



Smart Tools

User Manual

V3.0

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Chapter I Introduction

1.1 Milesight Smart Tools Introduction

Milesight Smart Tools is a powerful assisting software which is capable of learning the network environments and automatically finding Milesight network cameras and network video recorders connected in the LAN. It provides you a quick way to modify devices settings and do firmware upgrade. It is highly recommended for multiple Milesight devices configuration. It also can be used for calculating the matching number of camera, network video recorder and disk space.

1.2 Key Features

- ✧ Innovative UI design
- ✧ Integrated IPC Tools, NVR Tools and Calculators, easy to install and use
- ✧ Smart devices discovery and filter
- ✧ Simple batch firmware upgrade and online firmware upgrade for both Milesight cameras and network video recorders
- ✧ Efficient video and image parameters configuration to cameras in a group
- ✧ Convenient network setup for cameras, like IP address, DDNS and so on
- ✧ Useful network modification and connection status display for network video recorders
- ✧ Quick calculation for the matching number of camera, network video recorder and disk space
- ✧ Active cameras and NVRs when using them for the first time

Chapter II Installation

2.1 System Operating Environment

OS: Windows 7/8/10/Vista/Server 2000/Server 2008

CPU: 1.66GHZ or faster

Memory: 1GB or more

Graphic memory: 128MB or more

Internet protocol: TCP/IP

2.2 Installation Guide

Run the Installation file and install the programs on your computer by following the on-screen instructions. After finishing installation, you will find the program on the start menu or on the desk.

Step1: Check the box 'I accept the terms in the <License Agreement>';

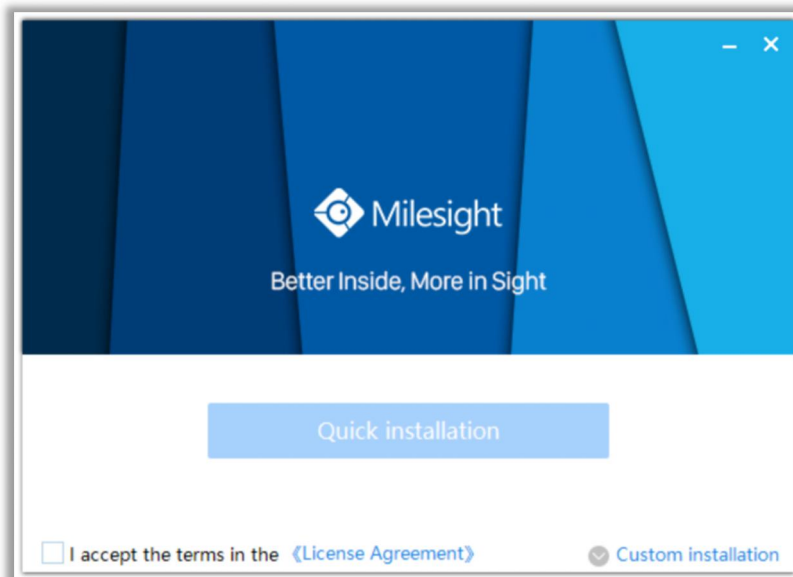


Figure 2-1 Accept the terms

Step2: Choose 'Custom installation' to select the destination folder where Milesight Smart Tools will be installed, or choose 'Default installation' to install it in the default destination folder;

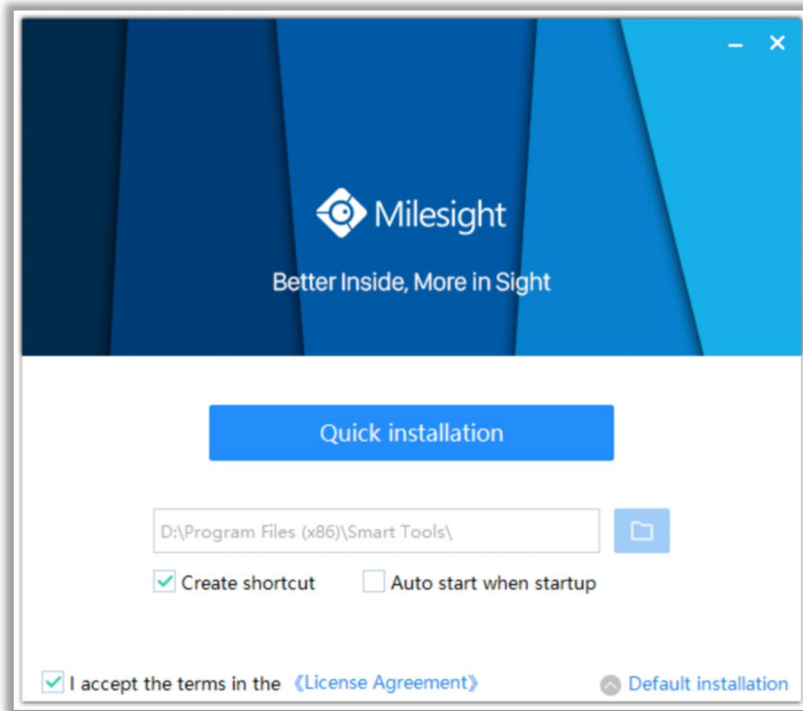


Figure 2-2 Installation

Step3: Click 'Quick installation' button to complete the installation.

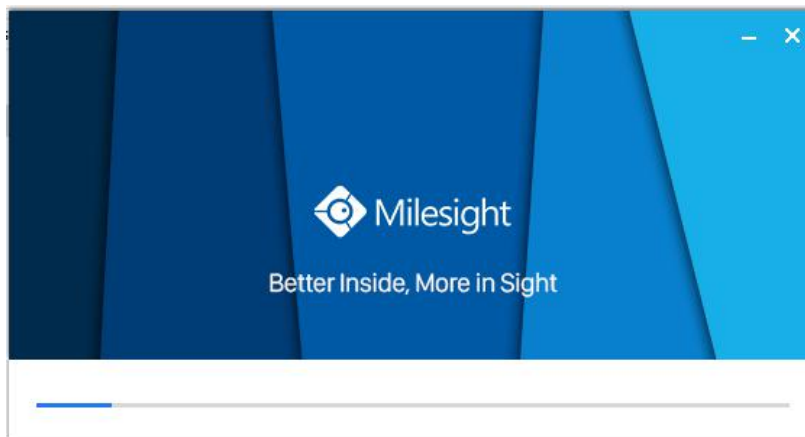


Figure 2-3 Finished installation

Note:

The language of Smart Tools is based on the language of computer systems.

Chapter III Operations and settings

The home page of the software is as follows:



Figure 3-1 Home page

Click the buttons to enter the three parts. You can make settings for each part.

Note:

- 1) Smart Tools currently supports 5 languages: Simplified Chinese, Traditional Chinese, English, Japanese, Korean, Russian;
- 2) Smart Tools currently supports 5 resolution: 1024*768, 1280*1024, 1440*900, 1920*1080.

3.1 IPC Tools

IPC Tools can automatically detect multiple online Milesight Network Cameras connected in the LAN, set IP addresses, and manage firmware upgrades. It is recommended when assigning IP addresses for multiple Milesight Network Cameras.

Key Features

- ✧ Support single and batch network settings
- ✧ Support batch firmware upgrades and online firmware upgrade
- ✧ Support configuration of Fisheye Camera
- ✧ Support batch modification of the device name
- ✧ Support batch primary/second/third stream parameter settings
- ✧ Support batch audio settings
- ✧ Support batch modification of the username and password
- ✧ Support batch time settings
- ✧ Support batch OSD settings
- ✧ Support batch HTTP/RTSP port settings
- ✧ Support batch DDNS parameters settings

- ✧ Support batch restart or restore the device
- ✧ Support batch image parameters settings
- ✧ Support settings for Brightness/Contrast/Saturation/Sharpness/Noise Reduction/Exposure Level/Exposure Time/Day(Night) Mode/Power Line Frequency/Wide Dynamic Range/Local Display Video

Click the IPC Tools button, you will enter the IPC Tools part:

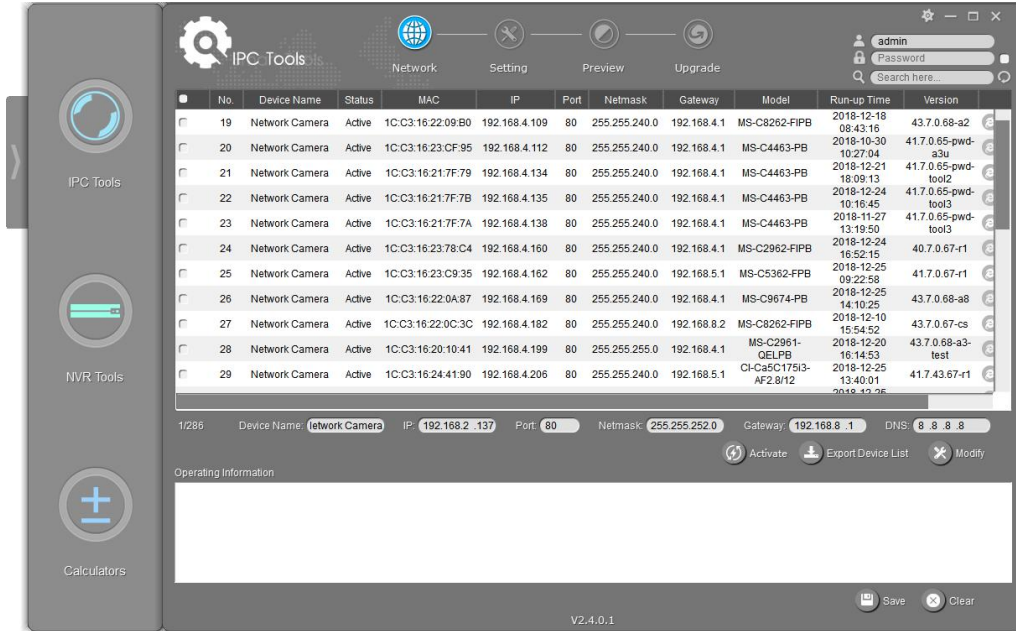





Figure 3-2 IPC Tools

Table 3-1 Icon of the IPC Tools

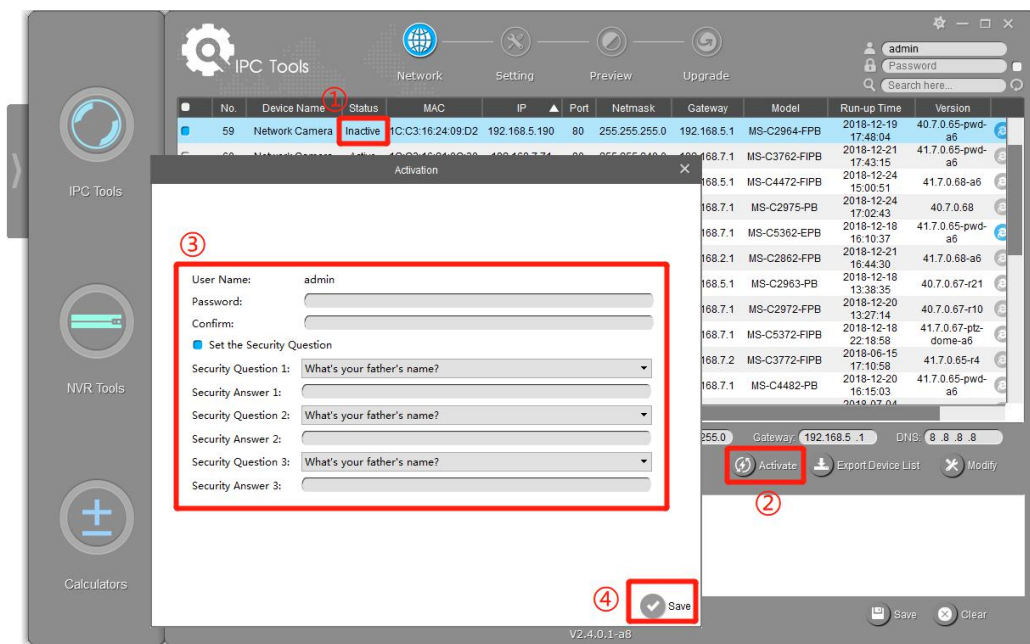
Icon	Function
	Home button.
	Change the language, resolution and check the version information of software.
	Minimize/ Maximize/ Close the window.
	Network: Modify IP address, Port, Netmask, Gateway, etc.
	Setting: Video, Audio, System, OSD, Network Port, DDNS and UPnP settings.
	Preview: Preview, change the image parameters, etc.
	Upgrade: Upload config file, Upgrade, Reboot and Reset.
	Input correct username and password of one camera or cameras to get further operations. Tick the checkbox right of the Password to remember the current password when you restart and re-install Smart Tools.
	Input any information (Device Name, MAC, IP address, Port, Netmask, Gateway, Model and Version), and you will find your target more quickly.

	Refresh the search result.
	Unfold/Fold button, click this button to unfold/fold the main menu.

Note:

1) If your camera shows **'Inactive'** in the status bar, you need to click  to set the password when using it for first time. Password must be 8 to 32 characters long.

You can also set the Security Question for your camera here, in case you forget the password, you can reset the password by answering the Security Question correctly.



The screenshot shows the 'IPC Tools' interface with a table of devices. The first device, 'Network Camera', has a status of 'Inactive' (marked with a red circle 1). An 'Activation' dialog box is open, containing fields for 'User Name' (admin), 'Password', 'Confirm', and three 'Security Question' fields (marked with a red circle 3). Below the dialog, the 'Activate' button (marked with a red circle 2) and a 'Save' button (marked with a red circle 4) are visible. The background table lists various camera models and their status.

No.	Device Name	Status	MAC	IP	Port	Netmask	Gateway	Model	Run-up Time	Version
59	Network Camera	Inactive	1C-C3.16.24.09D2	192.168.5.190	80	255.255.255.0	192.168.5.1	MS-C2964-FPB	2018-12-19 17:48:04	40.7.0.65-pwd-a6
68.7.1	MS-C3762-FIPB	Active							2018-12-21 17:43:15	41.7.0.65-pwd-a6
68.5.1	MS-C4472-FIPB	Active							2018-12-24 15:00:51	41.7.0.68-a6
68.7.1	MS-C2975-PB	Active							2018-12-24 17:02:43	40.7.0.68
68.7.1	MS-C5362-EPB	Active							2018-12-18 16:10:37	41.7.0.65-pwd-a6
68.2.1	MS-C2862-FPB	Active							2018-12-21 16:44:30	41.7.0.68-a6
68.5.1	MS-C2963-PB	Active							2018-12-18 13:38:35	40.7.0.67+21
68.7.1	MS-C2972-FPB	Active							2018-12-20 13:27:14	40.7.0.67+10
68.7.1	MS-C5372-FIPB	Active							2018-12-18 22:18:58	41.7.0.67-ptz-dome-a6
68.7.2	MS-C3772-FIPB	Active							2018-06-15 17:10:58	41.7.0.65-r4
68.7.1	MS-C4482-PB	Active							2018-12-20 16:15:03	41.7.0.65-pwd-a6

2) If your camera shows **'Active'** in the status bar, you can use it directly without activating it. If you click



, it will display 'The activated device is not allowed to reactivate'.



3.1.1 Network

Step1: Enter MAC or IP address or other information to search interested cameras;

Step2: Click the parameter of the area(marked as 1) to list the camera one by one;

Step3: Click interested cameras, and then you can change its parameters including the device

name, IP address, netmask, gateway and the HTTP port. Click “Modify” button to apply the settings.

Step4: Click the Browser button(marked as 2) to skip to the web of the camera;
Details are shown as the Figure 3-3.

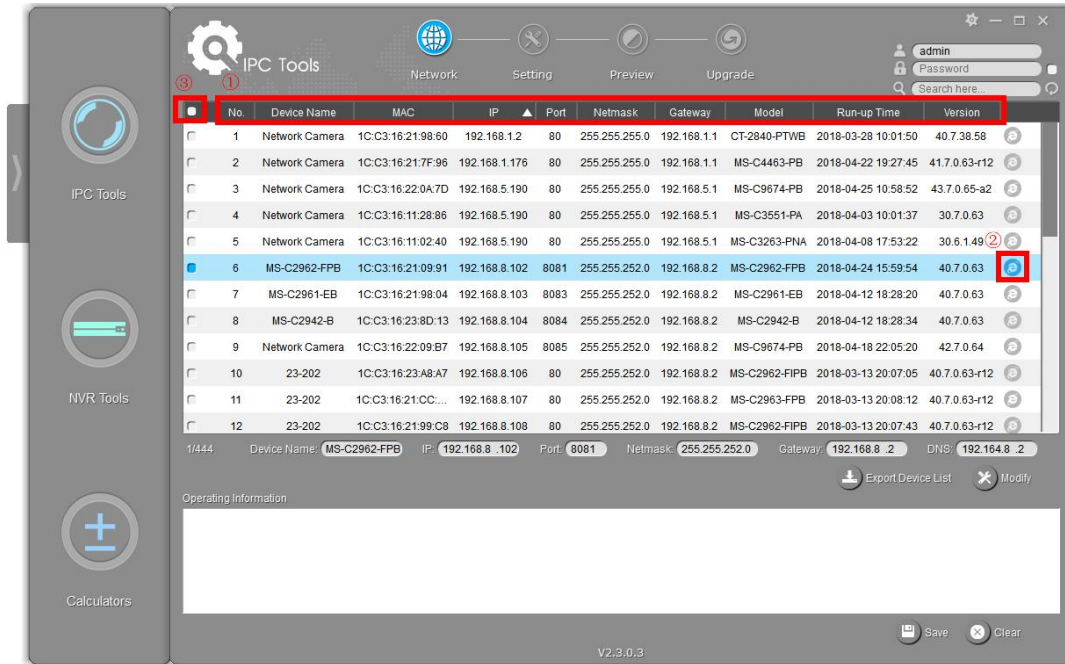


Figure 3-3 Network

Table 3-2 Parameters of the Network page

Network	Select All	Click the button(marked 3 in the Figure 3-3), Select all cameras at a time.
	Device Name	Modify Device Name.
	IP	Modify the selected device into this IP address.
	Port	Modify the HTTP port.
	Netmask	Modify the net mask.
	Gateway	Modify the gateway.
	DNS	Modify the DNS server.
	Export Device List	Export selected device list.
Operating Information	Modify	Save the changes.
	Save	Save the logs.
	Clear	Clear the logs.

3.1.2 Setting

When click the ‘Setting’ button, you can set the related parameters of the Video, Audio, System, User, OSD, Network and Fisheye. Details are shown as follows.

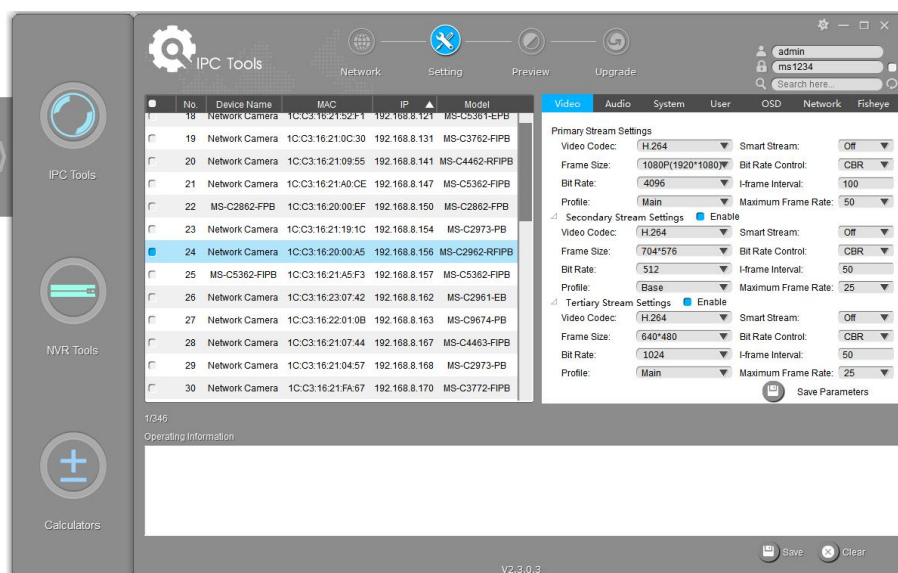
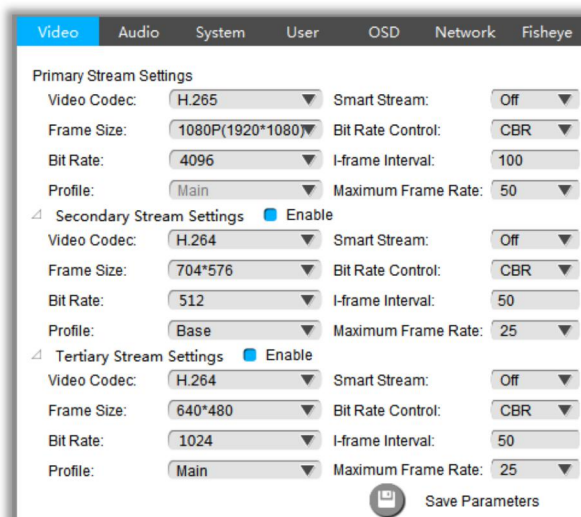


Figure 3-4 Setting

Table 3-3 Sub interfaces of the Setting Page

Video Setup:**Video/Image Settings**

Here you can setup the parameters of the Primary Stream, the Secondary Stream and Tertiary Stream:

Video Codec: H.265(if camera supports)/H.264/MJPEG/MPEG4 (if camera supports) available.

Frame Size: the resolution.

Bit Rate: transmitting bits of data per second.

Profile: Base/ Main/ High(only H.264 supports).

Smart Stream: It is optional to turn On/Off Smart Stream mode.

Smart Stream mode remarkably reduces the bandwidth and the data storage requirements for network cameras while ensuring the high quality of images.

Level: Level 1~10 are available to meet your need if you turn on Smart Stream.

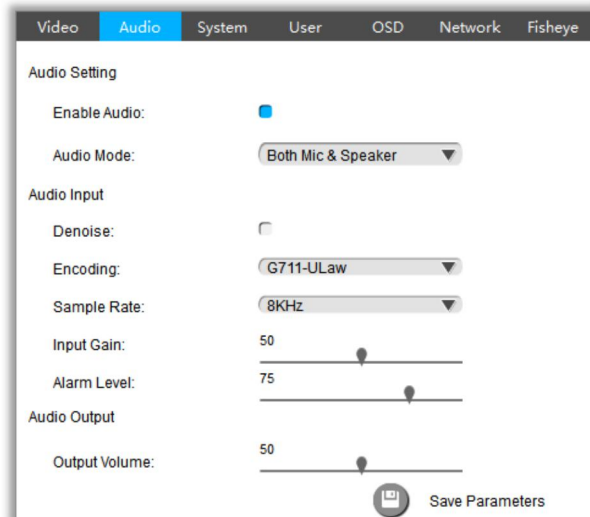
Bit Rate Control: CBR/ VBR.

I-frame Interval: Set the I-frame interval to 1~120.

Maximum Frame Rate: maximum refresh frame rate per second.

Audio Settings

Audio Setup:



Here you can setup the parameters of Audio:

Enable Audio: Enable or Disable the Audio.

Audio Mode: Only Mic, Only Speaker and Both Mic&Speaker are available.

Audio Input:

Denoise: Enable or Disable the Denoise.

Encoding: G711-ULaw, G711-ALaw, AAC LC are available.

Sample Rate: 8KHz and 16KHz are available.

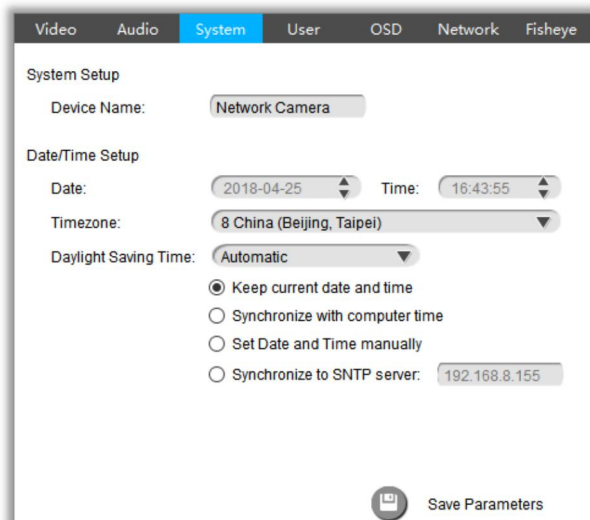
Adjust Input Gain and Alarm Level.

Audio Output:

Adjust Output Volume.

System Settings

System Setup:



Here you can setup the parameters of the System:

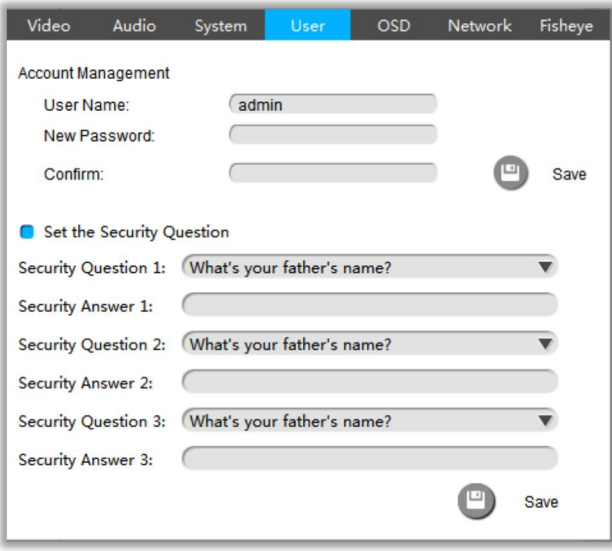
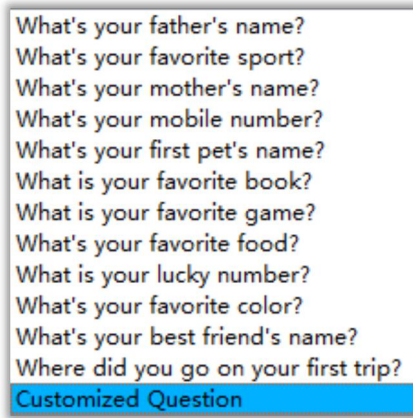
System Setup:

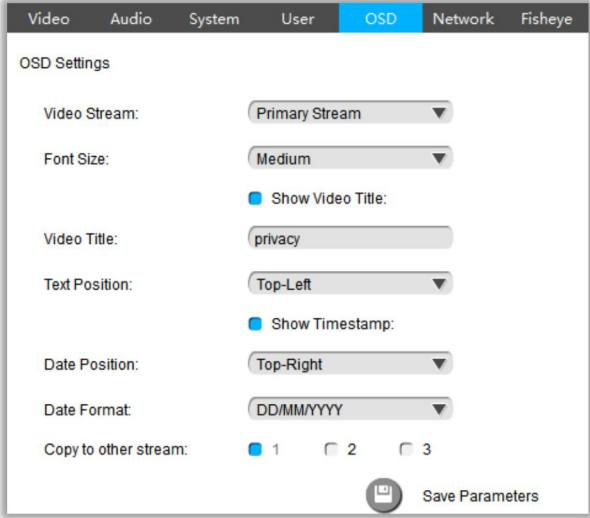
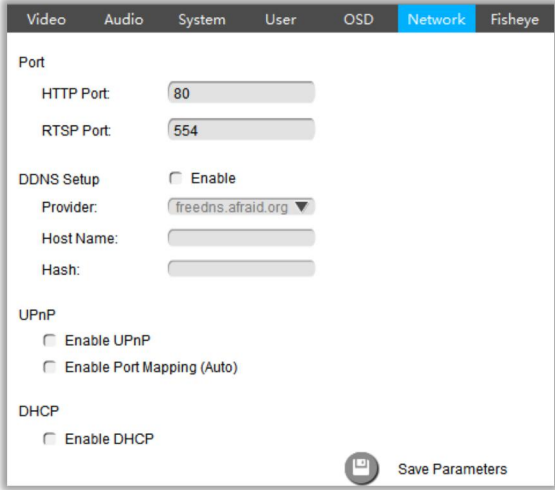
Device Name: Modify the device name.

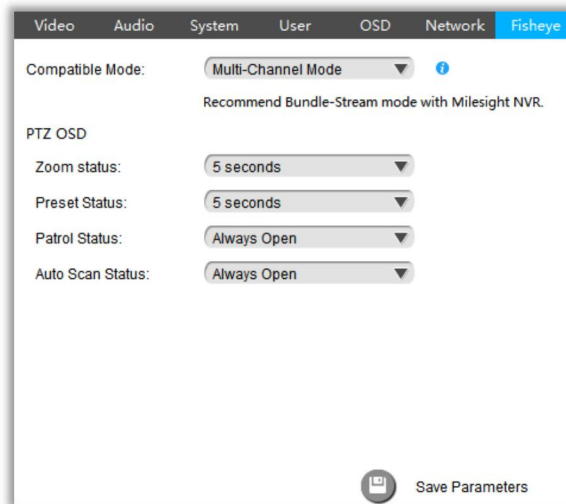
Date/Time Setup:

Keep current date and time: Keep current date and time of the system.

Synchronize with computer time: Synchronize the time with your computer.

	<p>Set date and time manually: Set the system time manually.</p> <p>Synchronize to SNTP server: Synchronize the time with configured network server and selected time zone.</p>
<p>User settings</p>	<p>User Setup:</p>  <p>Account Management:</p> <p>Username: Modify the username.</p> <p>Password: Modify the password. Password must be 8 to 32 characters long.</p> <p>Confirm: Enter the password again to make a confirmation.</p> <p>Set the Security Question: Set the Security Question for your camera, in case you forget the password, you can reset the password by answering the Security Question correctly. There are twelve default questions below, you can also customize the Security Question.</p> 
<p>OSD settings</p>	<p>OSD Setup:</p>

	 <p>Video Stream: Here you can choose the stream of OSD.</p> <p>Font Size: Smallest, Small, Medium, Large, Largest and Auto are available.</p> <p>Video Title: Input the video title.</p> <p>Text Position: Top-Left, Top-Right, Bottom-Left and Bottom-right are available.</p> <p>Show Timestamp: Enable/Disable the timestamp.</p> <p>Date Position: Top-Left, Top-Right, Bottom-Left and Bottom-Right are available.</p> <p>Date Format: YYYY-MM-DD, MM/DD/YYYY, DD/MM/YYYY are available.</p> <p>Copy to other stream: Copy the OSD information to other stream.</p>
Network Settings	<p>Network Setup:</p>  <p>Port: Here you can set up the HTTP Port and RTSP Port.</p> <p>DDNS Setup: DDNS allows you to access the device via domain name instead of IP address. It manages to change IP address and update your domain information dynamically.</p> <p>UPnP: UPnP allows you skip the steps to router port mapping.</p> <p>DHCP: Check the checkbox to enable the DHCP function.</p>
Fisheye settings	Fisheye Setup:



Compatible Mode: Bundle-Stream Mode and Multi-Channel Mode are available.

Bundle-Stream Mode: the Bundle-Stream Mode combines all the channels into one, and then sending to NVR or VMS, which is easy for compatibility.

Multi-Channel Mode: the Multi-Channel Mode sends all the original channels to NVR or VMS, so the channels can be modified separately.

Note: We recommend Bundle-Stream mode with Milesight NVR.

Zoom Status: Support to set display time of Zoom Status OSD.

2 seconds/5 seconds/10 seconds/Always Open/Always Close are available.

Preset Status: Support to set display time of Preset Status OSD.

2 seconds/5 seconds/10 seconds/Always Open/Always Close are available.

Patrol Status: Support to set display time of Patrol Status OSD.

Always Open/Always Close are available.

Auto Scan Status: Support to set display time of Auto Scan Status OSD.

Always Open/Always Close are available.

3.1.3 Preview

The Video Previews is used for setting the related parameters of the video with live view to display the differences. Live view will be full screen if you double click it.

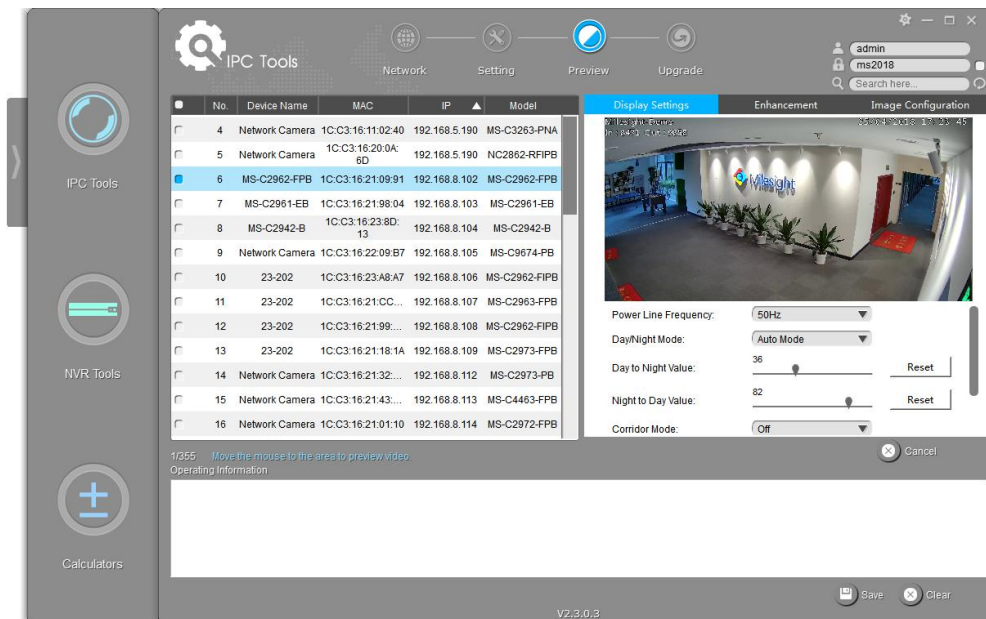


Figure 3-5 Preview

Table 3-4 Parameter of the Previews Page

Display Settings	Power Line Frequency	60HZ flicker for NTSC mode and 50HZ flicker for PAL mode.
	Day/Night Mode	Night Mode, Day Mode, Auto Mode and Customize are available.
	Day To Night Value	This is the sensitivity for switching Day Mode to Night Mode . When IR Light Sensor Current Value is lower than this value, it will switch Day Mode to Night Mode.
	Night To Day Value	This is the sensitivity for switching Night Mode to Day Mode . When IR Light Sensor Current Value is higher than this value, it will switch Night Mode to Day Mode.
	Corridor Mode	Off, Clockwise 90° and Anticlockwise 90° are available.
	Image Rotation	Off, Rotating 180°, Flip Horizontal and Flip Vertical are available.
Enhancement	IR Balance Mode	There is an option to turn On/Off the IR LED. IR Balance Mode would avoid the problem of overexposure and darkness, and the IR LED will change according to the actual illumination.
	White Balance	To restore white objects, remove the color distortion caused by the environment light. Auto White Balance, Manual White Balance, Incandescent Lamp, Warm Light Lamp, Natural Light and Fluorescent Lamp are available.

	Digital Anti-fog Mode	This function is only for H.265 series. Better image effect in foggy weather.
	Digital Image Stabilisation	This function is only for H.265 series. Decrease the blur and shakiness of the image.
	BLC Region	Back Light Compensation. Off and Centre are available.
	Wide Dynamic Range	This function can capture and display both bright and dark areas in the same frame, which enables details of objects in both bright and dark areas to be visible. Off, On and Customize are available.
	Wide Dynamic Level	Set WDR with Low/High/Auto level.
	High Light Compensation	This function is only for H.265 series to adjust the brightness to a normal range when the light is strong. Off, General Mode, Enhanced Mode are available.
	HLC Level	Select a level for HLC.
Image Configuration	Brightness	Adjust the brightness of image. The higher the brightness is, the brighter the image is.
	Contrast	Adjust the contrast of image. The higher the contrast is, the more different in brightness between objects are.
	Saturation	Adjust the Saturation of the image. Higher Saturation makes colors appear more "pure" while lower one appears more "wash-out".
	Sharpness	Adjust the Sharpness of image. Higher Sharpness sharps the pixel boundary and makes the image looks more clear.
	Noise Reduction	Reduce the noise to get a better image.

3.1.4 Upgrade

Upgrade is used for managing the firmware upgrades. Here you can upgrade several devices' firmware with one file at a time.

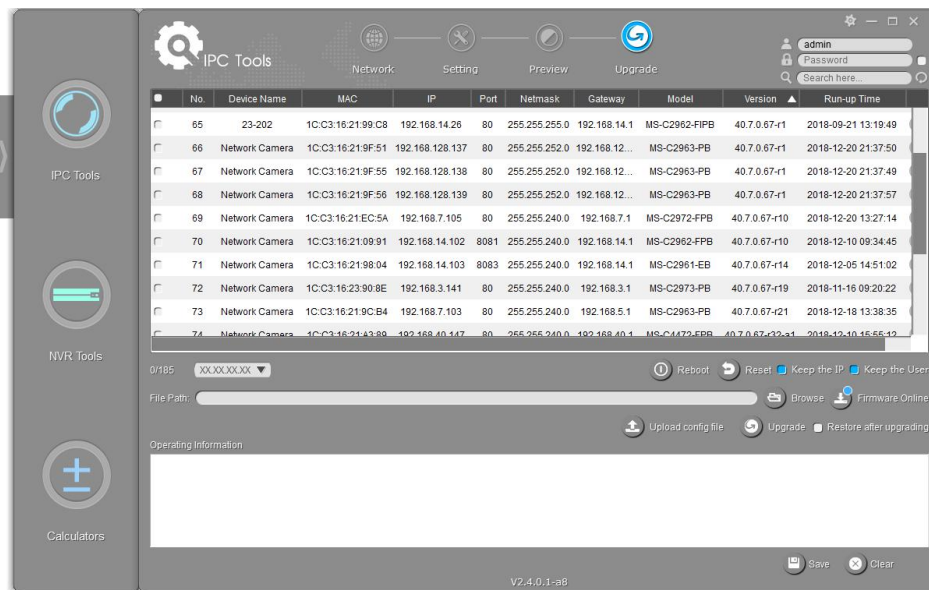



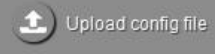


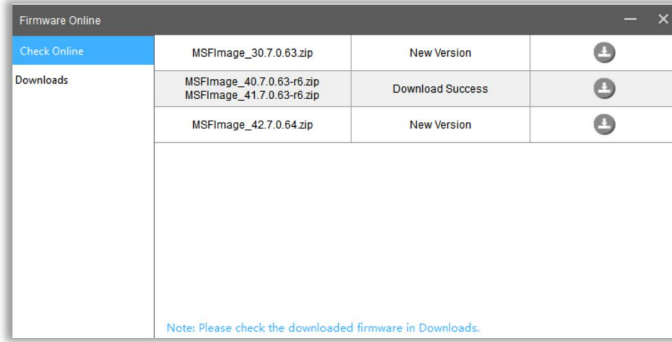


Figure 3-6 Upgrade

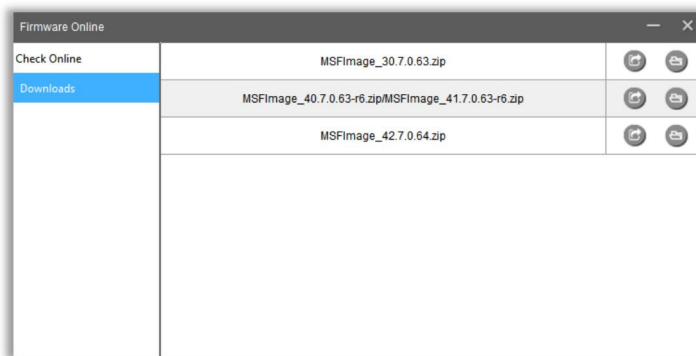
Table 3-5 Parameter of the Upgrade Page

Option	Function Introduction
	Click "Reboot" button to restart the selected cameras.
	Click "Reset" button to reset the selected cameras to factory default settings.
<input type="checkbox"/> Keep the IP	Enable the "Keep the IP" option to keep the IP configuration when resetting the selected cameras.
<input type="checkbox"/> Keep the User	Enable the "Keep the User" option to keep the User configuration when resetting the selected cameras. Note: If you disable the "Keep the User" option when resetting the camera, the camera will be reset to the 'Inactive' status, you need to set a password for it again.
	Click the "Browse" button to choose a config file or a firmware file.
	Select the camera, enter the correct username and password, click the "Browse" button to choose a config file, and then click "Upload config file" button to upload a configuration file.
	Click the "Firmware Online" button to check firmware online, and Click "  " to directly download the latest firmware on the website for different models.



Check the downloaded firmware in “Downloads”.

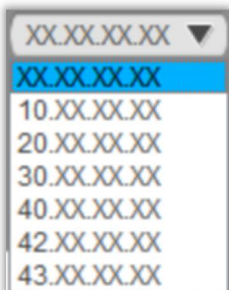
Click “📁” to select the firmware to upgrade camera, click “📁” to open containing folder.



Select the camera, enter the correct username and password. Click the “Browse” button to choose a firmware file, and then click the “upgrade” Button to upgrade the camera, or you can click the “Firmware Online” button to directly download the latest firmware on the website to upgrade different models. The upgrade will be completed after the progress bar disappeared.



Enable the “Restore after upgrading” option to restore the selected cameras to factory default after upgrading.



10.XX.XX.XX is for MS-C2XXX-XX
 20. XX.XX.XX is for MS-C3XXX-XX
 30.XX.XX.XX is for MS-CXXXX-XXA
 40.XX.XX.XX is for MS-CXXXX-XXB
 42.XX.XX.XX is for MS-C8262-XXB/ MS-C9674-PB(V100)
 43.XX.XX.XX is for MS-C9674-PB(V101)

Note:

When you need to upgrade firmware of your network cameras, the firmware file should match with the devices, otherwise the upgrade will fail.

3.2 NVR Tools

NVR Tools can automatically detect multiple online Milesight Network NVRs connected in the LAN, set IP addresses, and manage firmware upgrades. It is recommended when assigning IP addresses for multiple Milesight Network NVRs.

Key Features

- ✧ Support single and batch network settings
- ✧ Support batch firmware upgrades and online firmware upgrade
- ✧ Support batch modification of the device name
- ✧ Support batch modification of the username and password
- ✧ Support batch restart or restore the device
- ✧ Support batch get status of the NVR

Click the NVR Tools button, you will enter the NVR Tools part:

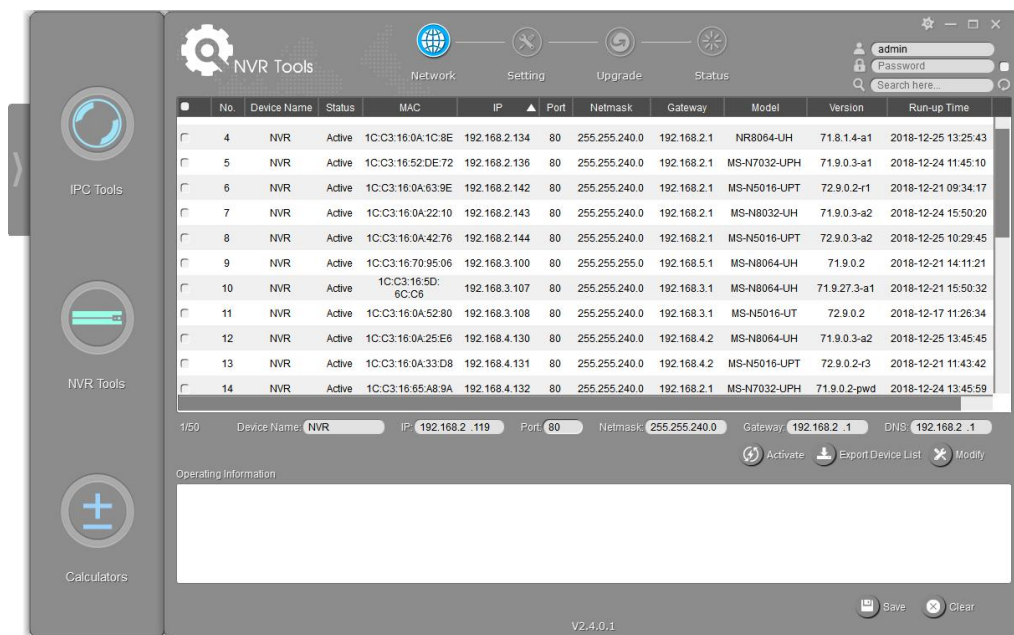










Figure 3-7 NVR Tools

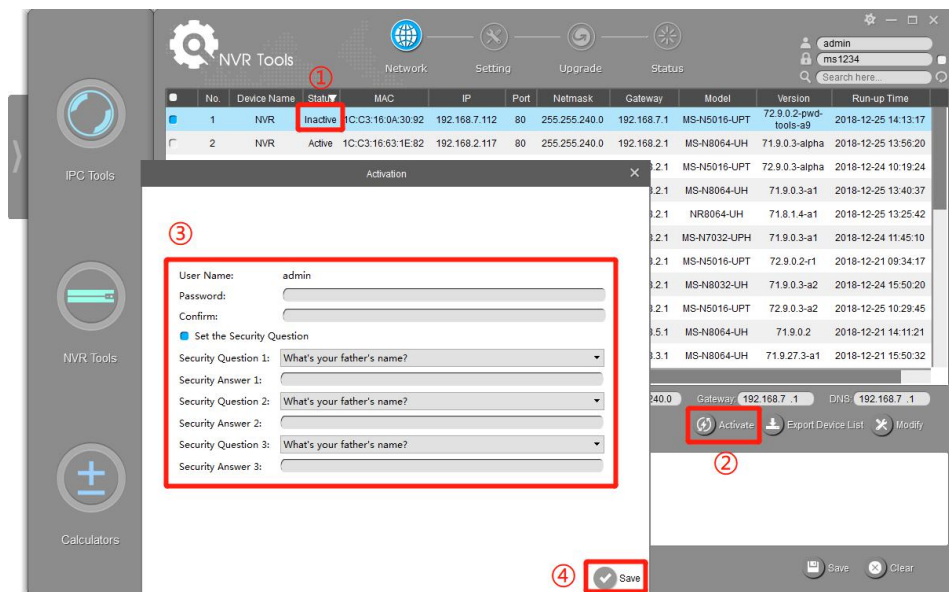
Table 3-6 Icons of the NVR Tools Page


Icon	Function
	Home button.
	Change the language, resolution and check the version information of software.
	Minimize/ Maximize/ Close the software.
	Network: modify IP address, Port, Netmask, Gateway, etc.

	Setting: System.
	Upgrade: Upgrade, Reboot and Reset.
	Status: Connected cameras and their MAC/IP/Status.
	Input correct username and password of one camera or cameras to get further operations. Tick the checkbox right of the Password to remember the current password when you restart and re-install Smart Tools.
	Input any information (Device Name, MAC, IP address, Port, Netmask, Gateway, Model and Version), and you will find your target more quickly.
	Refresh the search result.
	Unfold/Fold button, click this button to unfold/fold the main menu.

Note:

3) If your NVR shows 'Inactive' in the status bar, you need to click  to set the password when using it for first time. Password must be 8 to 32 characters long. You can also set the Security Question for your NVR here, in case you forget the password, you can reset the password by answering the Security Question correctly.



4) If your NVR shows 'Active' in the status bar, you can use it directly without activating it. If you click , it will display 'The activated device is not allowed to reactivate'.



3.2.1 Network

Step1: Enter the SN or IP address other information to search interested NVR;

Step2: Click the parameter of the area(marked as 1) to list the camera one by one;

Step3: Click interested cameras of the list, and then you can change the parameters including the IP address, Port, Netmask, Gateway and DNS. Click "Modify" button to apply the settings.

Step4: Click the Browser button(marked as 2) to skip to the web of the NVR;

Details are shown as the Figure 3-8.

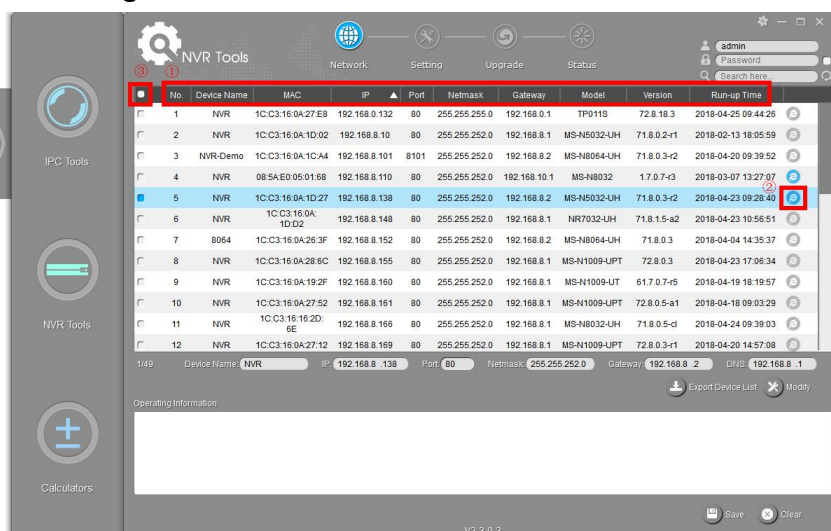


Figure 3-8 Network

Table 3-7 Parameter of the Network page

Optional	Select All	Click the button(marked 3 in the picture), Select all cameras at a time.
	Start IP Address	Modify all the selected cameras' IP addresses from this one.
	Device Name	Modify Device Name.
	IP	Modify the selected device into this IP address.
	Port	Modify the HTTP port.
	Netmask	Modify the net mask.
	Gateway	Modify the gateway.
	DNS	Modify the DNS server.
	Modify	Save the changes.

	Export Device List	Export selected device list.
Operating Information	Save	Save the logs.
	Clear	Clear the logs.

3.2.2 Setting

Here you can setup date/time of system and upload configuration file to NVR.

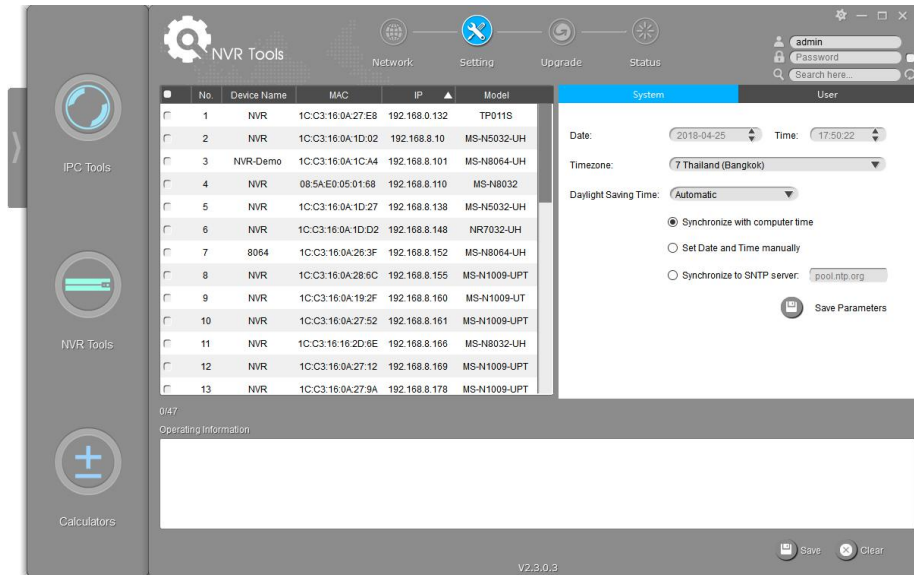
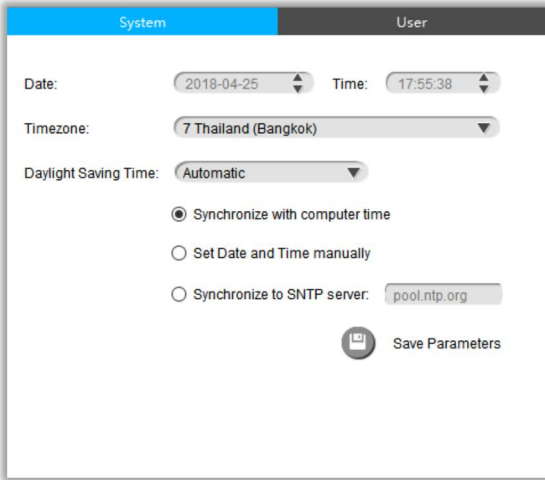



Figure 3-9 Setting

Table 3-8 Parameter of the Previews Page

System setting	<p>System Setup:</p> 
	<p>Here you can setup the parameters of the System:</p> <p>Timezone: Enable to select different Timezone.</p> <p>Daylight saving time: Disable and Automatic are available.</p> <p>Synchronize with computer time: Synchronize the time with your computer.</p> <p>Set date and time manually: Set the system time manually.</p> <p>Synchronize to SNTP server: Synchronize the time with configured network server and selected time zone.</p>

User settings	<p>User Setup:</p> 
	<p>Account Management:</p> <p>Username: Modify the username.</p> <p>Password: Modify the password. Password must be 8 to 32 characters long.</p> <p>Confirm: Enter the password again to make a confirmation.</p> <p>Set the Security Question: Set the Security Question for your camera, in case you forget the password, you can reset the password by answering the Security Question correctly. There are twelve default questions below, you can also customize the Security Question.</p> <div style="border: 1px solid gray; padding: 5px; margin: 10px 0;"> <p>What's your father's name?</p> <p>What's your favorite sport?</p> <p>What's your mother's name?</p> <p>What's your mobile number?</p> <p>What's your first pet's name?</p> <p>What is your favorite book?</p> <p>What is your favorite game?</p> <p>What's your favorite food?</p> <p>What is your lucky number?</p> <p>What's your favorite color?</p> <p>What's your best friend's name?</p> <p>Where did you go on your first trip?</p> <p style="background-color: #007bff; color: white; padding: 2px;">Customized Question</p> </div>

3.2.3 Upgrade

Upgrade is used for managing the firmware upgrades. Here you can upgrade several devices' firmware with one file at a time.

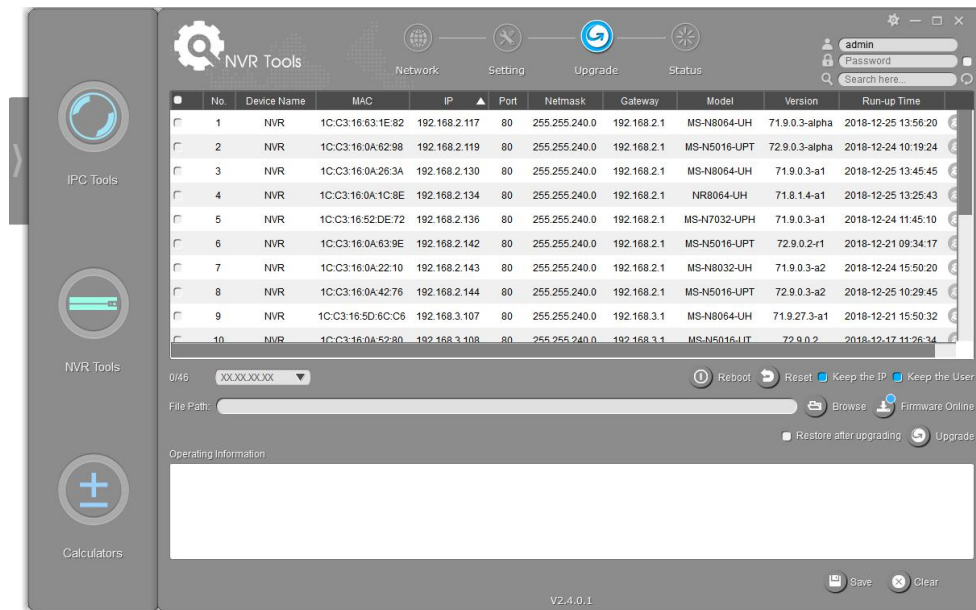
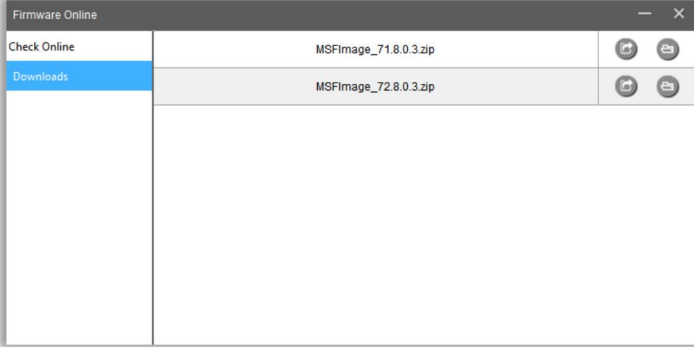

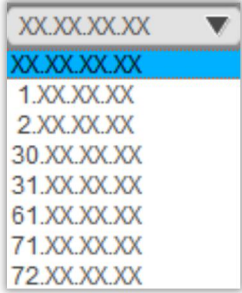


Figure 3-10 Upgrade

Table 3-8 Parameter of the Upgrade Page

Option	Function Introduction
	Click “Reboot” button to restart the selected NVRs.
	Click “Reset” button to reset the selected NVRs to factory default settings.
<input type="checkbox"/> Keep the IP	Enable the “Keep the IP” option to keep the IP configuration when resetting the selected NVRs.
<input type="checkbox"/> Keep the User	Enable the “Keep the User” option to keep the User configuration when resetting the selected NVRs. Note: If you disable the “Keep the User” option when resetting the NVR, the NVR will be reset to the ‘Inactive’ status, you need to set a password for it again.
	Click the “Browse” button to choose a config file or a firmware file.
	Click the “Firmware Online” button to check firmware online, and Click “” to directly download the latest firmware on the website for different models. Check the downloaded firmware in “Downloads”. Click “” to select the firmware to upgrade NVR, click “” to open

	<p>containing folder.</p> 
	<p>Select the NVR, enter the correct username and password. Click the “Browse” button to choose a firmware file, and then click the “upgrade” Button to upgrade the NVR, or you can click the “Firmware Online” button to directly download the latest firmware on the website to upgrade different models.</p> <p>The upgrade will be completed after the progress bar disappeared.</p>
<input type="checkbox"/> Restore after upgrading	<p>Enable the “Restore after upgrading” option to restore the selected NVRs to factory default after upgrading.</p>
	<p>1.XX.XX.XX is for MS-N8016/8032/7016 2.XX.XX.XX is for MS-N5008 30.XX.XX.XX is for MS-N5016 31.XX.XX.XX is for MS-N1004/1008 61.XX.XX.XX is for MSN1009-UT 71.XX.XX.XX is for MS-NXXXX-U(P)H 72.XX.XX.XX is for MS-NXXXX-UPT</p> <p>Note: When you need to upgrade firmware of your NVRs, the firmware file should match with the devices, otherwise it will fail.</p>

3.2.4 Status

The Status is used for checking the status of the channels of NVR. Click the ‘Get All Status’ to get all the status of the NVRs which share the same username and password locally.

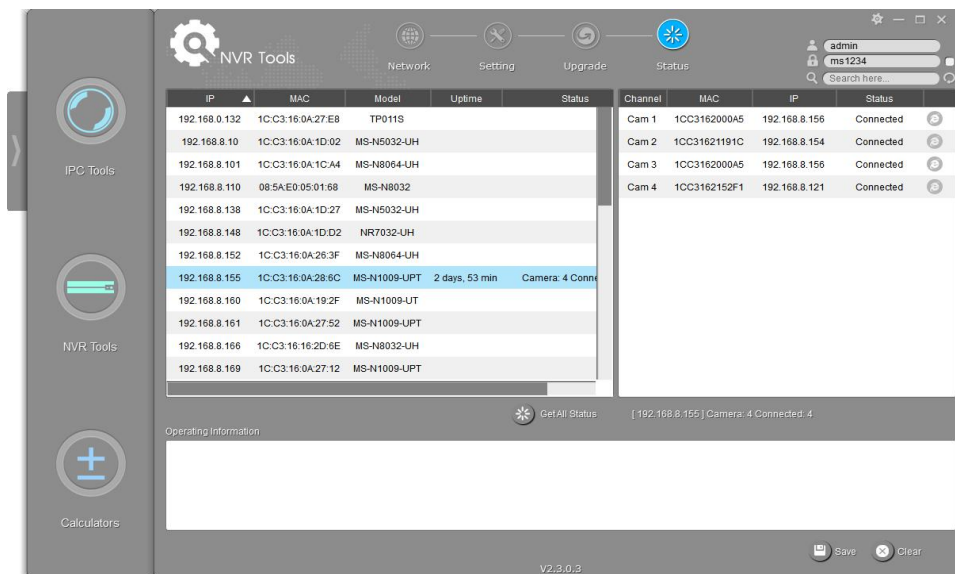


Figure 3-11 Status

3.3 Calculators

Calculators can be used to calculate the number of IP cameras which can be connected to the specified NVRs, and calculate the number of NVRs needed to manage the available IP cameras. It can also calculate according to the video time and equipment needed for disk space, calculate according to video disk space and equipment configuration time of tool software.

Key Features

- ✧ Support calculating the supported number of camera according to NVR
- ✧ Support calculating the needed number of NVR according to camera
- ✧ Support calculating the needed disk storage
- ✧ Support calculating the recording time according the disk storage
- ✧ Innovative UI interface and easy use

Click the Calculators button, the page is as following:

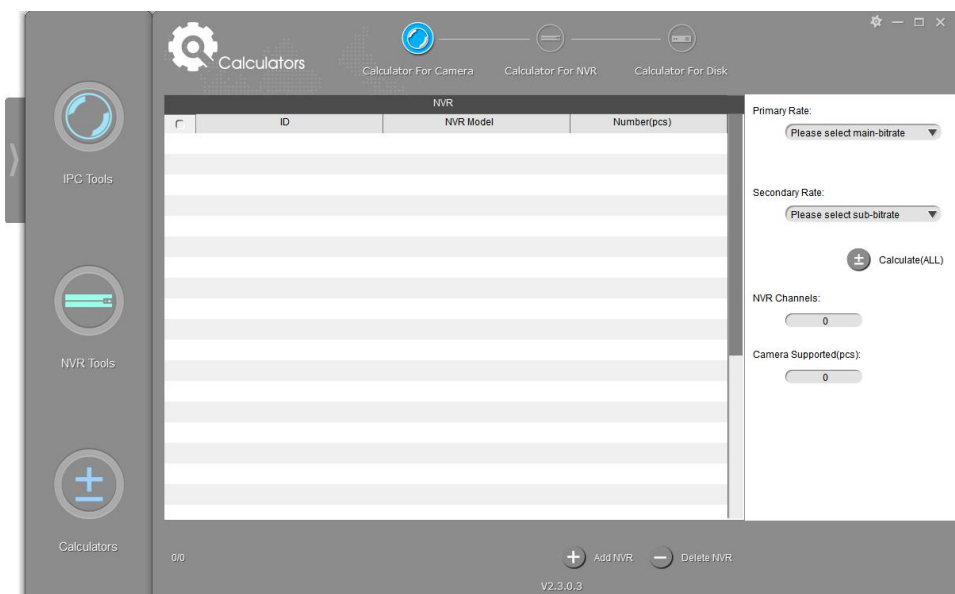









Figure 3-12 Calculators

Table 3-9 Icons of the Calculators page

Icon	Function
	Home button.
	Change the language, resolution and check the version information of software.
	Minimize/ Maximize/ Close the software.
	Calculator For Camera.
	Calculator For NVR.
	Calculator For Disk.
	Unfold/Fold button, click this button to unfold/fold the main menu.

3.3.1 Calculator For Camera

Choose your NVR model and numbers, set the cameras' rates for primary and secondary stream, then click the 'Calculate' button to get the total number of NVR channels as well as the number of the cameras you can add to your NVRs.

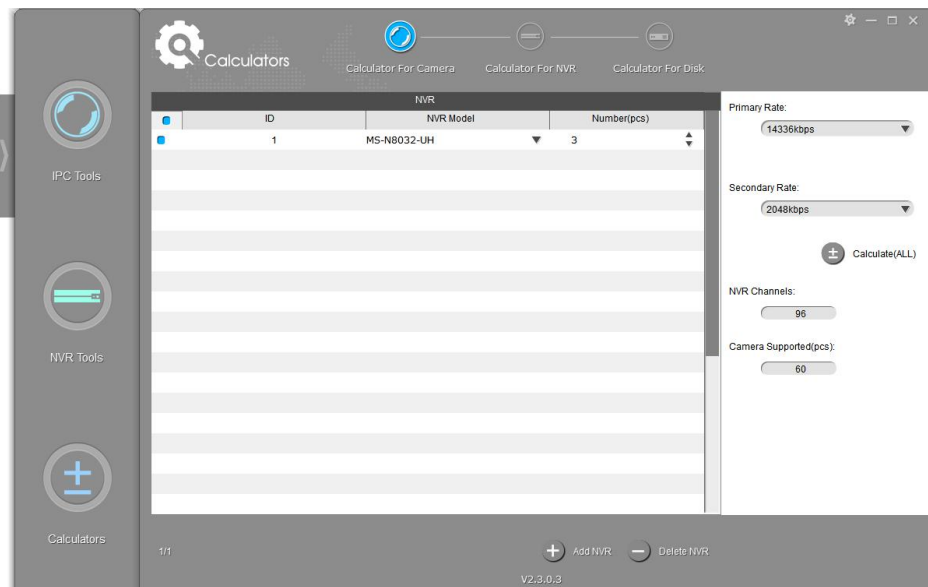


Figure 3-13 Calculator For Camera

3.3.2 Calculator For NVR

Choose your cameras' bit rate for primary and secondary streams and the cameras' numbers, select the NVRs' models, then click the 'Calculate' button to get the number of the needed NVRs' numbers and the suggested adding way.

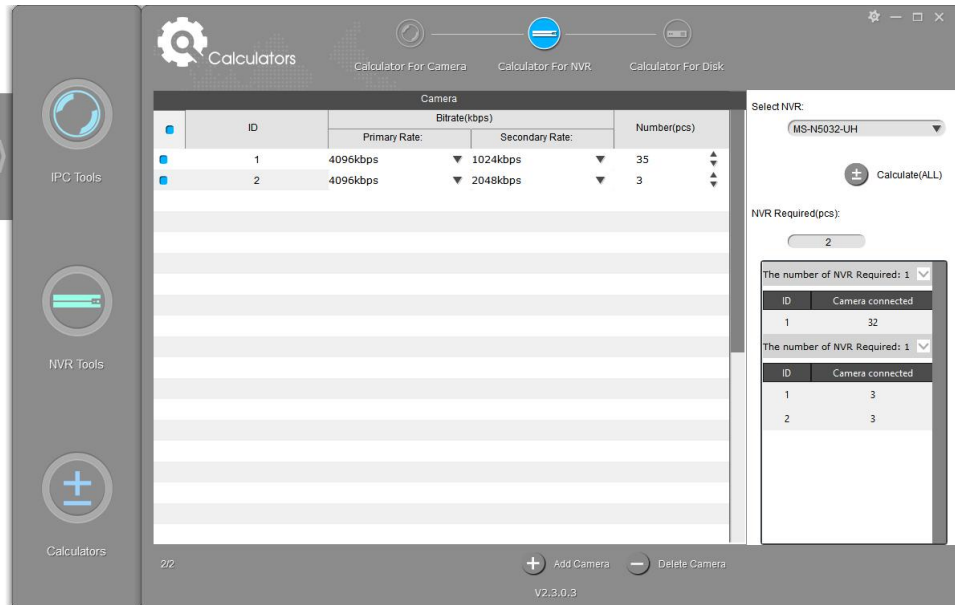


Figure 3-14 Calculator For NVR

3.3.3 Calculator For Disk

Edit the channels information, the software will calculate the record time depending on the given disk space, or the needed disk storage depending on the given time.

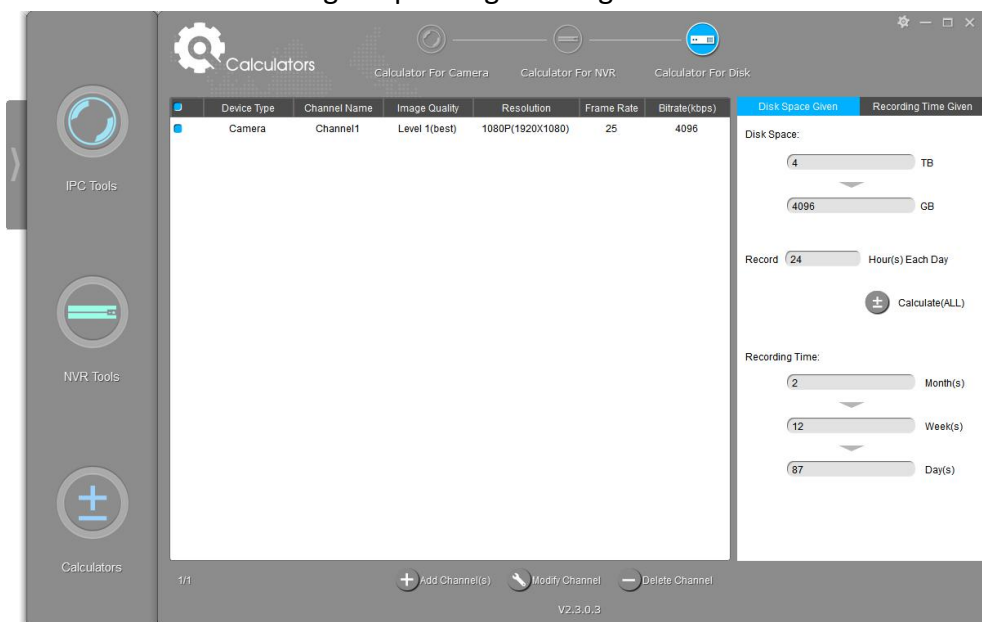


Figure 3-15-1 Calculator For Disk(Time)

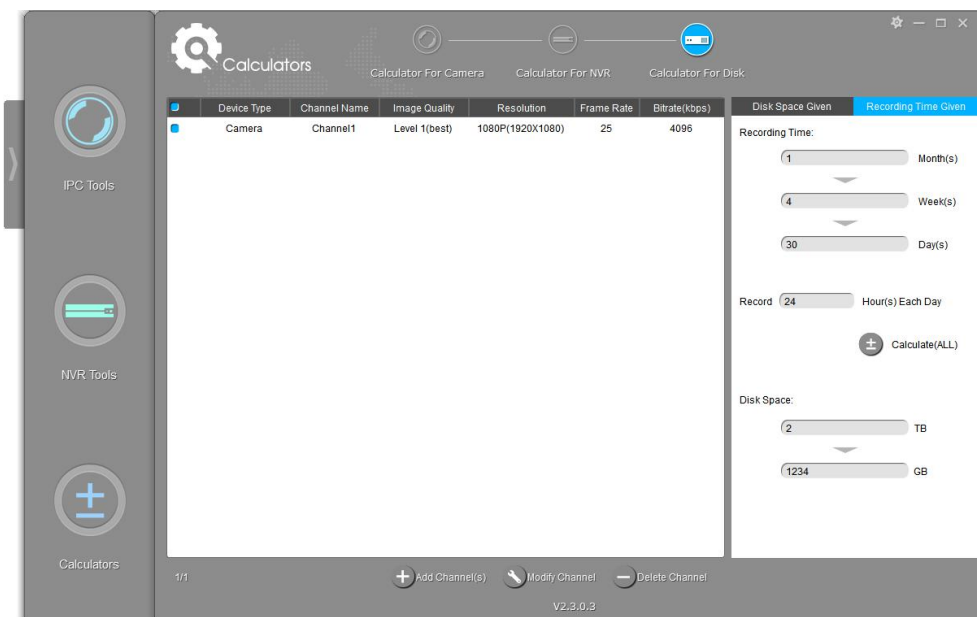
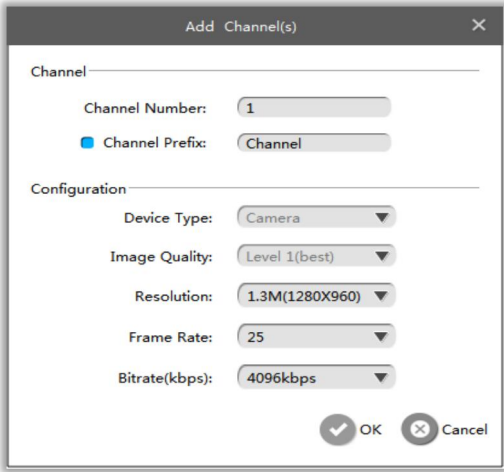
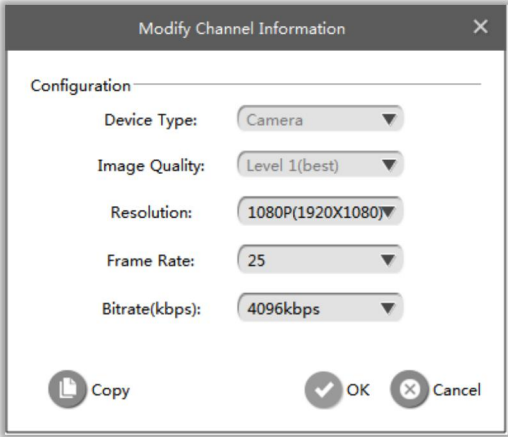


Figure 3-15-2 Calculator For Disk(Storage)

Table 3-10 Sub interfaces of the Calculators

<p>Add Channel(s)</p>	<p>Add Channel(s):</p>  <p>Channel:</p> <p>Channel Number: The number you want to add.</p> <p>Channel Prefix: You can edit the channel prefix by yourself.</p> <p>Configuration:</p> <p>Device Type: The device type.</p> <p>Image Quality: Image quality.</p> <p>Resolution: Choose the wanted resolution of the device.</p> <p>Frame Rate: The Frame Rate of the device.</p> <p>Bitrate: The bit rate of the device.</p>
<p>Modify Channel</p>	<p>Modify Channel:</p>

	 <p>Configuration: Device Type: The device type. Image Quality: Image quality. Resolution: Choose the wanted resolution of the device. Frame Rate: The Frame Rate of the device. Bitrate: The bit rate of the device. Copy: Copy the settings to other channels. OK: Save the settings. Cancel: Cancel the settings.</p>
Delete Channel	Delete the selected channel.

Chapter IV Service

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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