dirt.
- Do not aim the camera lens at the strong light such as sun or incandescent lamp. The strong light can cause fatal damage to the camera.
- The sensor may be burned out by a laser beam, so when any laser equipment is being used, make sure that the surface of the sensor not be exposed to the laser beam.
- Do not place the camera in extremely hot, cold temperatures (refer to product specification for working temperature), dusty or damp environment, and do not expose it to high electromagnetic radiation.
- To avoid heat accumulation, ensure there is good ventilation to the device.
- Keep the camera away from water and any liquids.
- While shipping, pack the camera in its original, or equivalent, packing materials. Or packing the same texture.
- Improper use or replacement of the battery may result in hazard of explosion. Please use the manufacturer recommended battery type.

System Requirement

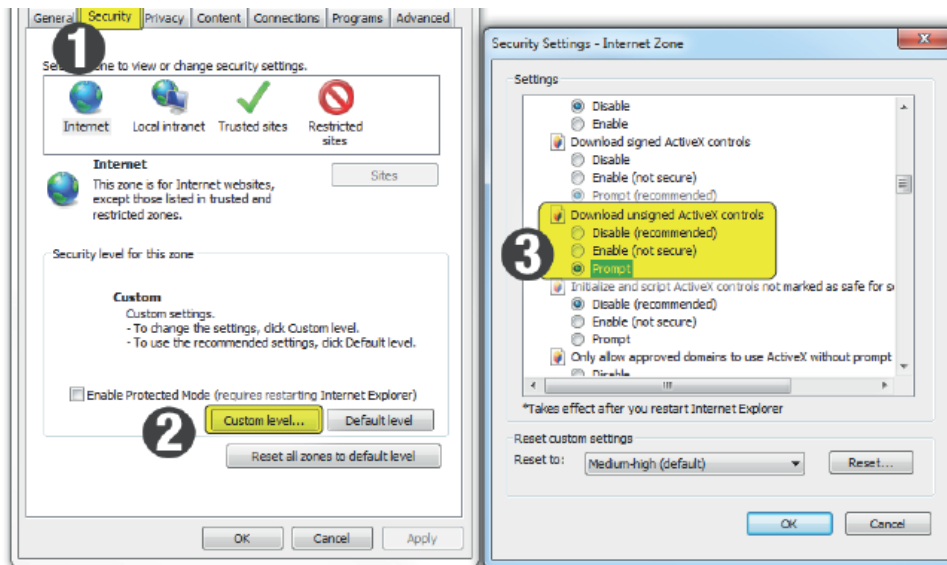**Operating System**： Microsoft Windows 7.0 and above version

CPU： I3 and above

RAM: 2G or higher

Browser: Internet Explorer 8.0 and above version

1. Login Interface

If you view the IP camera at the first time, you have to set security level of IE browser first, then install the Activex file. Please click "Tool"--"Internet"--"Security", you will see the following picture:
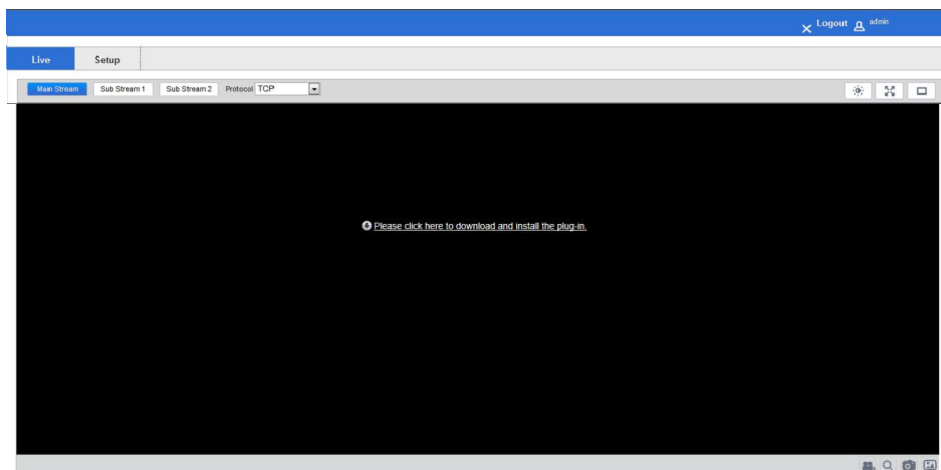

Please input the IP address of the camera on the IE explorer. The default IP address is 192.168.1.168.
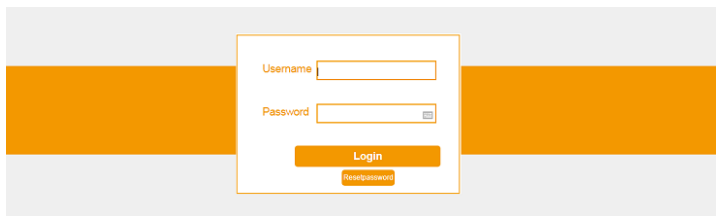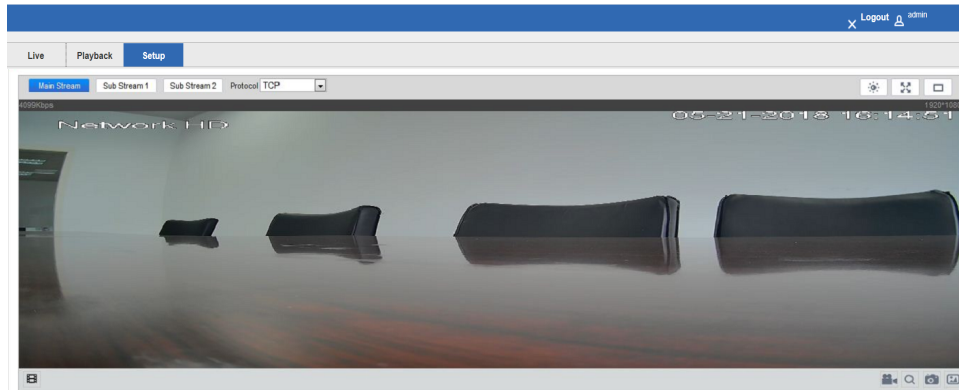

User Name: admin (default)
Password: 123456 (default)

A pop-up will appear in the following interface , please click the link to download and install the plug-in. Refresh the browser and you can view the video image.

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2. Live view

After login, it will enter into the live preview, as shown in the following figure.

In the browse interface, you can make part of settings through the shortcut buttons.

	Start recording
	Local electronic amplification
	Capture pictures
	Three shooting
Main Stream	Main Stream
Sub Stream	Sub Stream
Protocol TCP	Streaming Protocol Selection
	Full Screen Preview
	Image adjustment

Preview stream type: can be set to "main stream" and "sub stream".
Click the "enlarged" button, use the mouse to select the area you want to enlarge the frame, click the mouse again that will restore the original screen.
Selectable streaming: protocol TCP, UDP and multicast mode selectable.
Image Adjustment: can set the brightness, contrast, hue, saturation of the image.

3. Setup

In this interface, you can make settings of camera, network, storage and system.

3.1 Camera

3.1.1 Video configuration

3.1.1.1 Video

Main Stream

- **Encode Mode:** H.264H , H.264M, H.264B, H.264B+,MJPEG, H.265, H.264H+, H.264M+, H.265+
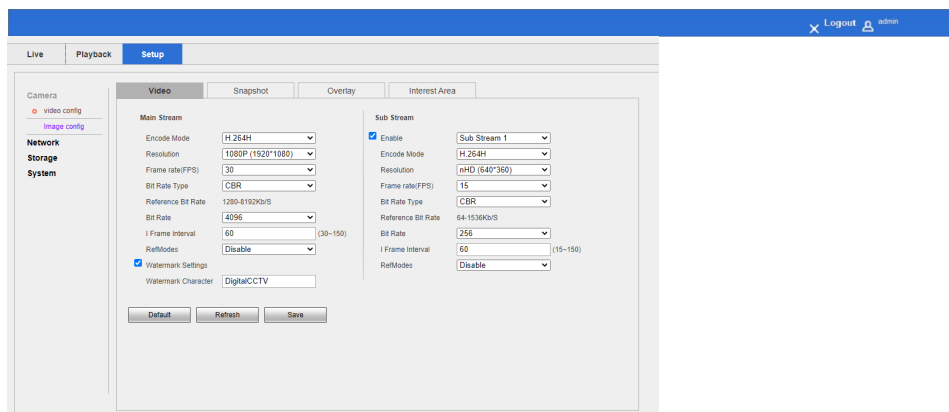- **Resolution:** 1080P(1920*1080); 1.3M(1280*960); 720P(1280*720); D1(704*480)
- **Framerate(FPS)**: 1~30 (30)
- **Bit Rate Type:** CBR, VBR（CBR）
- **Reference Bit Rate:** 1280~8192 kb/s
- **Bit Rate:** 1280,1536, 1792, 2048, 4096, 6144, 8192, customized（4096）
- **Frame Internal:** 30~150 selectable
- **RefModes:** 1X, 2X, 4X, 6X, Disable
- **Watermark Settings:** If enable this function, you can input watermark characters.

Sub Stream：If you choose to enable this function, you can make settings as below.
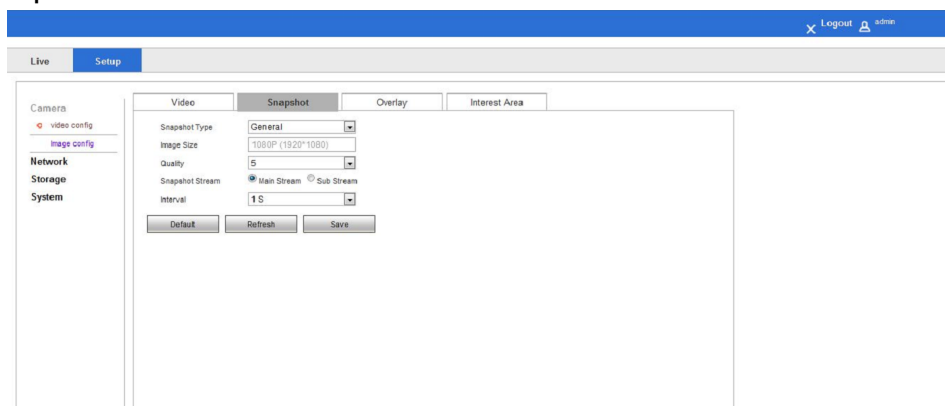
Sub stream 1:
- **Encode Mode:** H.264H, H.264M, H.264B,H.264B+, MJPEG, H.265, H.264H+, H.264M+, H.265+
- **Resolution:** nHD(640x360); D1(704*480); CIF(352*240)
- **Framerate(FPS)**: 1~30 (15)
- **Bit Rate Type:** CBR, VBR (CBR)
- **Reference Bit Rate:** 64~1536 kb/s
- **Bit Rate:** 64,80,96,128,160, 192, 224, 256, 320, 384, 448, 512, 640, 768, 896, 1024, 1280, 1536, customized (256)
- **Frame Internal:** 15~150 selectable
- **RefModes:** 1X, 2X, 4X, 6X, Disable
- **Watermark Settings:** If enable this function, you can input watermark characters.

Sub stream 2:
- **Encode Mode:** H.264H, H.264M, H.264B,H.264B+, MJPEG, H.265, H.264H+, H.264M+, H.265+
- **Resolution:** nHD(640x360); 720P(1280x720);VGA(640*480); CIF(352*240)
- **Framerate(FPS)**: 1~30 (15)
- **Bit Rate Type:** CBR, VBR (VBR)
- **Quality:** 1~6 (Best: 6)
- **Reference Bit Rate:** 80~1536 kb/s
- **Bit Rate:** 80,96,128,160, 192, 224, 256, 320, 384, 448, 512, 640, 768, 896, 1024, 1280, 1536, customized（1024）
- **Frame Internal:** 15~150 selectable
- **RefModes:** 1X, 2X, 4X, 6X, Disable

Please do not forget to click "Save" to save the settings.

3.1.1.2 Snapshot

By configuring the capture parameters, the device can automatically make snapshot as per your requirement.

- **Snapshot Type:** General.
- **Image Size:** image size is the main stream resolution.
- **Snapshot Stream:** Main Stream or Sub Stream selectable.
- **Picture Quality:** 1~ 6 (best) selectable.
- **Internal:** 1s~7s selectable.

After modifying parameters, please click "Save" to save the settings.

3.1.1.3 Overlay

The interface is shown as below, you can make parameter settings as Privacy mask, Channel Title, Time Title, Custom Title, Image overlay
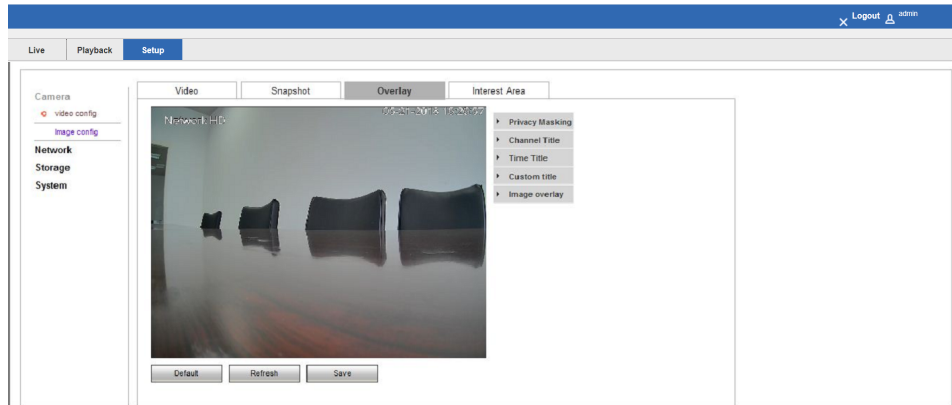
- **Privacy Mask:** On or Off selectable, 4 zones max.
- **Channel Title:** On or Off selectable. When you enable this function, you can choose Fully Transparent or Translucent.
- **Time Title:** On or Off selectable. When you enable this function, you can choose Fully Transparent or Translucent.
- **Custom Title:** Fully Transparent or Translucent selectable.
- **Text alignment:** Left align or Right align selectable.
- **Image Overlay:** On or Off selectable.

3.1.1.4 Interest Area

You can click the left button of mouse and drag a region of interest (as yellow box showed) as required, there are four regions at most you can set.
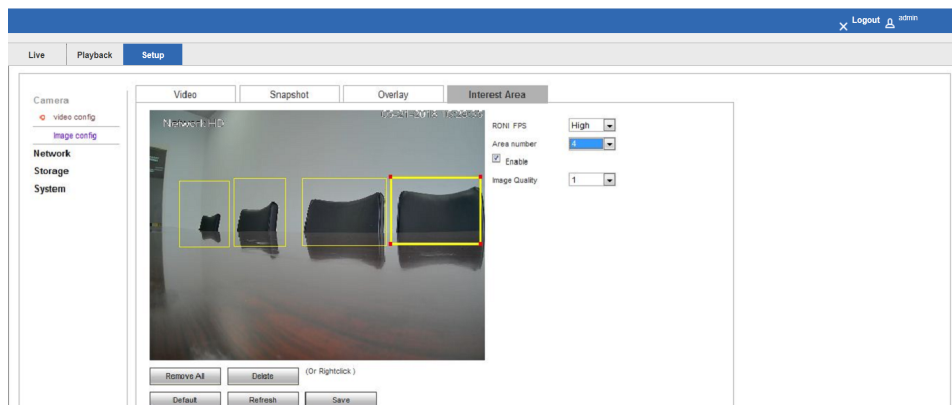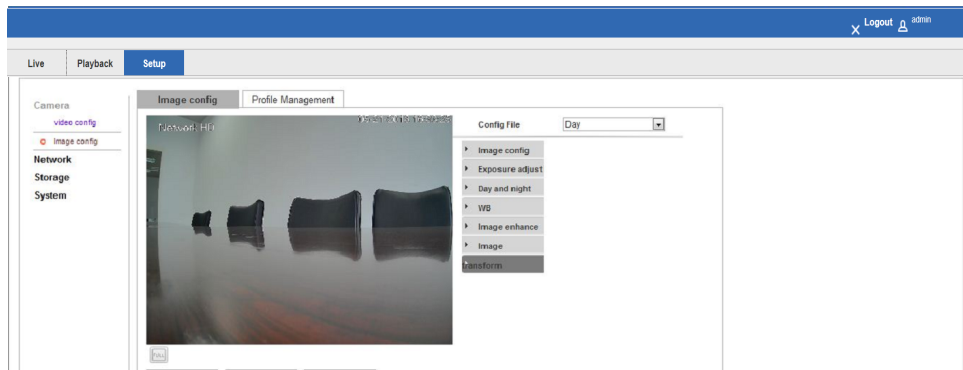

- **RONI FPS:** High, General, Bad selectable.
- **Area Number:** 1~4 zones selectable.
- **Image Quality:** 1~6 (Best) selectable.

### 3.1.2 Image Configuration

3.1.2.1 Image Configuration

Image configuration interface as shown in the below figure:

- **Config. File:** Day, Night, Normal selectable.
- **Image config.**: User can adjust brightness, contrast, saturation, hue, image mode, color mode, 0~100 selectable.
- **Exposure adjust:** User can adjust parameters of exposure mode, object bright, shutter regulate, gain regulate, backlight, anti-flicker.
    - **Exposure Mode:** High, Low light selectable.
    - **Object Bright:** 0~255 selectable.
    - **Shutter Regulate:** Auto, 1/30, 1/60, 1/100, 1/200, 1/250, 1/500, 1/1000, 1/2000, 1/5000, 1/10000 selectable.
    - **Gain Regulate:** Low, Lower, Medium, Higher, High selectable.
    - **Backlight:** Off, On selectable.
    - **Anti-flicker:** Outdoor, 50Hz, 60Hz selectable.
- **Day & Night:** User can adjust the parameters of SensorDetN2DThr, SensorDetD2NThr, BufferTimes.
- **WB (White Balance):** Auto, Lock, Fluorescent, Incandescent, Fluorescence, Manual selectable.
- **Image enhance:** User can adjust parameters of sharpness, 2D denoise, 3D denoise, WDR, dynamic value, defog.
    - **Sharpness:** Auto, Manual selectable.
    - **2D denoise:** Auto, Manual selectable.
    - **3D denoise:** Auto, Manual selectable.
    - **WDR:** True WDR, Digital WDR selectable.
    - **Dynamic value:** 0~255 selectable.
    - **Defog: Disable:** Weak, Medium, Strong selectable.
- **Image:** User can adjust the partameters of Mirror, Visual Angle, Distortion.
    - **Mirror:** On, Off selectable.
    - **Visual Angle:** Normal, Corridor mode1, Inverted image, Corridor mode2 selectable.
    - **Distortion:** Disable, Manual selectable.

3.1.2.2 Profile Management

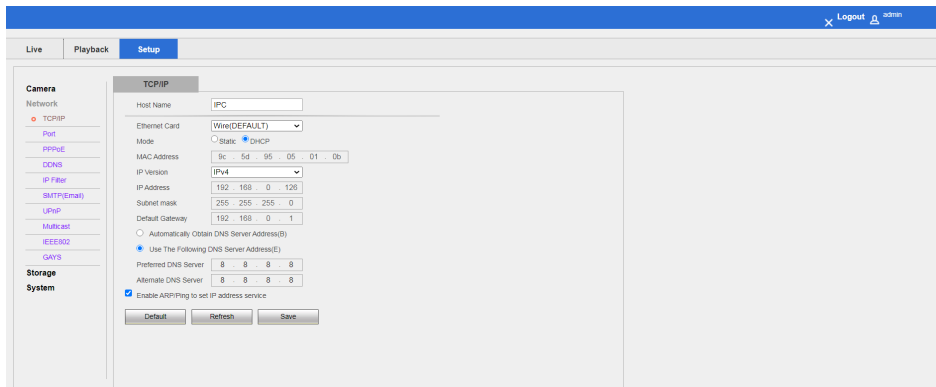**Profile Management:** There are three modes for users to select, Normal, Full Time and Schedule.
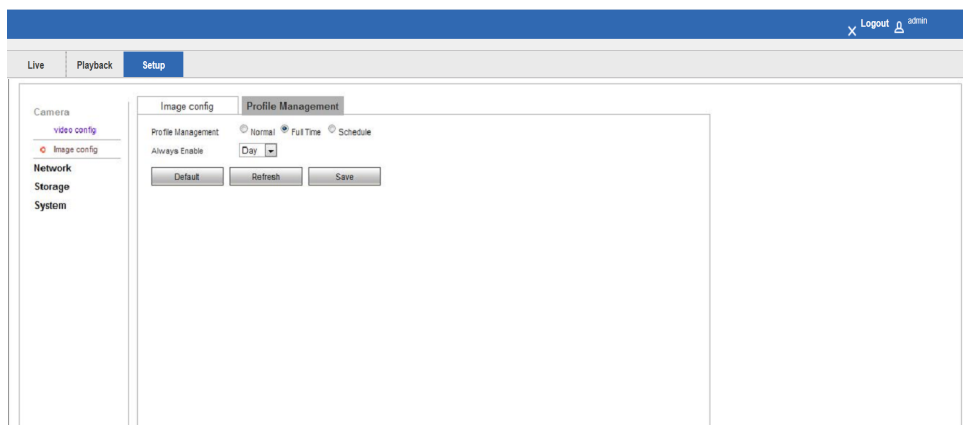
3.2 Network

User can make parameter settings for TCP/IP, Port, PPPoE, DDNS, IP Filter, SNTP, UPnP, Multicast, Auto Register.

3.2.1 TCP/IP：User can select and input context as per requirement.

3.2.2 Port

3.2.2.1 Port：User can select and input context as per requirement.
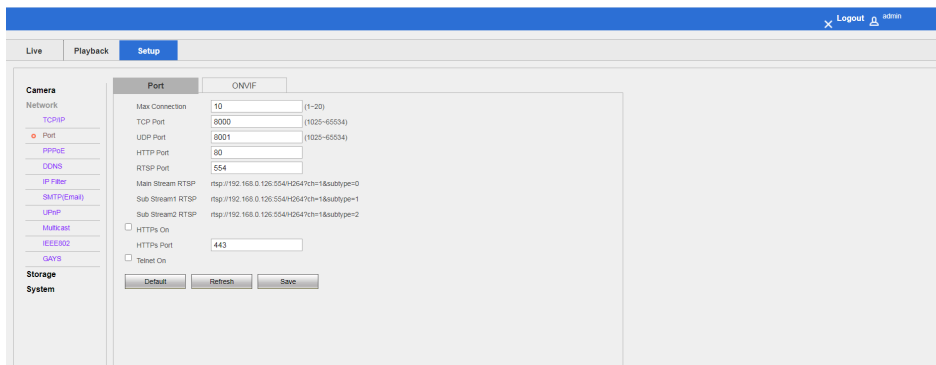
3.2.2.2 ONVIF：User can select open or not open as per requirement.

3.2.3 PPPoE：If you select Enable, you can input Username and Password into the bar.

Please do not forget to click "Save" to save settings.

3.2.4 DDNS

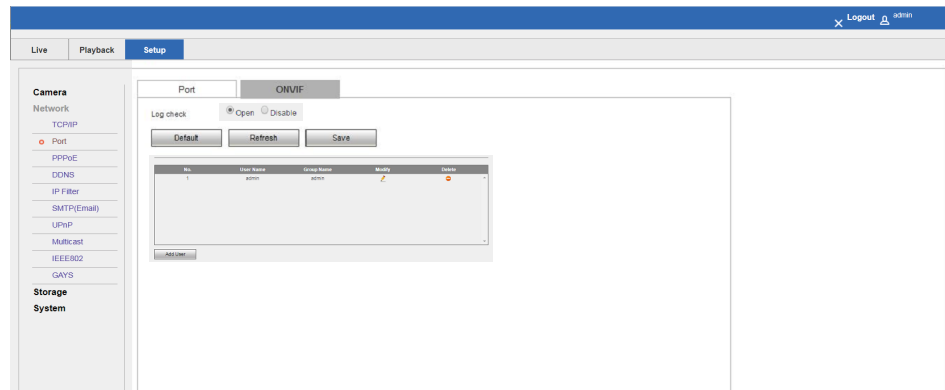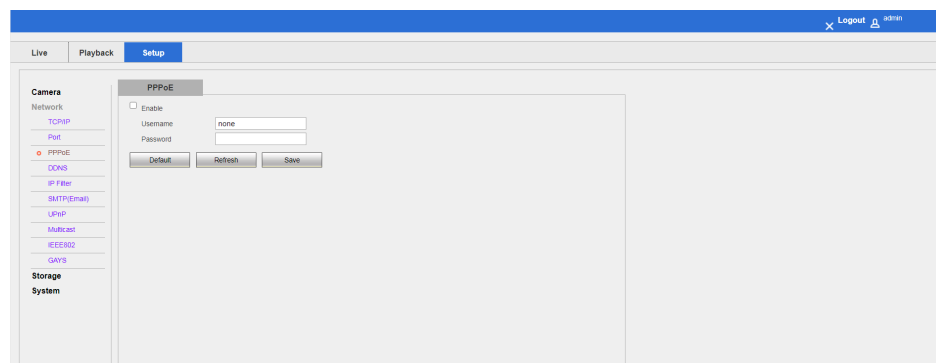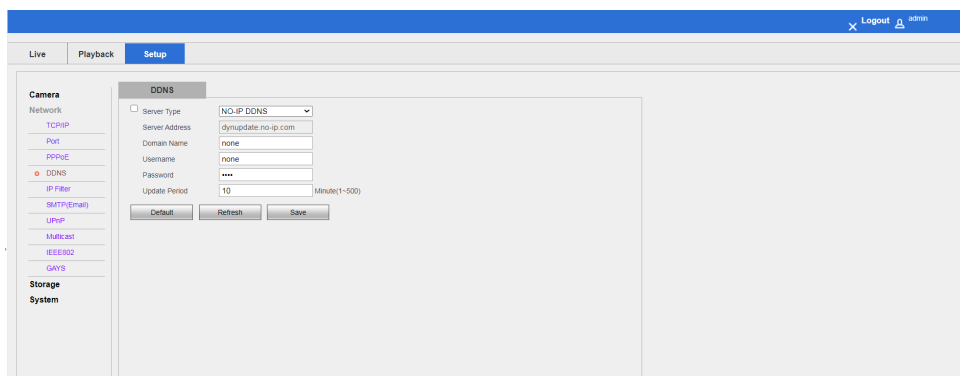In public network environment, the majority of users use dynamic IP address by adopting DDNS (dynamic DNS) to access the network camera through the domain name, which can effetively solve the problem that it unabole to get the current dynamic IP to access the camera.

When you click "Default" button, then you enable DDNS as default.


DDNS Type includes NO-IP DDNS, DynDNS and FNT.
When using any of them, user have the default server address already, and there is no need to fill port number and device domain name. The user name and password are the same as the one that user register account.
After modifying related parameters, please click "Save" button to save the settings.

Note: Please restart the network camera after all settings are completed. Make sure that DDNS function must be set to the correct IP address, mask, gateway, and DNS server, and this configuration can access the internet.

3.2.5 IP Filter
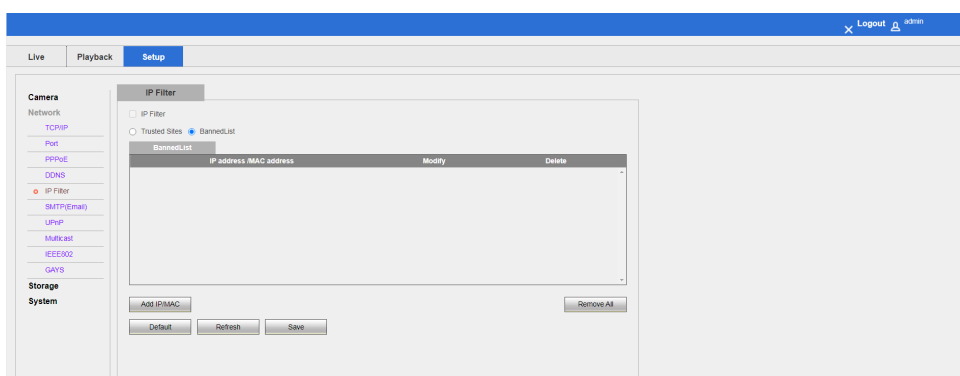
User can click "Trusted sites" to enable this feature.
"Trusted sites" means that the IP address added to the address pool will be allowed access to the camera.
User can click "Add IP/MAC" to add a new IP address to the address pool, and also can make modification or deletion.

3.2.6 SMTP
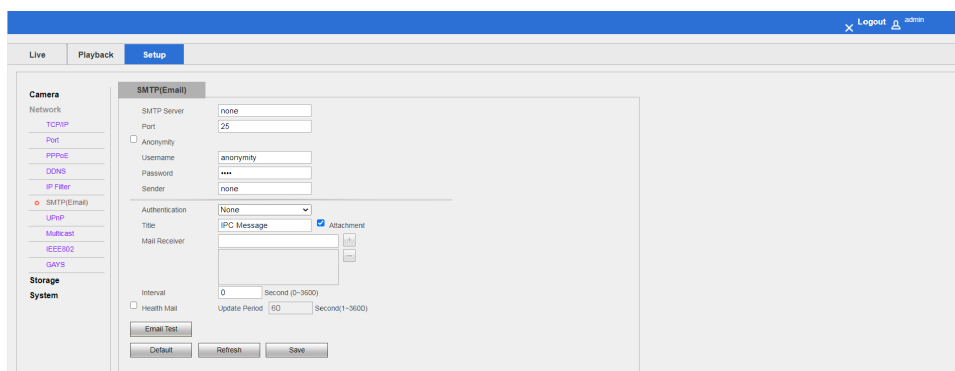
When an alarm occurs, it can send a message to the specified mailbox by setting SMTP parameters.
Enter the address of the SMTP server, SMTP port number (default 25), user name, password, e-mail sender and recipient's name, address, title and other information, and then click "Save".
Click "Health mail", the camera will send the device to run health messages by interval.
After modifying the parameters, please do not forget to click "Save" button to save the settings.

3.2.7 UPnP
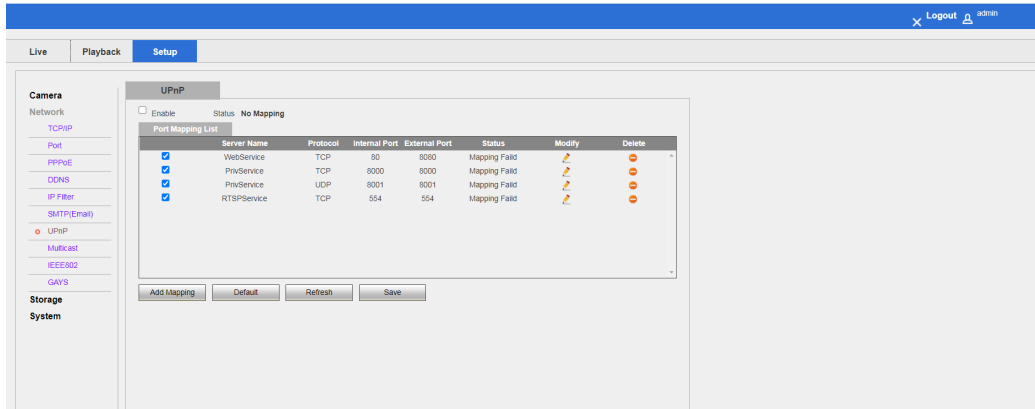
After the UPnP protocol enabled, this function makes the camera to be discovered automatically, it can also realize the function of automatically port mapping of the router.

3.2.8 Multicast
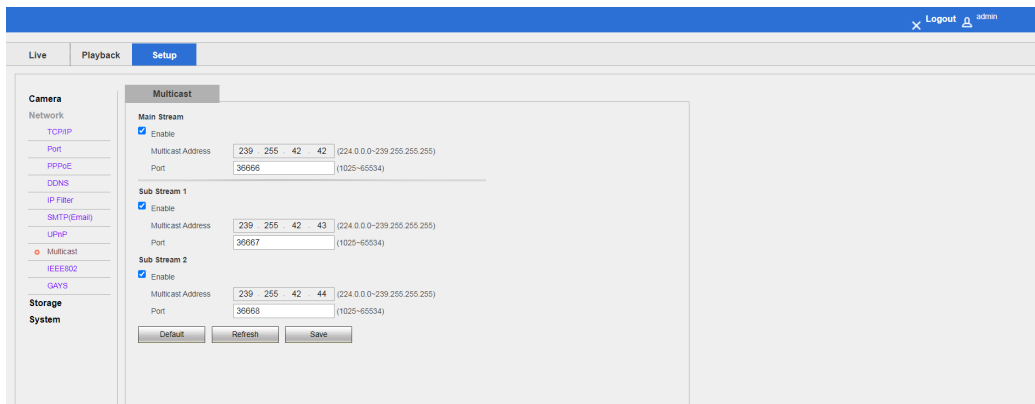
When multicast is on, you can realize multicast by setting the address of multicast. In this way, you can not only improve the efficiency of data transmission, but also can reduce the possibility of congestion in main network.

3.2.9 IEEE802

3.2.10 GAYS

8
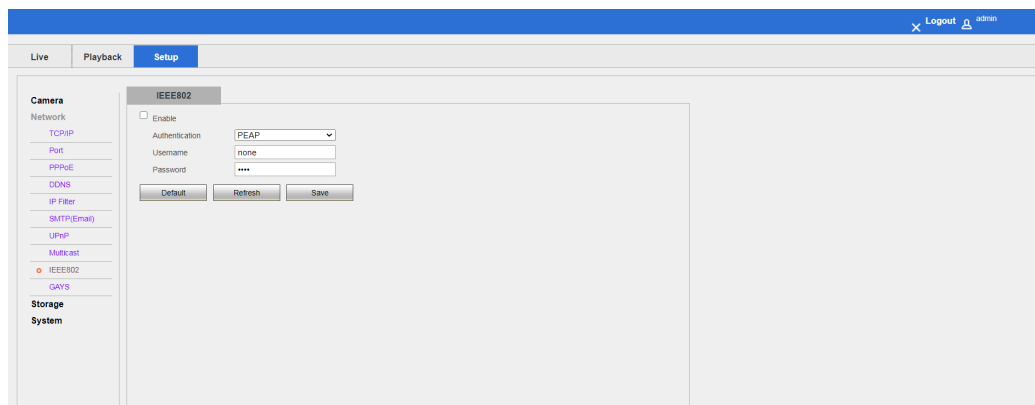
3.3 Storage
3.3.1 Schedule

There are three types of recording schedule: Record schedule, Snapshot schedule and Holiday schedule.
User can make configuration of the recording schedule depending on requirement.
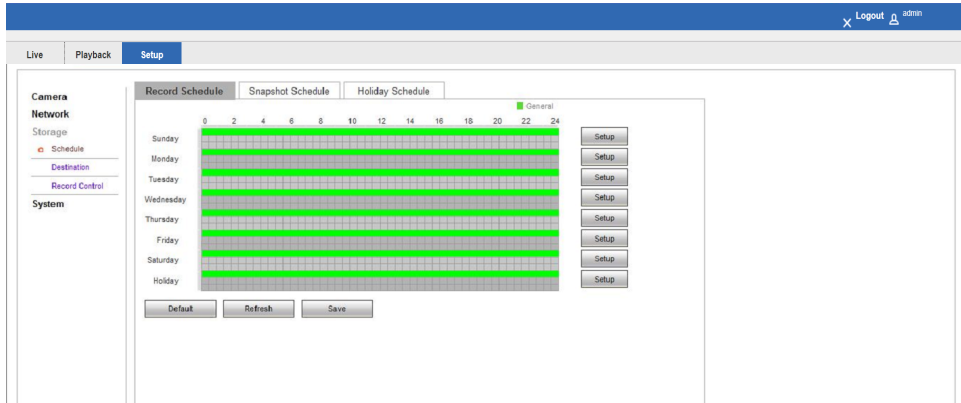
3.3.2 Destination
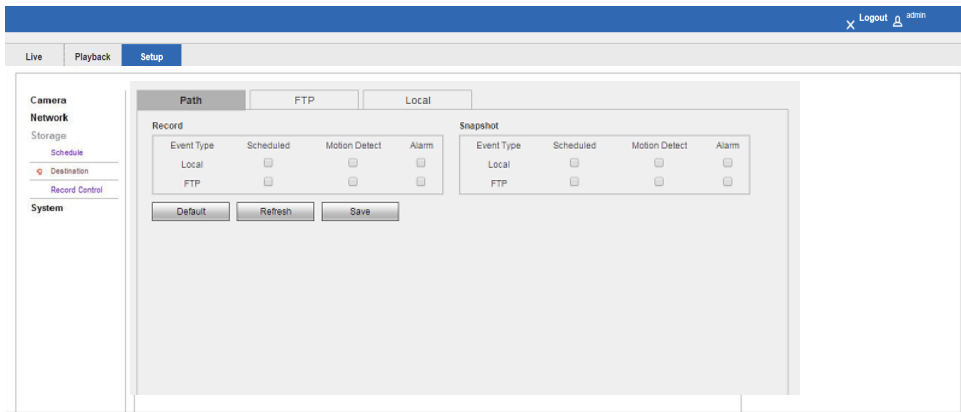
By configure the FTP parameter, you can control the two-way transmission of files on the internet to upload the images and files to the FTP.

The IP address and port number are the same as the that of the FTP. Sign the user name and password with upload permission in the FTP function.

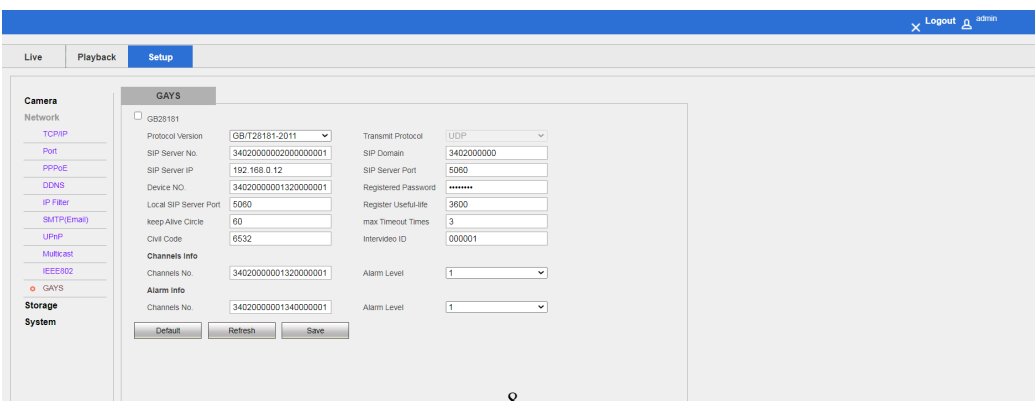Please do not forget to click "Save" to save the configuration.

3.3.3 Record Control
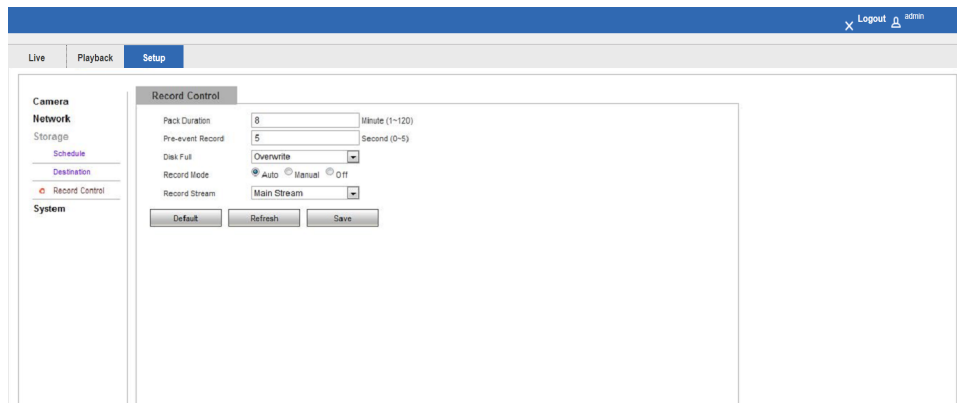
Pack Duration：User can choose the pack time of recording, 1~120 miniutes selectable.
Pre-event Recording: Use can set a period of time for pre-event recording, 0~5 seconds selectable.
Disk Full: When the hard disk is full, user can choose overwrite the original recording or stop recording.
Record Mode: There are three modes to choose: Auto, Manual, Off.
Recod Stream: User can choose Main stream or Sub stream.

Please do not forget to click "Save" to save the configuration.

3.4 System

3.4.1 General

User can make system settings in this section, the interface as belows:

3.4.1.1 General
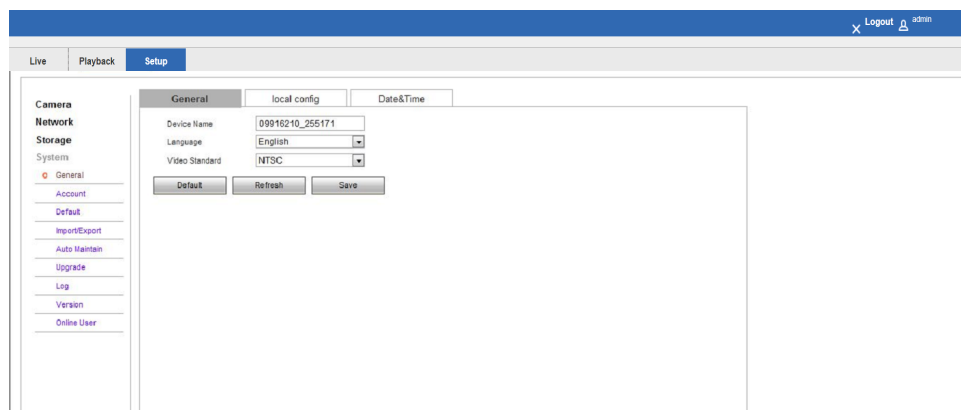
- **Device name**：User can input device name in the empty bar.
- **Language :** English, Chinese selectable.
- **Video standard**：NTSC, PAL selectable.

Please do not forget to click "Save" as configuration is complete.

3.4.1.2 Local config.
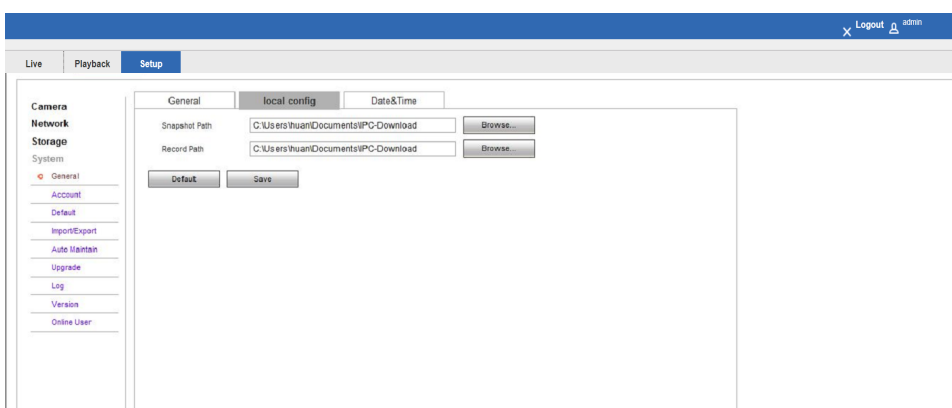
- **Snapshot Path**：User can choose the path of snapshot by clicking "Browse" in local computer.
- **Record Path:** User can choose the path of recording by clicking "Browse" in local computer.

Please do not forget to click "Save" as configuration is complete.

3.4.1.3 Date & Time
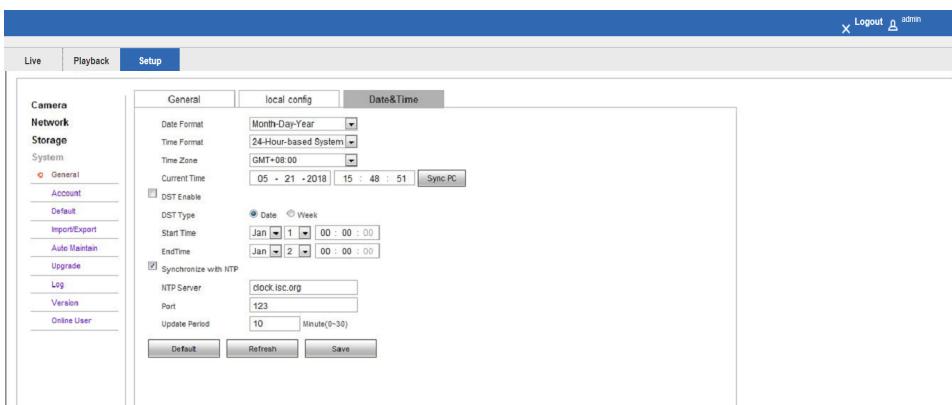
User can set date format, time format, time zone , also can choose whether synchronize with PC.
User can choose whether to enable DST or Synchronized with NTP.
Please do not forget to click "Save" as configuration is complete.

3.4.2 Account

When the current user is super user "admin" , you can create as much as 8 users.
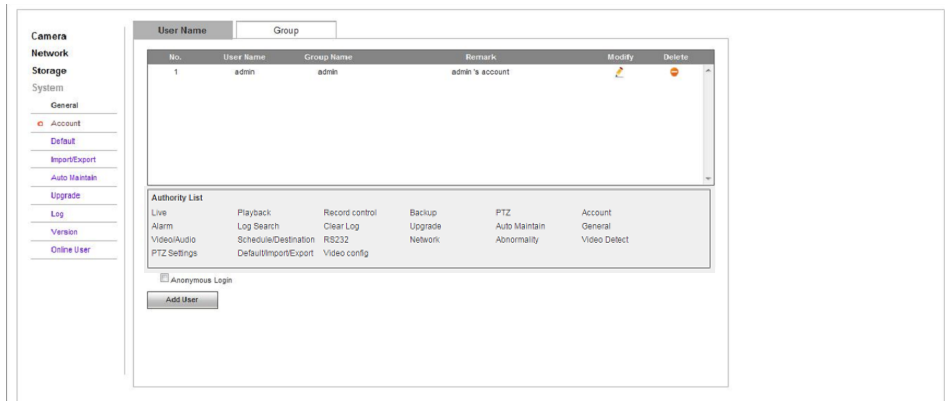
Click "Add user" to enter the user addition interface．

Select the user to modify, click "Modify" to enter the user editing interface, you can alter the user name, password, users group and privileges.

Select the user to delete, click delete to enter into a confirmation dialogue box, click "OK".

NOTE:

Only the super user （admin） can change the password.
Different models can create different number of users, please regard a practical number as a standard.

3.4.2.1 Group
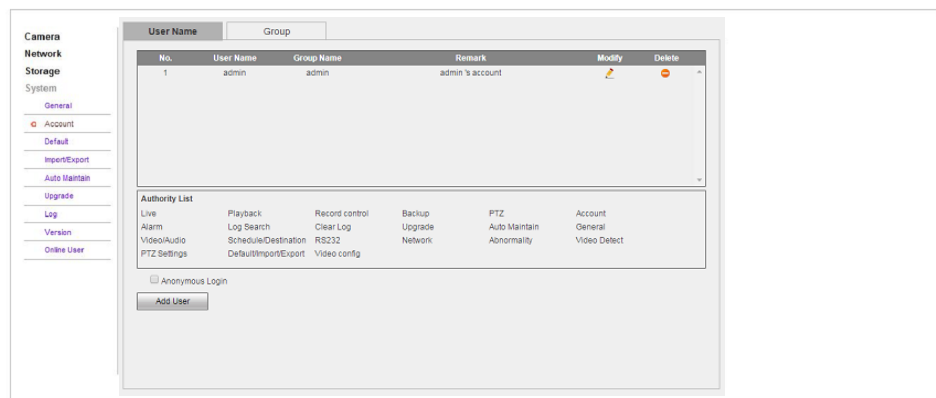
Click "Add Group" to enter group adding interface.
Select the user to modify, click "modify" to enter the editing interface, and alter the remark and privilege.
Add or modify the user group both can configure the basic right and channel right settings.

3.4.3 Default

There are two default modes for user to select: simple default and all default.
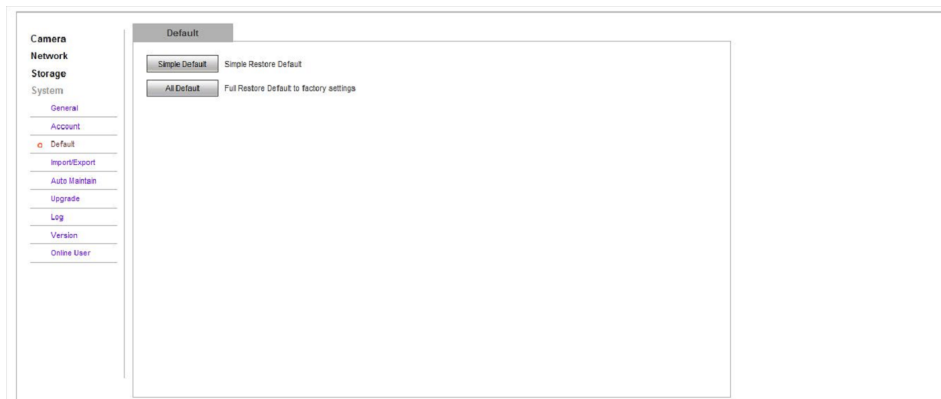
Function

- DDNS Function

● **NO- IP**（**www.no-ip.com** ）

Register

Register new user name at no-ip, click "Creat Account"；
Creat domain name, click "Add a host".

Embedded IPC Setting

Open "Main Menu" - "Management" - "Network" - "Advanced" - "DDNS" - "Enable"

Name	Configuration
DDNS	NO IP- DDNS
IP	dynupdate.no - ip.com
Port	80
Domain name	xxx.xxx.org
User	xxx
Password	xxxxxx

● **Dyndns DDNS** （**www.dyndns.com**）

Register

To login at dydns, register an account.
Click on the confirmation link, login the account, click "Add host services" at "My service", set your own realm name, and then operate according to the procedure.

Configuration of the Embedded IPC

Open "Main Menu" - "Management" - "Network" - "Advanced" - "DDNS" - "Enable"

Name	Configuration
DDNS	Dydns DDNS
IP	Members.dyndns.org
Port	80
Domain name	xxx.xxx.com
User	xxx
Password	xxxxxx

- Port Mapping

Port mapping is mapping a port of outside web host's IP address to a machine inside web, and provide the service. When user connects to the port of the IP, the server will automatically map the request to the corresponding machine inside LAN.

With the function of port mapping, we can map many ports of a machine's IP address to different machines' different ports inside web. The port mapping can also have other special agent functions, like POP, SMTP, TELNET, etc. There are two ways to map the port: UPnP function of automatically map and modify the router's port mapping chart by manual.

● **UPnP Function**

In order to get connection to the Embedded IPC through Public network, we need to set the Router to cross the NAT of Embedded IPC. UPnP can make the NAT cross automatically by the UPnP agreement of Embedded IPC, and don't have to set the Router.

⚠ *Note: to realize the UPnP Function, there must be Router support and enable the UPnP Function.*

1. Connect the Router to the network, get to the Menu of the Router, set the Router, then get to port, and enable the UPnP Function. Routers made by different manufacturers may have some difference, please refer to the specification carefully before setting the Router.

2. Connect the Embedded IPC to the Router; the configuration will automatically gain the IP address or static IP. After setting up the IP, click the Advanced Config. And get to the Network transmission capacity, ports and multicast etc. to open the Enable at the UPnP port mapping.

3. The default access port of Embedded IPC contains HTTP port 80 and TCP port 8000. If the port has been occupied by other LAN equipment, please modify the default port number to an unuserd port number at network transmission capacity, ports, multicast etc.

4. Enter the Router management interface; detect the port if there is already a Port mapping. If there is, it shows UPnP setting's finished.

5. Input the IP address in IE, and add port number of the Embedded IPC, for example: 155.157.12.227:81. If you want to enter Client Software, use the TCP port offered by the outer net.

⚠ *Note: if there are a few embedded IPCs need to set the UPnP function, in order to avoid IP conflict, set the ports of embedded IPC into different ports numbers. Otherwise, it will choose the embedded IPC port set preceded as the first choice.*

● **Manual Port Mapping**

1. Connect the Embedded IPC to the Router, set the static IP.

2. Log in Router, enter into the configuration menu of Router, and set the menu. Then get to port, set the IP distributed by the Embedded IPC, and set the rule of port mapping, add HTTP and TCP port into mapping list.
Default access ports of Embedded IPC include HTTP port 80 and TCP port 8000, if the ports are occupied by other LAN devices, please modify the default port of the Embedded IPC into other vacant ports at network transmission capacity, ports, multicast etc.

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3. Input the public net IP address in the IE, and add the port number of the Embedded IPC you want to access after the IP, for example: http://155.157.12.227:81. If you want to access by Client Software, you can use the outer net TCP port directly.

⚠️ *Notice: for detail configuration setting, please refer to the user manual of Router.*

- NTP Function

Enable NTP function; make the time synchronization with both the IPC and GPS clock server, to ensure the accuracy of device time.

● **Internet Configuration**

Get to the "Configuration" - "Network", choose "Advanced", and then choose "NTP" to set.
After the device can access the Internet, NTP server can use the standard NTP server at Internet as clock source. For example, China National Center server timing (IP address: 210.72.145.44). Input the IP address and domain name of relative server at NTP setting.

To activate NTP, click to choose "Enable".
The interval of changing time is from 1 to 65535 minutes.

● **Intranet Configuration**

If IPC work under the intranet, user can set up a privately-owned server as clock source. NTP address in IPC configuration fill in privately-owned NTP address can work.

Privately-owned NTP server can adopt standard NTP products and accurate time PC system. Please refer to below instruction when adopt PC system as a NTP server.

NTP Server Set Up under Windows

Click "Start" menu → "Run"(or Win+R), and input "regedit" to get into REGEDIT.

Build a new key assignment of DWORD Value under:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\W32Time\Parameters registry subkey;
Change the value to 1, and save.

Restart the computer.

NTP server set up under Linux system

Due to the particularity of Linux system, for detail way to erect the NTP server, please refer to every editions of the manual.