

**WISENET**

# **Wisenet Device Manager**

User Manual

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# Introduction

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## DEVICE MANAGER

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You can manage the devices of Hanwha Techwin installed on the network conveniently and efficiently through the Device Manager.

- You can automatically search for devices installed on the same network.
- You can classify and manage through categories for each product group.
- You can manually install devices not found.
- You can manage the devices separately by project according to their purpose. Security management is also available through password settings.
- You can setup IP address and password for registered devices.
- You can check and update the F/W version for registered devices.
- You can check the live video of registered devices.
- You can configure the functions of the devices through the Device Manager.
- It provides the function to display status of devices.
- Network diagnosis can be performed for registered devices.
- You can import and export the setting value for registered devices.
- You can check the system logs of registered devices.
- You can configure system restart, CGI command transmission and response display, device time synchronization, etc. for multiple devices.

## SYSTEM REQUIREMENTS

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Category	System Specifications
Operation System	Windows XP, Vista, 7, 10 (64-bit supported)
Required Software	Microsoft .NET Framework 4.7.2 Client Profile Microsoft Visual C++ 2010 Redistributable Package (x86)
CPU	Pentium III CPU over 1GHz
Graphic Card	(1024x768 or higher) Video graphic card
Application support language	Korean, English

# Installation

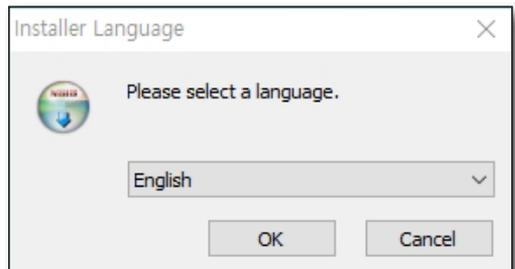
## Installation

You can download the Device Manager by accessing the website of Hanwha Techwin (<http://www.hanwha-security.com>) and download from <Technical Guide> - <Online Tool>.

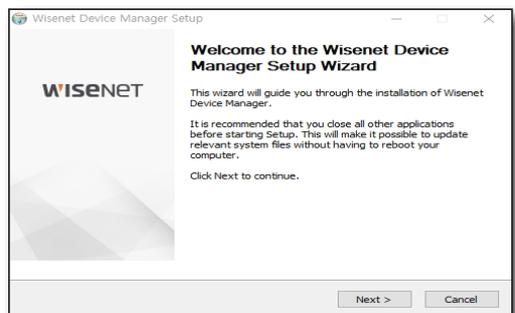
1. Double click the Wisenet Device Manager you have downloaded.



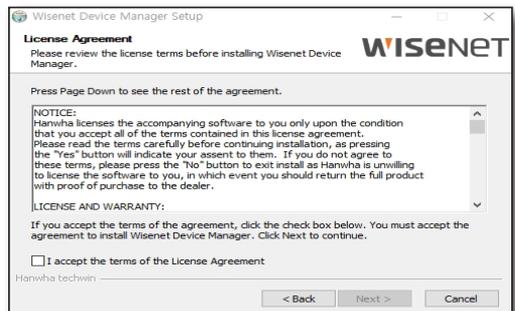
2. Select the installation language.



3. Click [Next>] button when Start Installation window is displayed.



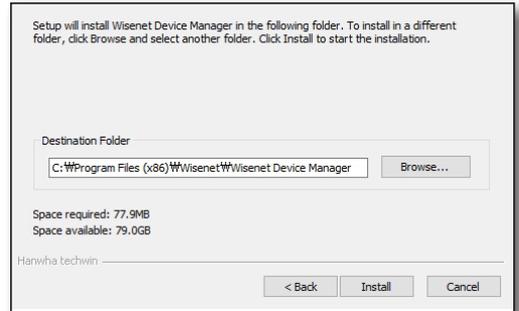
4. Agree to terms of use and click [Next>] button.



# Installation

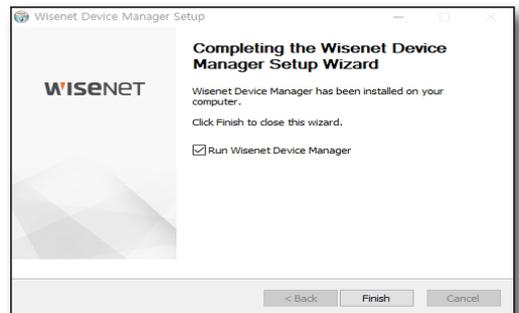
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5. Designate the installation path and click **[Install]** button.



6. Click **[Finish]** button when installation is complete..

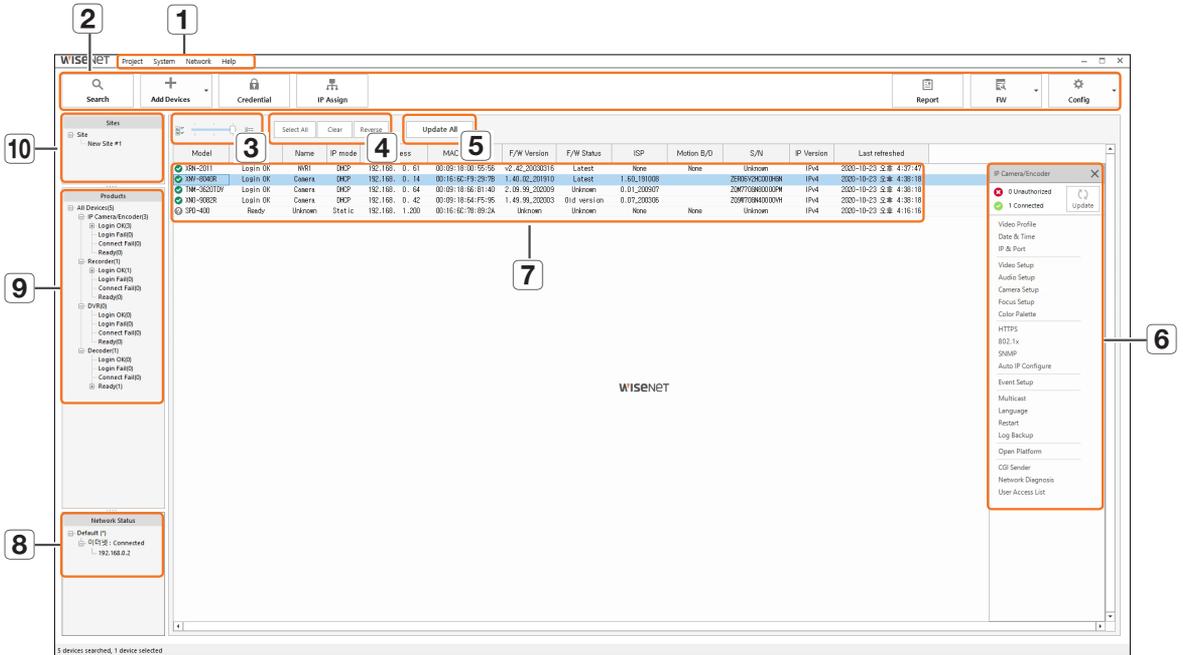
7. Click the shortcut icon on desktop to launch the Device Manager.



# Setup Device Manager

## MAIN SCREEN

The screen of the Device Manager consists of the following.



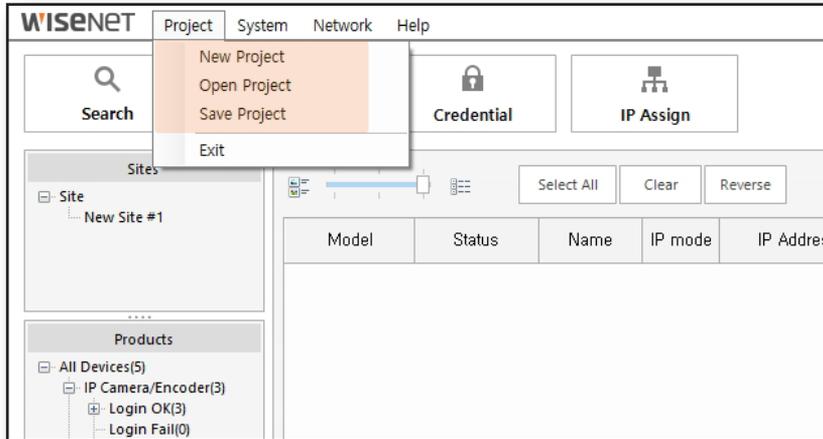
Name	Function description	
1	Program menu	You can configure settings necessary to use the Device Manager.
2	Tool box	It provides settings to control the devices.
3	Layout selection bar	You can select the registered device list viewing method. (Large icons/Small icons/View details)
4	Select tool	You can select a registered device.
5	Update all	You can update the status of all registered devices.
6	Device setup menu	You can configure the functions of the selected device.
7	Device list	It displays the list of registered devices.
8	Network status	It displays the current network status and IP address for the PC in use.
9	Filtering	It classifies the devices found into product groups and displays them on a list.
10	Sites	You can group and manage the devices in units of site.

# Setup Device Manager

## PROJECT

The registered device list can be managed in units of project and it can save and open project information.

Select **<Project>** menu.



### New Project

Erase all currently registered device lists to create a new project.

### Open Project

Open the project saved in xml file to add the devices of the project to the list.

Password is required when opening a project.

Add the saved devices to the list when the file is open. It automatically updates the status of devices.

-  Open the project to automatically update the status of the devices.

### Save Project

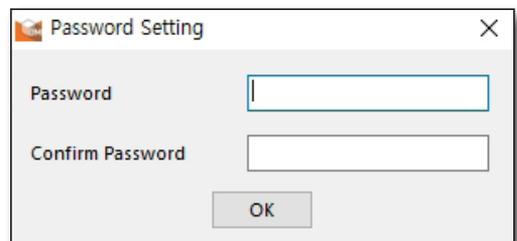
Save the registered device list as a file.

The information can only be checked through the Device

Manager since it is saved in encrypted xml file format.

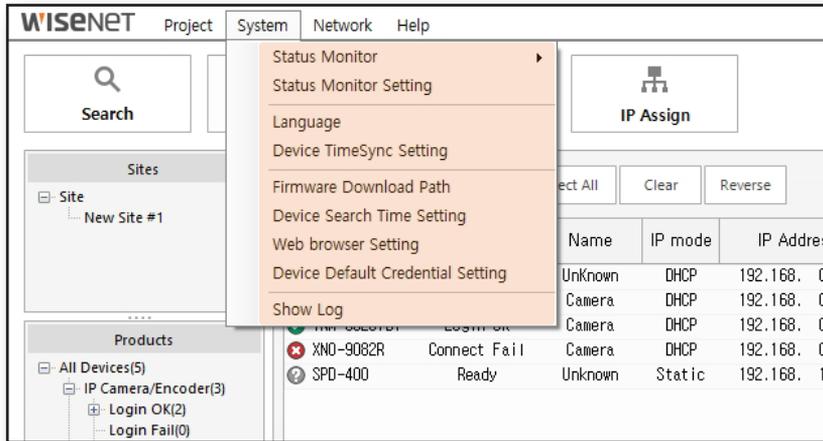
Setup password.

-  Remember the password because you must enter the password when opening saved projects.



# SYSTEM

You can setup the system of the Device Manager.



## Status Monitoring

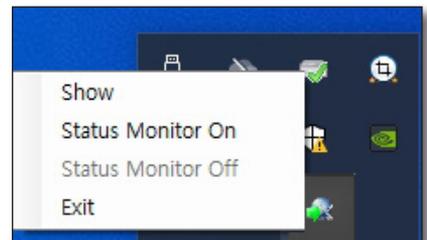
This is a function that indicates the connection status of the devices. You can configure the monitoring of change in device status through the **<Status Monitor>**.

- ON: Real-time monitoring is activated.
- OFF: Real-time monitoring is deactivated.

## Monitoring Message

When **<Status Monitoring>** is **<ON>**, the monitoring is maintained as the program runs in the background even if the Device Manager window has been closed.

To end the Device Manager, turn **<Status Monitoring>** - **<OFF>**, and then close the Device Manager window or right click the Device Manager icon in the system tray and click **<Exit>**.



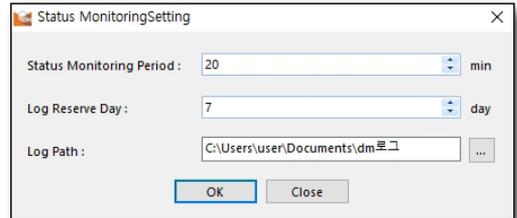
- Real-time monitoring is only possible when the Device Manager is launched at least once after rebooting the PC.

# Setup Device Manager

## Status Monitoring Setup

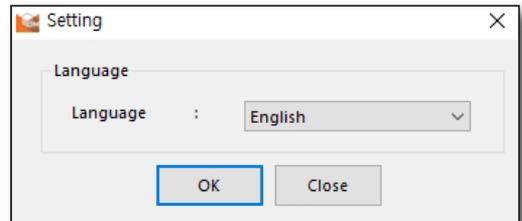
You can configure the status monitoring period and log related options.

- Status Monitoring period: You can adjust the gap between device status monitoring in units of minute.
  - Log Reserve Day: Setup the storage period of log files on PC.
  - Log path: You can designate the folder pathway to save log information. Log file will be deleted automatically after **<Log Reserve Day>**.
-  Status monitoring cannot be configured while status monitoring is operating. Turn status monitoring **<OFF>** before configuration.



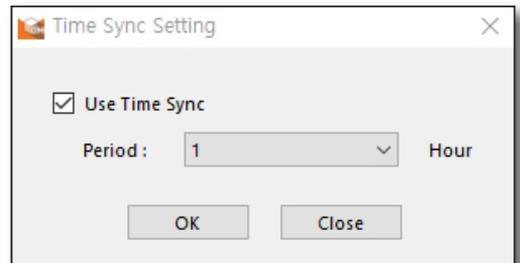
## Language Settings

You can setup the language of the Device Manager. After selecting the desired language, click **[OK]** button. Selected language will be applied immediately.



## Device Time Synchronization Settings

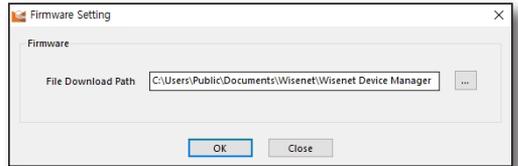
You can setup the cycle of synchronization between the times of PC and device. Check **<Use Time Sync>** item and then select the time period.



## Firmware Download Pathway

You can designate the folder pathway to save on PC when you download the firmware.

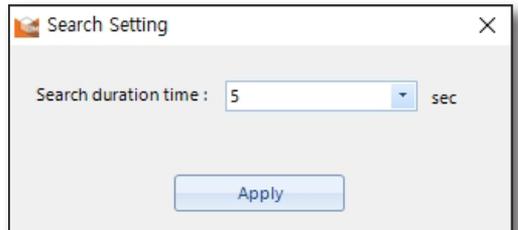
Directly enter a new pathway or click [ ... ] button to designate the folder pathway.



## Device Search Time Setting

You can configure the time to search for device in increments of 5 seconds.

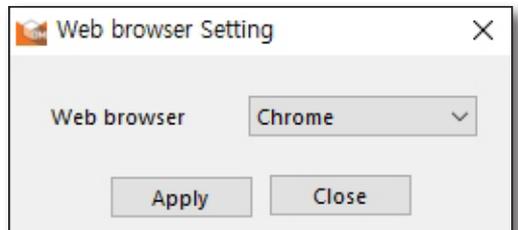
Configurable time is 5 to 60 seconds.



## Web Browser Settings

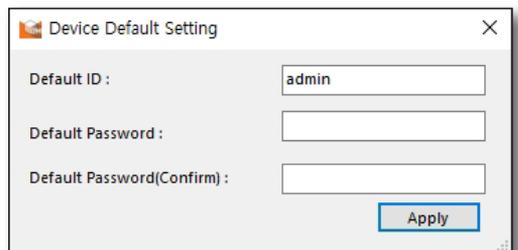
You can double click the desired device to launch the web viewer through the web browser. You can select the type of web browser used in such instance.

-  You can select one of the web browsers currently installed on PC.



## Device Default Setting

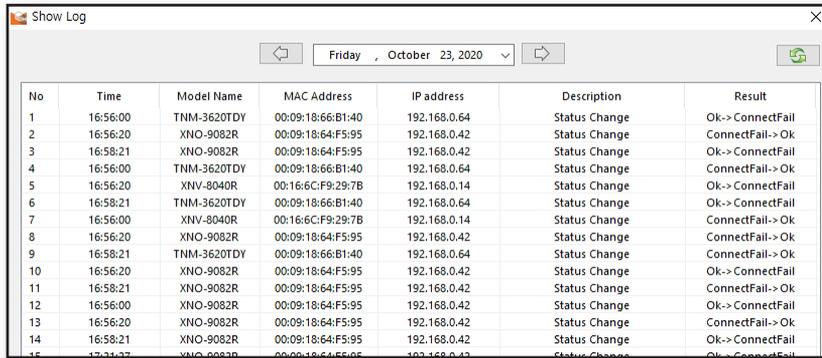
Attempt auto login with configured ID and password.



# Installation

## Show Log

You can view the records for status change of devices. Select the desired date to search.



The screenshot shows a window titled "Show Log" with a date selector set to "Friday, October 23, 2020". Below the selector is a table with the following columns: No, Time, Model Name, MAC Address, IP Address, Description, and Result. The table contains 15 rows of data, each representing a status change event for a specific device.

No	Time	Model Name	MAC Address	IP Address	Description	Result
1	16:56:00	TNM-3620TDY	00:09:18:66:B1:40	192.168.0.64	Status Change	Ok-> ConnectFail
2	16:56:20	XNO-9082R	00:09:18:64:F5:95	192.168.0.42	Status Change	ConnectFail-> Ok
3	16:58:21	XNO-9082R	00:09:18:64:F5:95	192.168.0.42	Status Change	Ok-> ConnectFail
4	16:56:00	TNM-3620TDY	00:09:18:66:B1:40	192.168.0.64	Status Change	ConnectFail-> Ok
5	16:56:20	XNV-8040R	00:16:6C:F9:29:7B	192.168.0.14	Status Change	Ok-> ConnectFail
6	16:58:21	TNM-3620TDY	00:09:18:66:B1:40	192.168.0.64	Status Change	Ok-> ConnectFail
7	16:56:00	XNV-8040R	00:16:6C:F9:29:7B	192.168.0.14	Status Change	ConnectFail-> Ok
8	16:56:20	XNO-9082R	00:09:18:64:F5:95	192.168.0.42	Status Change	ConnectFail-> Ok
9	16:58:21	TNM-3620TDY	00:09:18:66:B1:40	192.168.0.64	Status Change	ConnectFail-> Ok
10	16:56:20	XNO-9082R	00:09:18:64:F5:95	192.168.0.42	Status Change	Ok-> ConnectFail
11	16:58:21	XNO-9082R	00:09:18:64:F5:95	192.168.0.42	Status Change	ConnectFail-> Ok
12	16:56:00	XNO-9082R	00:09:18:64:F5:95	192.168.0.42	Status Change	Ok-> ConnectFail
13	16:56:20	XNO-9082R	00:09:18:64:F5:95	192.168.0.42	Status Change	ConnectFail-> Ok
14	16:58:21	XNO-9082R	00:09:18:64:F5:95	192.168.0.42	Status Change	Ok-> ConnectFail
15	16:58:21	XNO-9082R	00:09:18:64:F5:95	192.168.0.42	Status Change	Ok-> ConnectFail

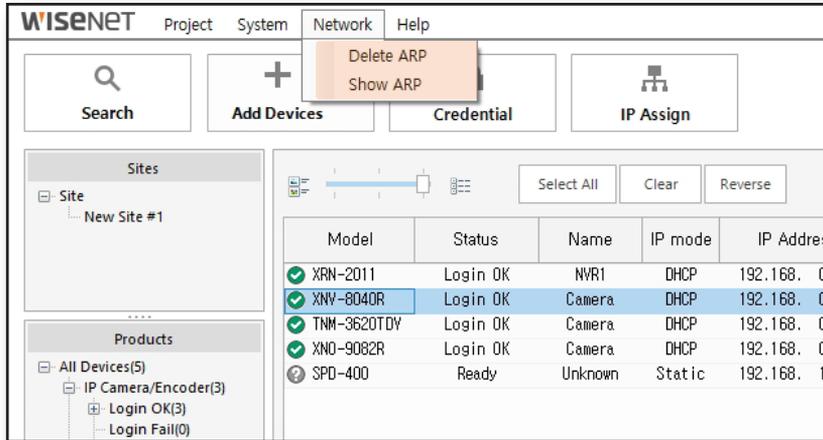
- Time: Time of status change
- Model name: Model name with status change
- MAC address: MAC address of model with status change
- IP address: IP address of model with status change
- Description: Reasons for logging such as connection status change, device config backup & restore, device restart, device factory reset change, etc.
- Result: History of connection status change



- Log creation related settings can be configured through status monitoring setup.
- Click the calendar image on top of the log information window to designate and search the desired date.

# NETWORK

You can check and delete the ARP of the PC where the Device Manager is installed. What is ARP (Address Resolution Protocol)? It is a protocol used to change the MAC (Physical network address) of the device IP address. Generally, you save the MAC address of the destination in a tabular format in the memory called ARP cache when PC is communicating with a network. Then, it is used again when sending the packet.

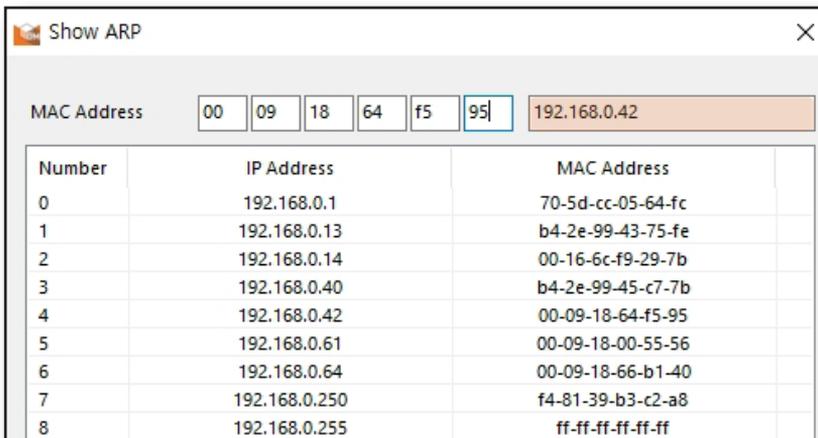


## Delete ARP

When the IP address and MAC address recorded have changed, use the function to delete the ARP table on PC to prevent incorrect network communication.

## Show ARP

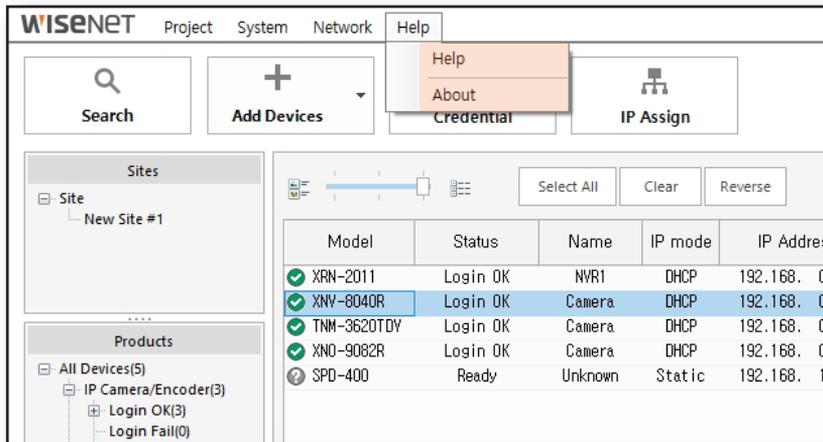
Display the IP address and MAC address saved in ARP cache of the current PC.



# Setup Device Manager

## HELP

You can check the user manual and version information to help with instructions and understanding of the Device Manager.



## Help

You can view instructions for the Device Manager in PDF format.

## About

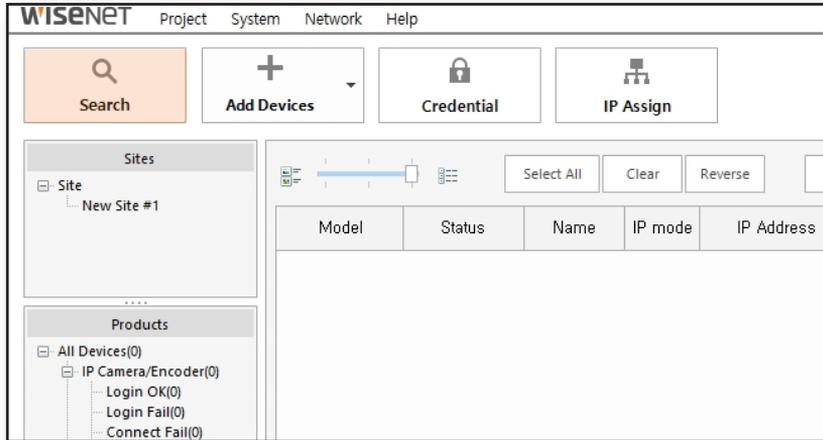
You can check the information of the Device Manager installed.



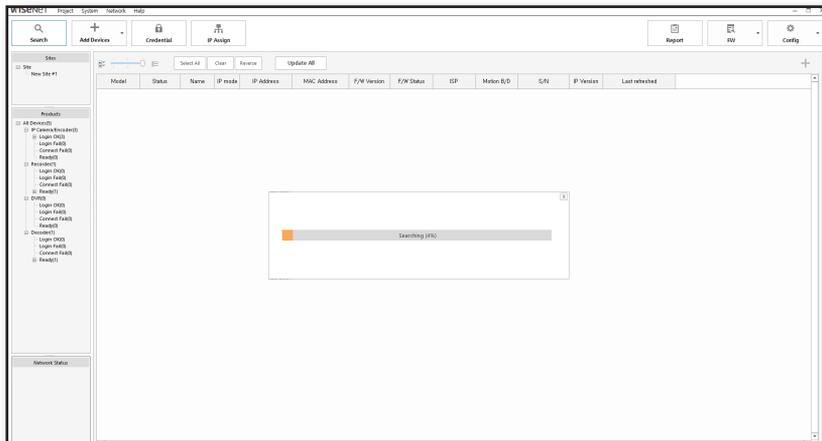
# SEARCH

You can search for Hanwha Techwin devices connected on the same network.

1. In the tool box, click **[Search]** button.



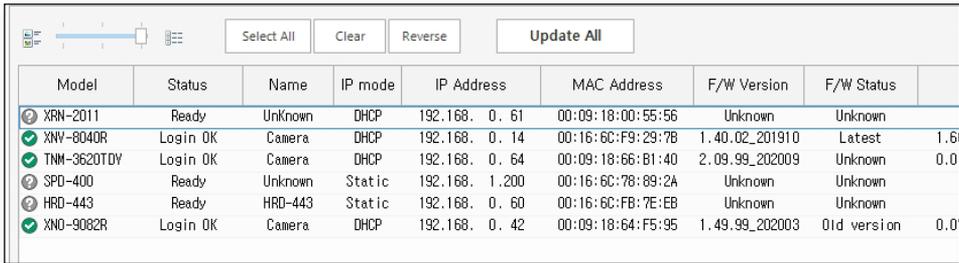
2. When the search begins, list of devices connected to the network is displayed.



- To setup device search time, go to <System> → <Device Search Time Setting>.

# Setup Device Manager

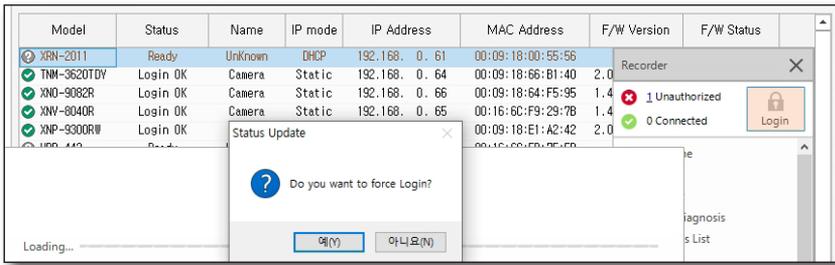
3. It displays the information for the registered devices on the list.



Model	Status	Name	IP mode	IP Address	MAC Address	F/W Version	F/W Status	
XRN-2011	Ready	Unknown	DHCP	192.168.0.61	00:09:18:00:55:56	Unknown	Unknown	
XNV-8040R	Login OK	Camera	DHCP	192.168.0.14	00:16:6C:F9:29:7B	1.40.02_201910	Latest	1.6
TNM-3620TDV	Login OK	Camera	DHCP	192.168.0.64	00:09:18:66:B1:40	2.09.99_202009	Unknown	0.0
SPD-400	Ready	Unknown	Static	192.168.1.200	00:16:6C:78:89:2A	Unknown	Unknown	
HRD-443	Ready	HRD-443	Static	192.168.0.60	00:16:6C:FB:7E:EB	Unknown	Unknown	
XNO-9082R	Login OK	Camera	DHCP	192.168.0.42	00:09:18:64:F5:95	1.49.99_202003	Old version	0.0



- NVR devices may not be found due to IP conflict. In such case, check the network settings in the NVR device setup menu. Refer to the product manual for more details.
- Forced login is required for devices aside from IP cameras.



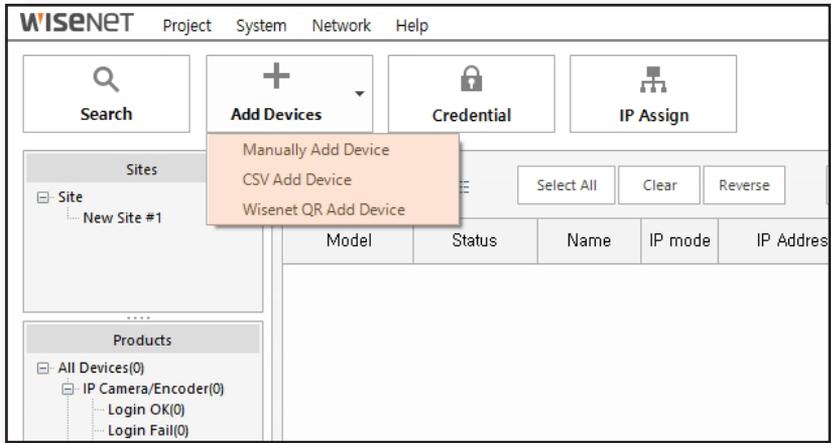
The screenshot shows the device list from the previous image. A 'Status Update' dialog box is open in the foreground, asking 'Do you want to force Login?' with '예(Y)' and '아니오(N)' buttons. In the background, a 'Recorder' window is visible, showing '1 Unauthorized' and '0 Connected' status, along with a 'Login' button.

- When devices are not found, check the connection status of routers/hubs/etc. connected to the devices.
- When there are more than 2 routers connected, one router should be used in hub mode to prevent IP conflict.

# ADD DEVICES

Devices not connected to the same network as the PC installed with the Device Manager cannot be found through the [Search] function. In such case, you can manually enter the IP information of the device to add it to the device list.

1. In the tool box, click [Add Devices] button.



2. For device registration, select <Manually Add Device>, <CSV Add Device> or <Wisenet QR Add Device>.

## Manually Add Device

- You can manually enter the model name, IP address range, HTTP port, Https port, device port, ID, and password to add the device.

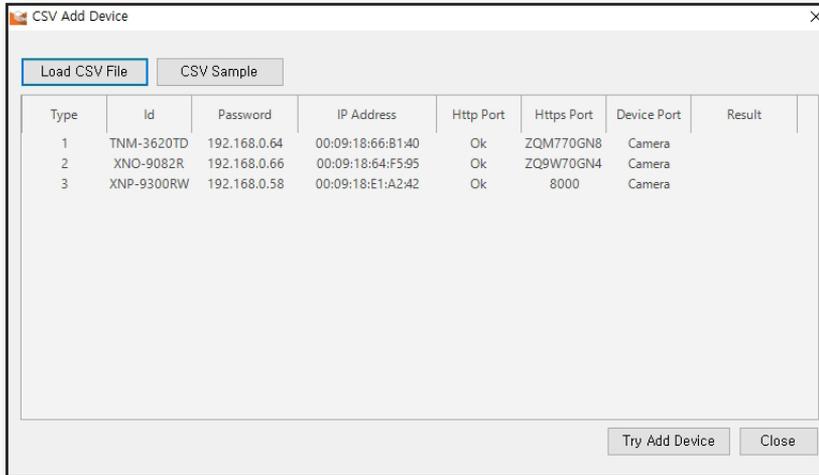
The screenshot shows the 'Manually Add Device' dialog box. It has a 'Model Name' dropdown menu set to 'Wisenet Network: Camera/Encoder'. Below it is the 'IP Address Range' section with 'Start' and 'End' input fields. There are also input fields for 'HTTP Port' (80), 'Https Port' (443), 'Device Port' (4520), 'ID', and 'Password'. At the bottom, there are three buttons: 'Advance', 'Register', and 'Close'.

- Enter the starting address and the ending address for the range when there are multiple devices within a certain range of IP address to register them all at once.
- In <Advanced> option, you can designate the IP address range even more specifically.
- You can only register devices configured with ID and password for manual registration.

# Setup Device Manager

## CSV Add Device

- When the report including the device has been saved in CSV format using the Device Manager, you can import the CSV file to add the device.  
Select the device to register from the imported CSV file list and click **[Try Add Device]** button.



## Wisenet QR Add Device

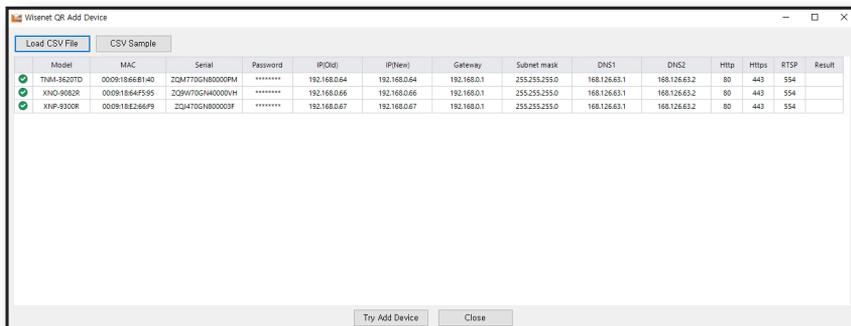
You can use the Wisenet QR app to register offline devices.

- Download and install the Wisenet QR app from Google Play or the App Store.
- When installation is complete, launch Wisenet QR app.
- Use the app to scan the QR code on the label attached to the package or device.
- When scan is complete, model information and serial number are generated on the list.
  - Tap the [ ≡ ] button to check the saved device list.
- Tap the [ ✉ ] button to upload the device list to the cloud or to send as email.
  - The device list is saved in CSV format.

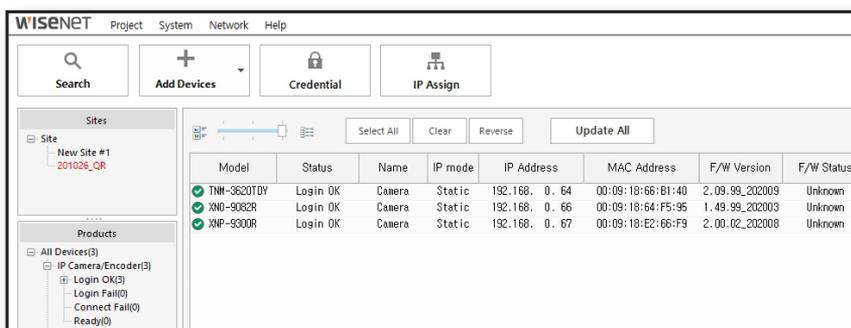
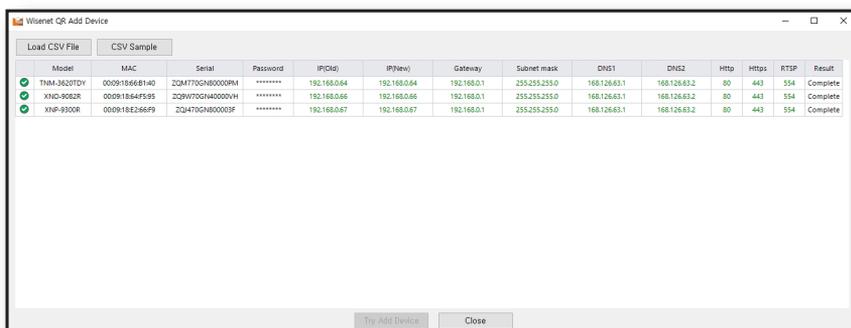


Total device (3)	
Model Information	Serial Number
PNM-900QB/KUS 00-09-18-66-75-CE	ZP0N70GN70000EP
XNO-9082R/KAN 00-09-18-64-F5-95	ZQ9W70GN40000VH
TNM-3620TDY/KUS 00-09-18-66-B1-40	ZQM770GN80000PM

6. Select **<Add Device>** → **<Wisenet QR Add Device>** in the Device Manager.
  - Download the device list from PC before launching the Wisenet QR Add Device menu.
7. Click **<Load CSV File>** button, and select the downloaded device list.



8. Click **<Try Add Device>** button to start device registration.

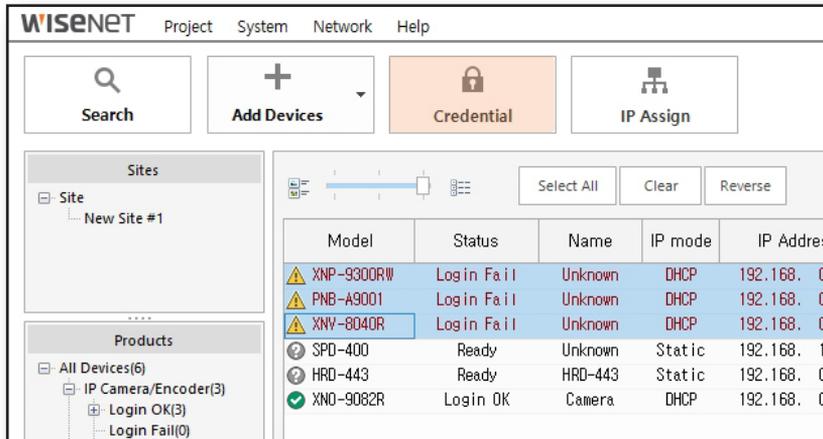


# Setup Device Manager

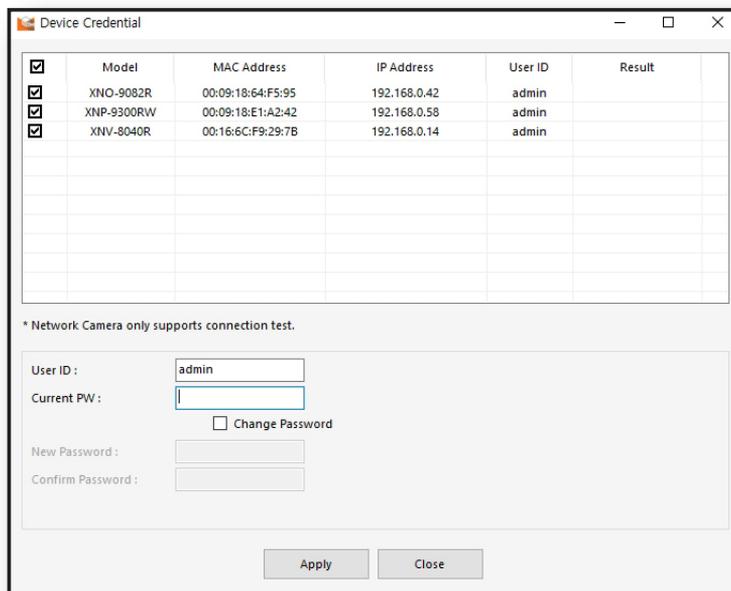
## AUTHENTICATION

The admin password for the device must be entered for authentication in order to directly configure the settings of the registered device through the Device Manager.

1. Select the devices that require authentication from the list.



2. In the tool box, click [**Credential**] button.
3. After entering the admin password, click [**Apply**] button.



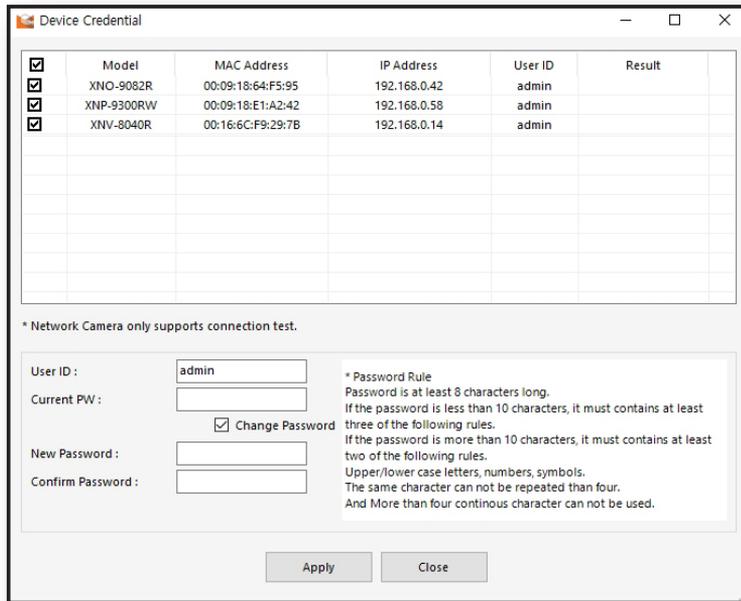
4. Login status of each device is displayed in <Result>.



- The admin password can only be used at one place at a time for NVR devices. When the admin password is used to login at another location, forced login is required for the administrator login on the Device Manager.

## Change Device Password

You can configure new password on the device credential window.



The screenshot shows a window titled "Device Credential" with a table of devices and a form for password configuration.

<input checked="" type="checkbox"/>	Model	MAC Address	IP Address	User ID	Result
<input checked="" type="checkbox"/>	XNO-9082R	00:09:18:64:F5:95	192.168.0.42	admin	
<input checked="" type="checkbox"/>	XNP-9300RV	00:09:18:E1:A2:42	192.168.0.58	admin	
<input checked="" type="checkbox"/>	XNV-8040R	00:16:6C:F9:29:7B	192.168.0.14	admin	
<input type="checkbox"/>					
<input type="checkbox"/>					
<input type="checkbox"/>					
<input type="checkbox"/>					
<input type="checkbox"/>					
<input type="checkbox"/>					

\* Network Camera only supports connection test.

User ID :

Current PW :

Change Password

New Password :

Confirm Password :

\* Password Rule  
Password is at least 8 characters long.  
If the password is less than 10 characters, it must contains at least three of the following rules.  
If the password is more than 10 characters, it must contains at least two of the following rules.  
Upper/lower case letters, numbers, symbols.  
The same character can not be repeated than four.  
And More than four continous character can not be used.

Apply Close

1. Select the device to change password and then enter the admin password.
2. Check the **<Change Password>** box.
3. Enter the new password in **<New Password>**.
4. Enter the new password one more time in **<Confirm Password>**.
5. Click **[Apply]** button when configuration is complete.

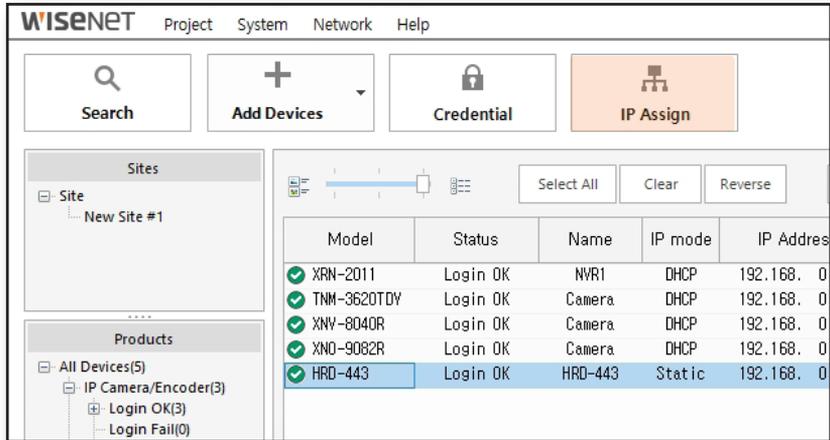
 ■ You can only change the password of the IP camera.

# Setup Device Manager

## ASSIGN IP

This is a function to configure IP address of the devices. You can configure multiple devices at once.

1. Select the device to change the IP address.



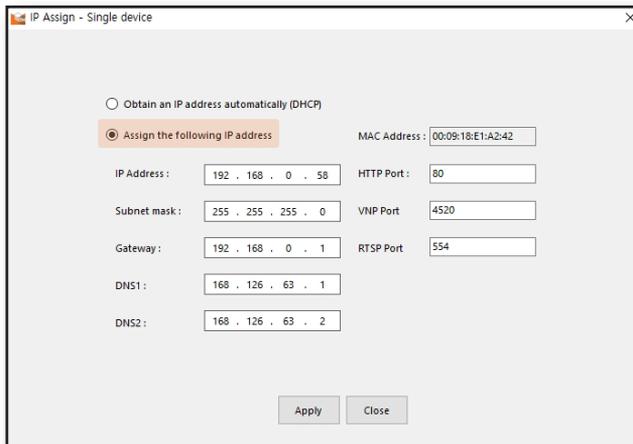
2. In the Tool Box, click [IP Assign] button.

## Setup Static IP

Manually enter the IP address and port information to setup.

### When one device is selected

1. Select <Assign the following IP address>.



- IP Address: It displays the current IP address.
  - MAC Address: It displays the MAC address of the device.
  - Subnet mask: It displays the subnet mask of the configured IP address.
  - Gateway: It displays the gateway for the configured IP address.
  - DNS1/DNS2: It displays the address of the DNS (Domain Name Service) server.
  - HTTP port: It is the HTTP port used to connect to the device using an internet browser. The default value is 80.
  - VNP port: VNP port is the port that controls video transmission. Its default value is 4520.
  - RTSP port: It is the port that controls real-time streaming. Its default value is 554.
2. Enter the IP and port related items and then click **[Apply]** button.
  3. Click **[Confirm]** button when success confirmation message is displayed.

## When Multiple Devices are Selected

1. Select **<Assign the following IP address>** in the menu when multiple devices are selected.

Model	MAC Address	IP(Old)	IP(New)	Subnet(New)	Gateway(New)	DNS1(Old)	DNS2(Old)	HTTP	Device	RTSP	Result
THM-362...	00:09:18:66:B1:40	192.168.0.64						80	4520	554	
XNV-8040R	00:16:6C:F9:29:7B	192.168.0.14						80	4520	554	
XNO-9082R	00:09:18:64:F5:95	192.168.0.42						80	4520	554	

2. Enter the starting address for the IP address range to assign.
3. Enter IP and port related items.

# Setup Device Manager

- Click **[Simulate]** button to check the IP address to be assigned to each device.
  - Double click the IP address to edit each address.

IP Assign - Multiple devices

Obtain an IP address automatically (DHCP)

Assign the following IP address

IP Address : 192 . 168 . 0 . 64 ~ 192 . 168 . 0 . 66 HTTP Port 80

Subnet mask : 255 . 255 . 255 . 0 Port 4520

Gateway : 192 . 168 . 0 . 1 RTSP Port 554

DNS1 : 168 . 126 . 63 . 1

DNS2 : 168 . 126 . 63 . 2

Simulate

Model	MAC Address	IP(Old)	IP(New)	Subnet(New)	Gateway(New)	DNS1(Old)	DNS2(Old)	HTTP	Device	RTSP	Result
TNM-362...	00:09:18:66:81:40	192.168.0.64	192.168.0.64	255.255.255.0	192.168.0.1	168.126.63.1	168.126.63.2	80	4520	554	Success
XNV-8040R	00:16:9C:F9:29:7B	192.168.0.14	192.168.0.65	255.255.255.0	192.168.0.1	168.126.63.1	168.126.63.2	80	4520	554	Success
XNO-9082R	00:09:18:64:F5:95	192.168.0.42	192.168.0.66	255.255.255.0	192.168.0.1	168.126.63.1	168.126.63.2	80	4520	554	Success

UP Down Apply Close

Total : 3 , Success : 3 , Fail : 0

- Click **[Apply]** button to begin IP assignment.
- Check **<Result>** to check for successful IP assignment.

## Setup Dynamic (DHCP) IP

IP address is automatically assigned through DHCP.

### When one device is selected

1. Select **<Obtain an IP address automatically (DHCP)>** in the single device selection menu.

IP Assign - Single device

Obtain an IP address automatically (DHCP)

Assign the following IP address

MAC Address : 00:09:18:66:B1:40

IP Address : 192 . 168 . 0 . 64

Subnet mask : 255 . 255 . 255 . 0

Gateway : 192 . 168 . 0 . 1

DNS1 : 168 . 126 . 63 . 1

DNS2 : 168 . 126 . 63 . 2

HTTP Port : 80

VNP Port : 4520

RTSP Port : 554

Apply Close

2. Click **[Apply]** button.
3. Click **[Confirm]** button when success confirmation message is displayed.

### When multiple devices are selected

1. Select **<Obtain an IP address automatically (DHCP)>** in the multiple device selection menu.

IP Assign - Multiple devices

Obtain an IP address automatically (DHCP)

Assign the following IP address

IP Address : 192 . 168 . 0 . 64 ~ 192 . 168 . 0 . 66

Subnet mask : 255 . 255 . 255 . 0

Gateway : 192 . 168 . 0 . 1

DNS1 : 168 . 126 . 63 . 1

DNS2 : 168 . 126 . 63 . 2

HTTP Port : 80

Port : 4520

RTSP Port : 554

Simulate

Model	MAC Address	IP(Old)	IP(New)	Subnet(New)	Gateway(New)	DNS1(Old)	DNS2(Old)	HTTP	Device	RTSP	Result
TMM-362...	00:09:18:66:B1:40	192.168.0.64						80	4520	554	
XNV-8040R	00:16:6C:F9:29:7B	192.168.0.65						80	4520	554	
XNO-9082R	00:09:18:64:F5:95	192.168.0.66						80	4520	554	

UP Down

Apply Close

Total : 3, Success : 0, Fail : 0

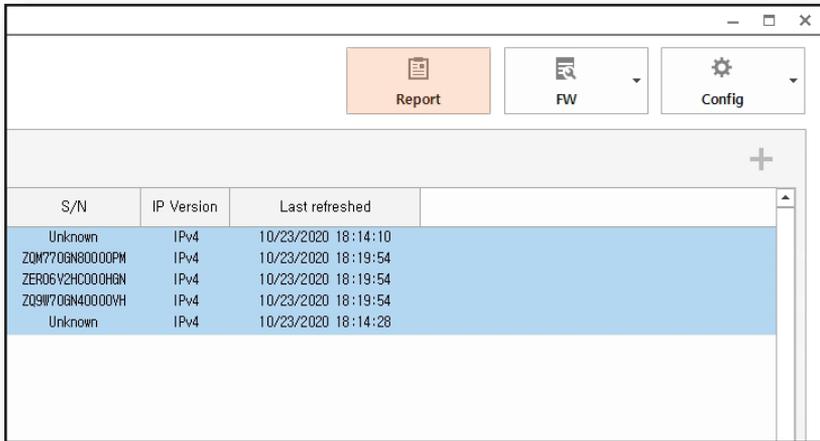
2. Click **[Apply]** button to begin IP assignment.
3. Check **<Result>** to check for successful IP assignment.

# Setup Device Manager

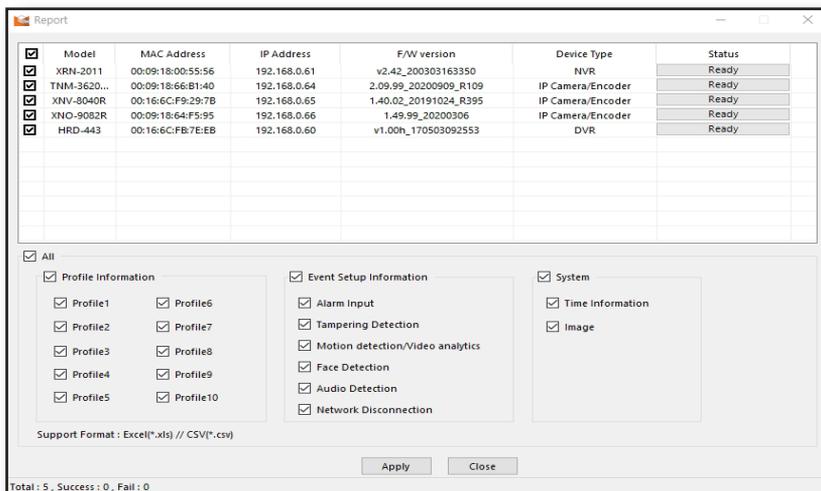
## REPORT

Report is a file that records the device information.  
Reports can be saved in “xls” or “csv” format.

1. Select the device to generate the report.



2. In Tool Box, click **[Report]** button.
3. When **<Report>** window is open, select the device to generate the report.



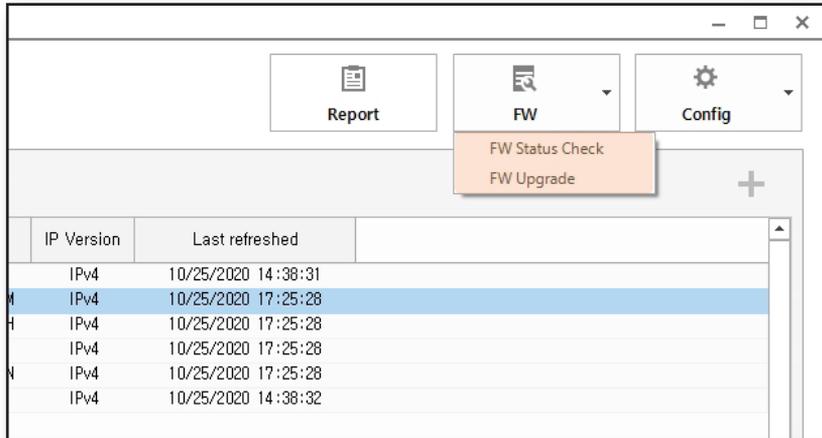
4. Select the information to include in the report, and click **[Apply]** button.
5. Click **[Save]** button after selecting the folder location and file format to save the report.
6. Check **<Status>** for results of report creation.



- Live images are not included when saving in “csv” format.
- **<Motion Detection/Video analytics>** and **<FD Result>** of the report are displayed as “OFF” since monitoring is not possible without configuration of monitoring area. It applies even when the motion detection/video analytics and face detection functions of the device are active.

# FIRMWARE

You can check the status of a device firmware that is already authorized and update it as necessary.



## F/W Status Check

1. Select the device to F/W Status check.
2. In tool box, click **[Firmware]** button and select **<F/W Status Check>**.
3. F/W Status check of the device in **<F/W Status>** of the device list.

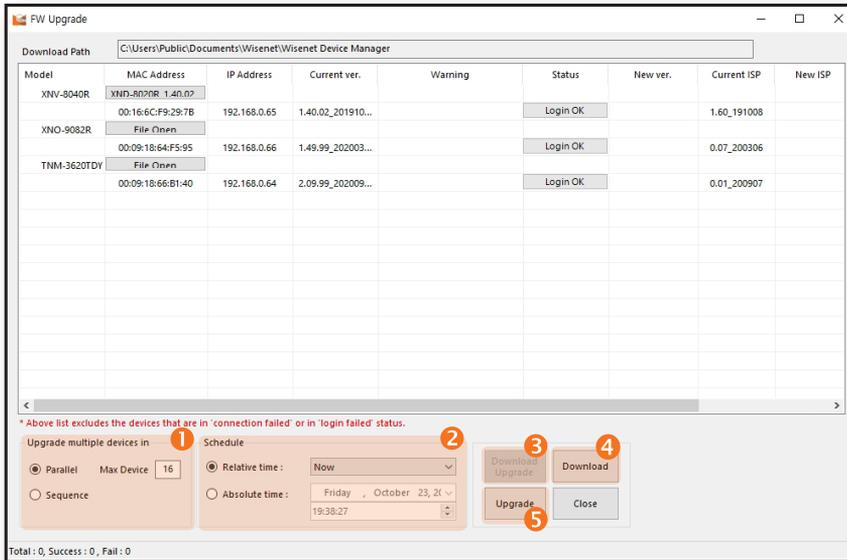
Model	Status	Name	IP mode	IP Address	MAC Address	F/W Version	F/W Status	IS
✓ XRN-2011	Login OK	NVR1	DHCP	192.168. 0. 61	00:09:18:00:55:56	v2.42_20030316	Latest	N
✓ XND-9082R	Login OK	Camera	Static	192.168. 0. 66	00:09:18:64:F5:95	1.49_99_202003	Old version	0.07
✓ TNM-3620TDV	Login OK	Camera	Static	192.168. 0. 64	00:09:18:66:B1:40	2.09_99_202009	Unknown	0.01
✓ XNP-9300RW	Login OK	Camera	DHCP	192.168. 0. 58	00:09:18:E1:A2:42	2.00.05_202005	Old version	0.01
✓ XNV-8040R	Login OK	Camera	Static	192.168. 0. 65	00:16:6C:F9:29:78	1.40.02_201910	Latest	1.60

- Latest: The current firmware of the device is the latest firmware.
- Old version: Firmware update to the latest version is required.
- Unknown: Firmware version could not be confirmed due to server/device connection failure.

# Setup Device Manager

## Update Firmware

You can download and update the device firmware.



1 Select the action method when upgrading multiple devices.

- Parallel: You can perform firmware upgrade simultaneously up to 16 devices. You can change the number of units.
- Sequence: Firmware update is performed one unit at a time.



- Update may not run effectively when multiple units are being updated simultaneously depending on the network environment.

2 Configure the time to automatically perform the firmware upgrade.

- Relative time: Firmware upgrade is executed after the time selected by the user.
- Absolute time: Execute firmware upgrade on the date/time selected by the user.



- When schedule settings window is closed, schedule setup and firmware update are canceled. When performing firmware update using a schedule, the configuration window must be kept running.

3 Download Upgrade: Update is performed after downloading the latest device firmware.

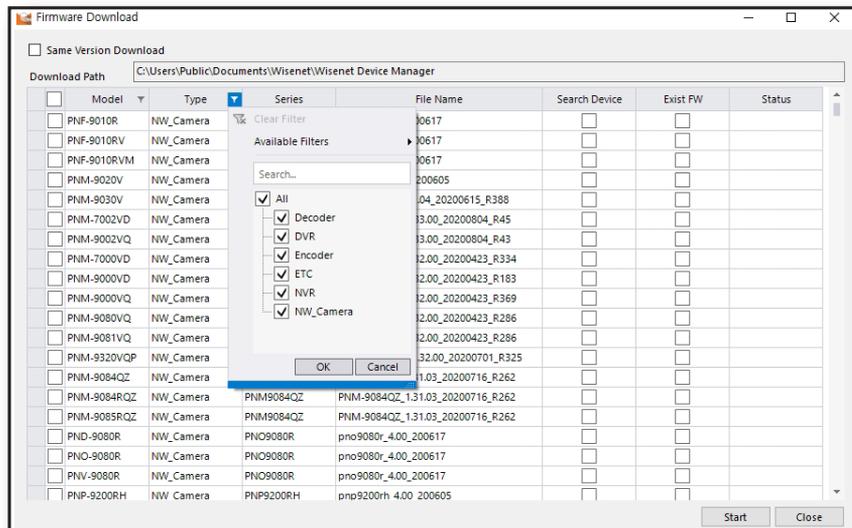
- <Download Upgrade> can be performed after selecting the device update sequence as <Sequence>.

4 Download: Select and download device firmware.

- Select the firmware file for the device from the firmware list. Use the filter to find the firmware of the device to update from the firmware list.

5 Upgrade: Execute firmware upgrade when there is a downloaded firmware.

1. Select the devices for FW upgrade.
2. In tool box, click **[FW]** button and select **<FW upgrade>**.
3. When FW upgrade window is open, click **<Download>** button.
4. Select the firmware file for the device from the firmware list. You can find the firmware for the device to update from the firmware list through the filters entered in **<Model>** and **<Type>**.



 ■ Designate a new download path or check the default path for the firmware before downloading.

5. Click **[Start]** button to begin download.

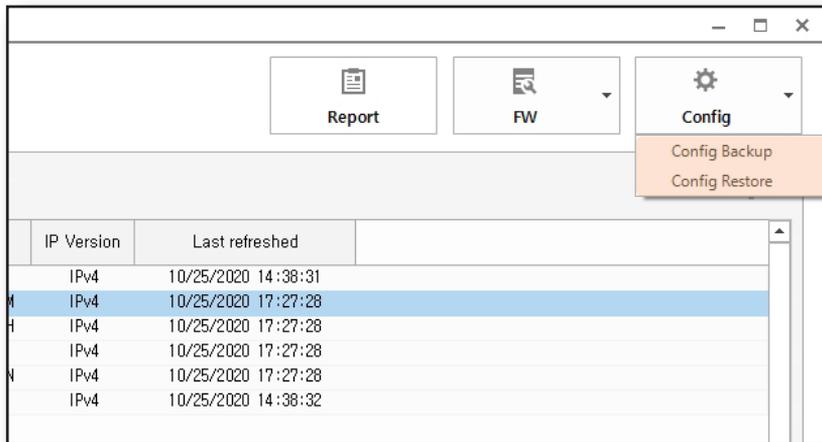
 ■ When firmware file name rules and selected firmware file name are in conflict while opening the firmware file, a warning message is displayed to check the firmware file again. When incorrect firmware is used for the update, the device may malfunction so you must check before updating.

6. Select the device to upgrade and click **[File Open]** button.
7. Select the downloaded firmware.
8. The upgrade begins when you click **[Upgrade]** button.

# Setup Device Manager

## CONFIG BACKUP AND RESTORATION

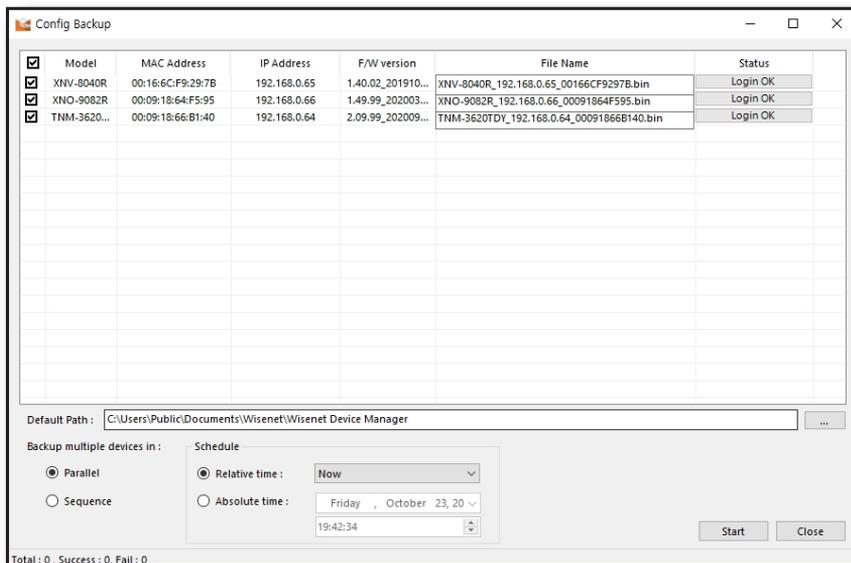
You can save or import device configuration.



### Config Backup

This is a function to save the configuration information of each device on PC.

1. Select the device to save the configuration information.
2. In tool box, click **[Config]** button and select **<Config Backup>**.
3. Config Backup window is open. It displays the file name for each device.



4. Check the file save path.

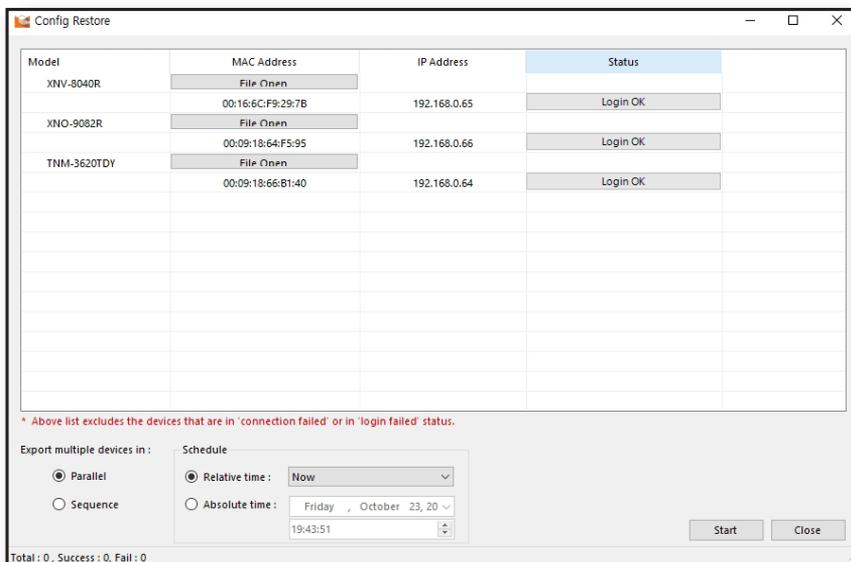
5. When backing up configuration for multiple devices, select the device config backup sequence.
    - Parallel: Configuration backup can be performed up to 16 devices simultaneously.
    - Sequence: Configuration backup is performed one device at a time.
    - You can configure the time setup backup execution.
      - Relative time: Configuration backup is executed after the time selected by the user.
      - Absolute time: Execute config backup on the date/time selected by the user.
-  ■ When schedule settings window is closed, schedule setup and setup backup are canceled. When performing setup backup using a schedule, the configuration window must be kept running.

6. Click **[Start]** button to begin work.

-  ■ Configuration backup time varies depending on the device and once config backup is complete, the device is rebooted.

## Config Restore

1. Select the device to save the configuration information.
2. In tool box, click **[Config]** button and select **<Config Restore>**.
3. Config Restore window is displayed.



-  ■ When device status is 'Connection failed' or 'Login failed', it is not displayed on the device list.

4. After selecting the device, click **[File Open]** button.

# Utilizing the Device List

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5. Select the configuration file to apply.

- Select the action method when restoring multiple devices.
  - Parallel: You can perform restoration simultaneously up to 16 devices.
  - Sequence: Restoration is performed one unit at a time.
- You can configure the time of restoration.
  - Relative time: Restoration is executed after the time selected by the user.
  - Absolute time: Execute restoration on the date/time selected by the user.



- When schedule settings window is closed, schedule setup and setup backup are canceled.  
When performing setup backup using a schedule, the configuration window must be kept running.

6. Click **[Start]** button to begin work.

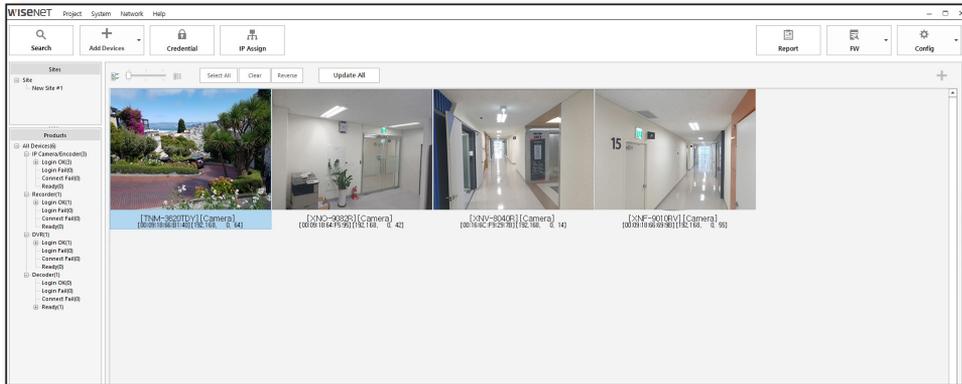
# Utilizing the Device List

## CHANGE LIST LAYOUT

You can select the device viewing method.  
Use the layout option bar to select the list viewing method.

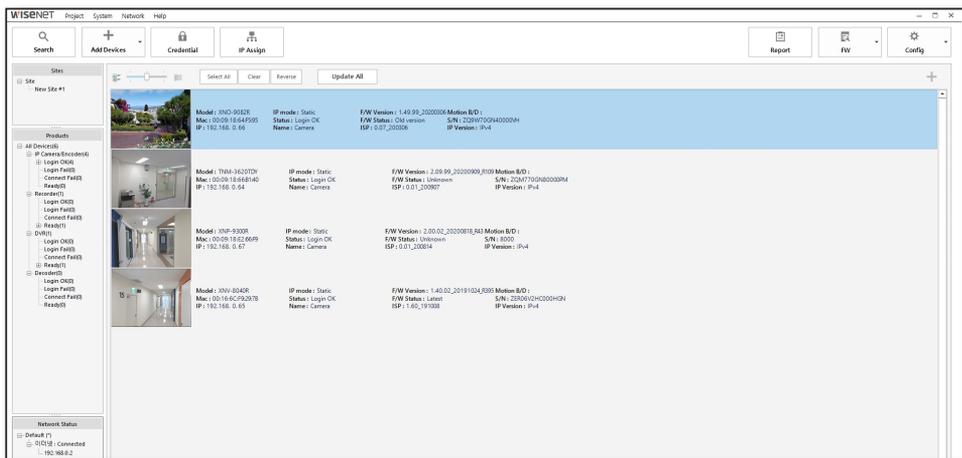
### View in Large Icon

It displays the live image and brief information for the device.



### View in Small Icon

It displays a smaller live image with more detailed information.

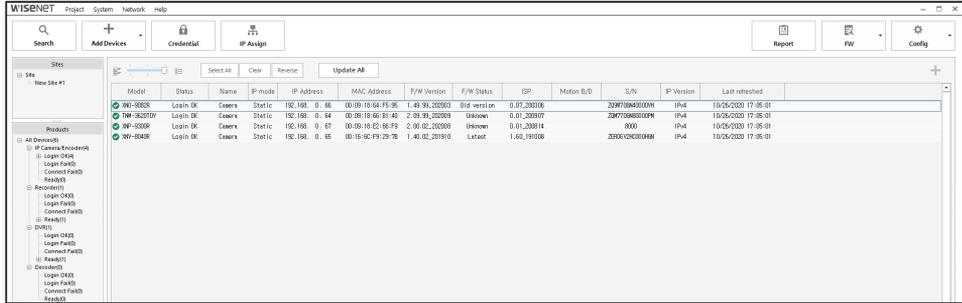


- Live image is a captured image, and when the device status is updated, live image is renewed.
- View live image is only supported when the device is using SUNAPI 2.0 protocol.

# Utilizing the Device List

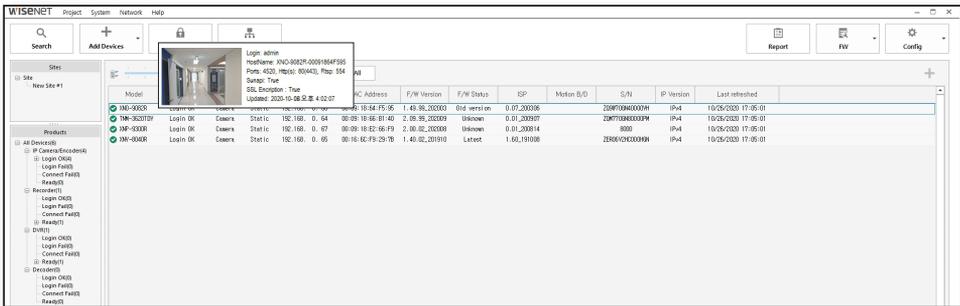
## View Details

It displays the details of the device and live image is not provided.  
Default setting of the Device Manager is set as view details.



## View Thumbnail Image

Place the mouse cursor on the device list to see the thumbnail image of the device.



# SELECT DEVICE

You can select devices from the registered device list through the following method.

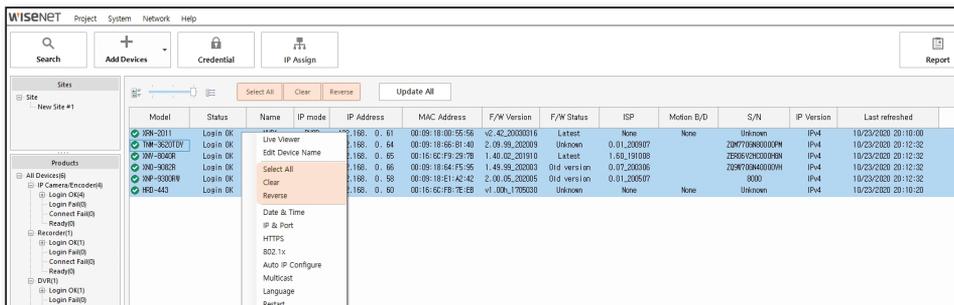
## Select Device from Device List

You can click the device desired to just select a single device, or you can press **[Ctrl]** or **[Shift]** key and click with the mouse to select multiple devices.

## Use Select All / Clear / Reverse Buttons

There are 3 useful buttons when selecting multiple devices on top of the device list.

You can also use these functions by clicking with the right mouse button after selecting the devices.



- Select all: Select all devices on the list.
- Clear: Deselect all selected devices.
- Reverse: Select all devices that are not currently selected on the list.

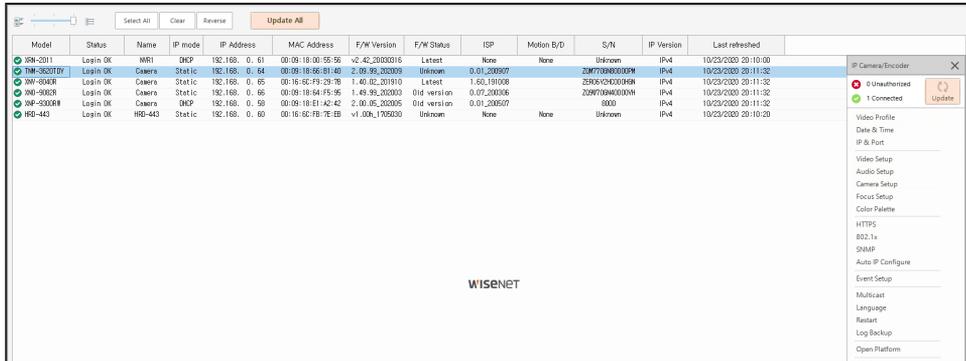
## Delete Device List

After selecting the device to delete, click **[Delete]** button on the keyboard.

# Utilizing the Device List

## STATUS UPDATE

It updates device status and displays the current status.



### Update All

Click **[Update All]** button to update the status for all devices on the list to current status.

### Update Selected Devices Only

After selecting the device desired, click **[Update]** button in the device setup menu.



- There may be restrictions to use of functions depending on the type of selected device and current status.

# VIEW LIVE VIDEO

You can check the video for the devices with status displayed as [Login OK]. Also, you can control the PTZ function from the live viewer for devices that support PTZ function.

1. Select the devices for monitoring and click the right mouse button.

Model	Status	Name	IP mode	IP Address	MAC Address	F/W
✓ XRN-2011	Login OK	NVR1	DHCP	192.168. 0. 61	00:09:18:00:55:56	v2.42
✓ TNM-3620TDV	Login OK	Camera	Static	192.168. 0. 64	00:09:18:66:B1:40	2.09.9
✓ XNW-8040R	Login OK	Camera	Static	192.168. 0. 65	00:16:6C:F9:29:7B	1.40.0
✓ XND-9082R	Login OK	Camera	Static	192.168. 0. 66	00:09:18:64:F5:95	1.49.9
✓ XNP-9300RW	Login OK	Camera	DHCP	192.168. 0. 58	00:09:18:E1:A2:42	2.00.0
✓ HRD-443				192.168. 0. 60	00:16:6C:FB:7E:EB	v1.00

Live Viewer

Edit Device Name

---

Select All

Clear

Reverse

---

Date & Time

IP & Port

HTTPS

802.1x

Auto IP Configure

Multicast

2. Select <Live Viewer>.  
Live Viewer window is displayed.

Live Viewer
⌵ □ ×



**Device Information**

Device: XNP-9300RW  
 MAC: 00:09:18:E1:A2:42  
 IP Address: 192.168.0.58  
 HTTP Port: 80  
 Device Port: -  
 Resolution: 3840x2160 (H264)

Camera: 1  
 Profile: 2  
 Disconnect

IV View  
 Display original size  
 Keep aspect ratio

Save graph data:

**PTZ Control**

Pan: ⬅️ ➡️

Tilt: ⬆️ ⬇️ ⬆️

Zoom: + -

Speed:

Focus: + -

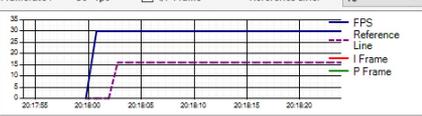
ABS Move:

HOME:

Bitrate: 4135 kbps    Reference Line:



Framerate: 30 fps    I/P Frame     Reference Line: 16



Profile access				Update Time	
Profile	Bitrate(kbps)	Framerate	ATC(%)	User	
1	0/0	0/0		0	
2	2892/12288	30/30		1	
3	0/0	0/0		0	
10	0/0	0/0		0	

Current users				Update Time	
Profile	IP address	Bitrate(kbps)	status		
H.264	192.168.0.2	2933	Good		

# Utilizing the Device List

## Profile

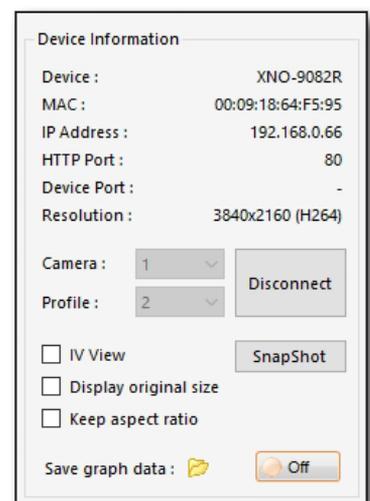
Default profile value is H.264. Click **[Disconnect]** button to change the profile. The video monitoring will stop and the selected **<Profile>** option will be activated.

Select the profile to monitor and click **[Connect]** button to connect to the selected profile.



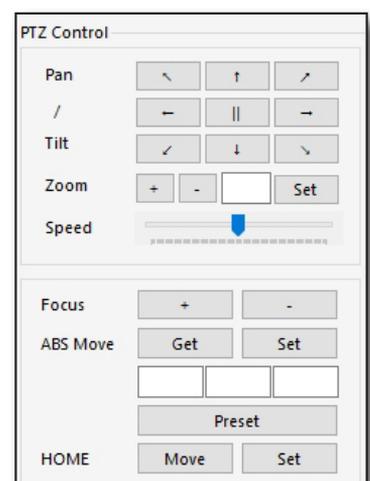
## Device Information

- Snapshot: Save the current video as .jpg image file.
- IV view: You can check IVA overlay.
- Keep aspect ratio: You can view with 16:9 screen ratio.
- Display original size: You can view in original resolution.
- Save graph data: Set the setting to **[Off]** to save the current video data (Date, time, framerate, I frame, P frame, bitrate) as a file.  
Click [  ] icon to configure the file save path.  
Graph data is saved in "csv" format file.



## PTZ Control

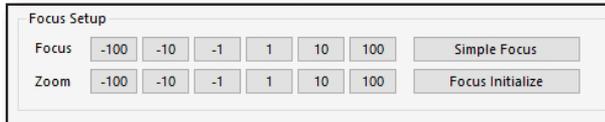
- Pan/Tilt: Click the arrow in direction desired to adjust pan and tilt.
- Zoom: Click **[+]**, **[-]** buttons or directly enter the magnification ratio to adjust the magnification ratio of the camera.
- Speed: Adjust the movement speed of pan and tilt.
- Focus: Adjust the camera focus with **[+]**, **[-]** buttons.
- ABS Move: You can acquire current pan/tilt coordinates, and zoom ratio for the camera with **[Obtain]** button. You can move the camera at desired position/zoom ratio by pressing **[Settings]**.
- Preset: You can configure preset by moving the camera to desired position. You can add or delete the presets.
- Home: Click **[Move]** button to move the camera to home position.  
You can configure home position with **[Set]** button.



## Focus Setup

This is a function to configure focus of the IP camera.

Click the number button to adjust the focus equivalent to the value.



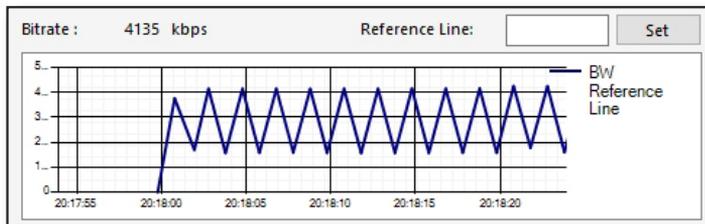
- Simple focus: It automatically adjusts the camera focus.
- Focus initialize: It initializes focus.



- The menu is activated only when the IP camera supports the function of focus configuration.

## Bitrate

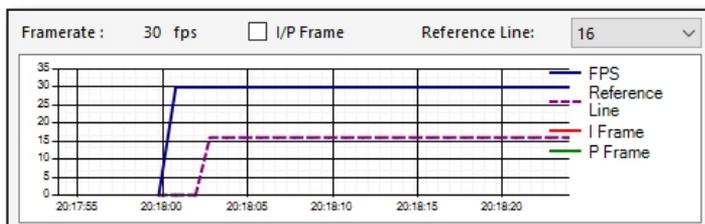
It displays the target bitrate based on the profile currently connected, and it shows the bitrate of the video from the camera in graphs by time.



- Reference line: Enter value desired to display on a graph for the user to compare against the base line.

## Framerate

It displays the framerate based on the profile currently connected, and it shows the framerate of the video from the camera in graphs by time.



- I/P frame: It displays the number of I frames and P frames in the video by time.
- Reference line: Select desired value to display on a graph for the user to compare against the base line.

# Utilizing the Device List

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## Profile access

It displays the profile access information for the device.

Profile access				Update Time	20:18:23
Profile	Bitrate(kbps)	Framerate	ATC(%)	User	
1	0/0	0/0		0	
2	2892/12288	30/30		1	
3	0/0	0/0		0	
10	0/0	0/0		0	

- Update time: It displays the time to obtain the profile access information.
- Profile: It displays the codec information for the profile.
- Bitrate (kbps): It displays actual bitrate value and configured bitrate value.
- Framerate(fps): It displays actual framerate value and configured framerate value.
- ATC (%): It displays ATC status.
- User: It displays number of accounts accessing the profile.

## Current users

It displays the information of the user currently accessing the device and printing the image.

Current users			Update Time	00:00:00
Profile	IP address	Bitrate(kbps)	status	
H.264	192.168.0.2	2933	Good	

- Update time: It displays the time when the current user information was obtained.
- Profile: It displays the profile configured by user.
- IP address: It displays user IP address.
- Bitrate (kbps): It displays the bitrate value.
- Status: It displays network status.

## EDIT DEVICE NAME

You can check and change the name configured for the camera.

Model	Status	Name	IP mode	IP Address	MAC Address	F/W
✓ XRN-2011	Login OK	NVR1	DHCP	192.168. 0. 61	00:09:18:00:55:56	v2.42
✓ TNM-3620TDY	L		tic	192.168. 0. 64	00:09:18:66:B1:40	2.09.9
✓ XNW-8040R	L		tic	192.168. 0. 65	00:16:6C:F9:29:7B	1.40.0
✓ XNO-9082R	L		tic	192.168. 0. 66	00:09:18:64:F5:95	1.49.9
✓ XNP-9300RW	L		CP	192.168. 0. 58	00:09:18:E1:A2:42	2.00.0
✓ HRD-443	L		tic	192.168. 0. 60	00:16:6C:FB:7E:EB	v1.00

1. Select one or multiple devices for name change and click the right button of the mouse.
2. Select **<Edit Device Name>**.

 ■ You can only change the name of the device with status displayed as 'Login OK' on the device list.

3. After entering the new name in **<Name>** field for each device, click **[Apply]** button.  
Application of settings is displayed under **[Result]**.

 ■ Some devices do not support editing device name.

Model	Name	MAC Address	IP	Result
XRN-2011	NVR1	00:09:18:00:55:56	192.168.0.61	
TNM-3620TDY	Camera	00:09:18:66:B1:40	192.168.0.64	
XNW-8040R	Camera	00:16:6C:F9:29:7B	192.168.0.65	
XNO-9082R	Camera	00:09:18:64:F5:95	192.168.0.66	
XNP-9300RW	Camera	00:09:18:E1:A2:42	192.168.0.58	
HRD-443	HRD-443	00:16:6C:FB:7E:EB	192.168.0.60	

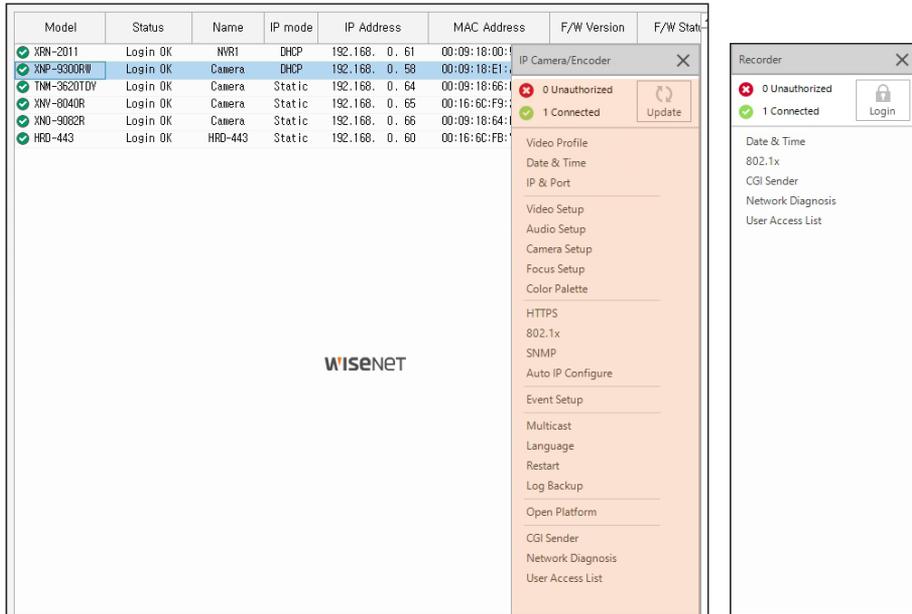
Apply Close

# Device Setup

## DEVICE SETUP MENU

After selecting the device on the device list, click [ + ] button on top left to open the device setup menu supported by the device.

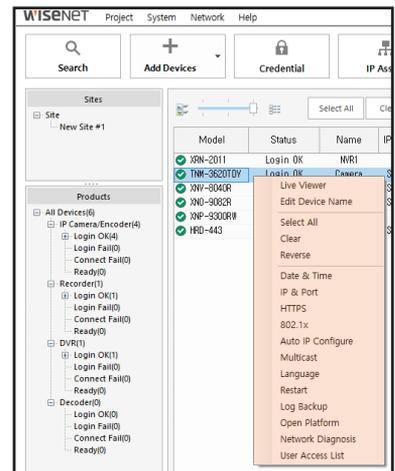
Menu items appear differently depending on the device.



<IP Camera>

<NVR>

Some functions in the device setup menu can be used even if the right mouse button is clicked after selecting a device.

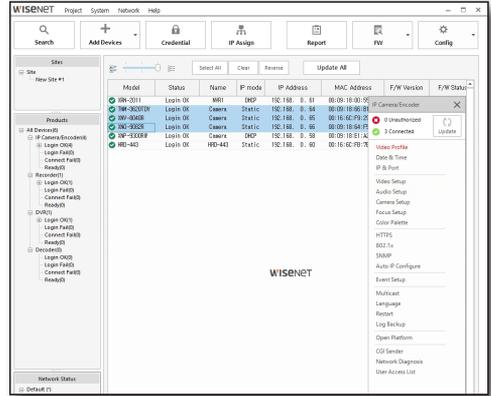


# VIDEO PROFILE

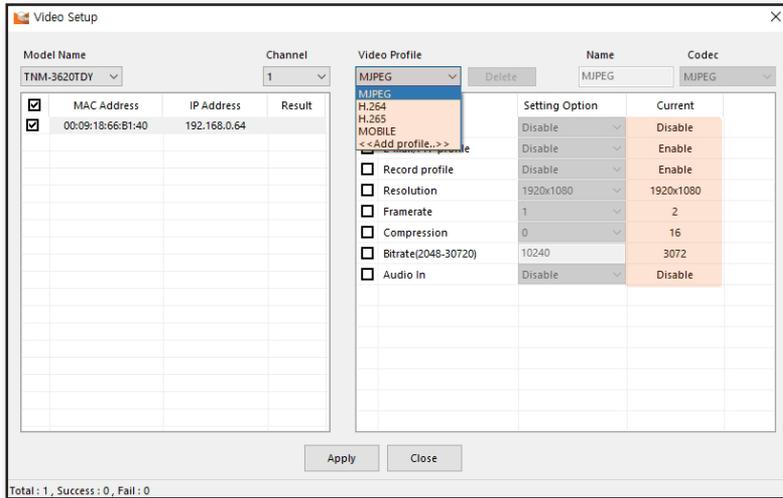
You can configure the video profile of the IP camera.

## Edit Video Profile

1. Select the device for video profile configuration.
2. In device setup menu, select **<Video Profile>**.



3. Video profile setting window is displayed.  
Select **<Model Name>** on the top left to select the device to configure.
4. You can check the video profile.
  - Double click the area displaying the MAC/IP address for selected device to display the current value under **<Current>**.

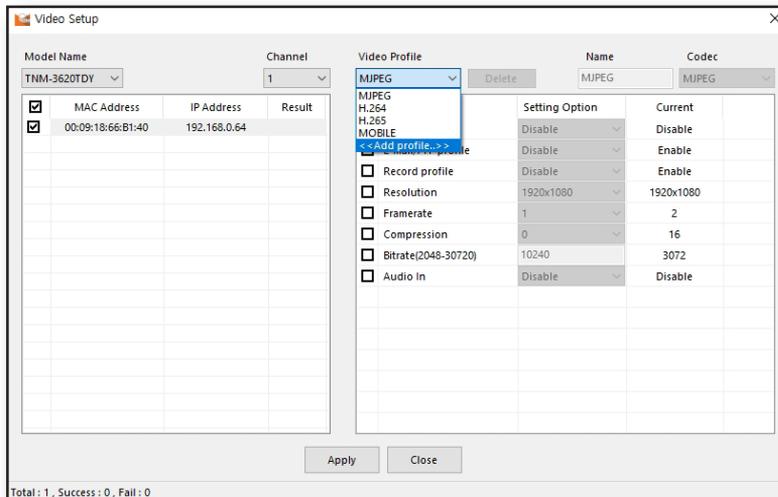


**<Video Profile>** list may be displayed differently.

# Device Setup

## Add Video Profile

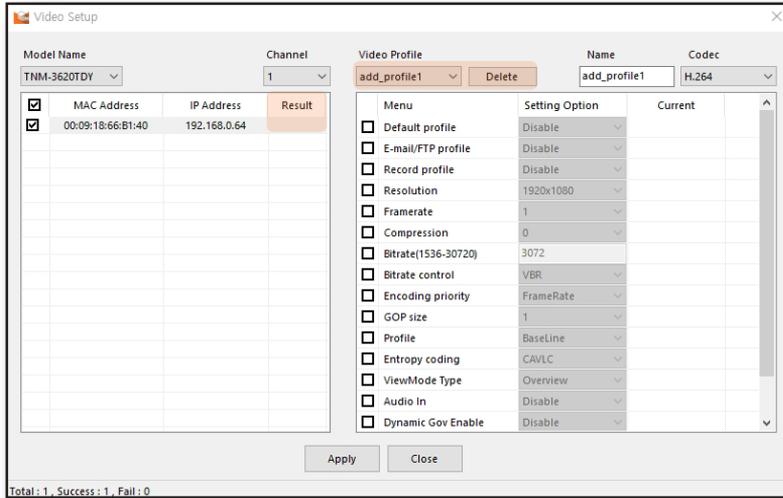
1. When adding a profile, go to **<Video Profile>** and select **<Add Profile...>**.
2. Enter the name of video profile to add.
3. After completing configuration, click **[Apply]** button to display the video profile added to the video profile list.



4. Check the items under each field of detailed settings to activate the **Setting Option** menu. Configure desired value.
  - Resolution: Configure the resolution of camera video.
  - Framerate: Configure the maximum video frames per 1 second.
  - Compression: Configure the level of compression.
  - Bitrate: Configure the bitrate.
  - Bitrate control: Select between CBR(Constant bitrate) and VBR (Variable bitrate).
  - Encoding priority: When the video data volume exceeds the target bitrate value, configure which encoding priority will be implemented between framerate and video quality.
  - GOP size: Configure how many frames to assign between one I-Frame to the next I-Frame when H.264/H.265 codec is selected.
  - Profile: The menu is activated when codec is **<H.264>**.  
**It supports <Baseline>, <Main>, and <High>** Compression performance increases and video quality improves as it goes towards **<High>**.
  - Entropy coding: This is a lossless compression method with variable length coding using syntax statistics. You can configure the entropy coding method, and the compression rate of CABAC is better than that of CAVLC.
  - Audio In: Select use audio input.
  - Dynamic Gov length: Dynamic Gov is a function that automatically changes the Gov length depending on the video situation. The value entered under **<GOV Length>** is the minimum value and the maximum value is 480.
5. Click **[Apply]** button when configuration is complete.
  - Check **<Result>** to check for application of settings.  
When the settings of the selected item have been changed successfully, it is displayed as **<Success>**. When failed, it is displayed as **<Failed>**. When only some settings have been configured, **<Partial Success>** is displayed.

## Delete Video Profile

1. In the <Video Profile> list, select profiles to delete and click **[Delete]** button.
2. Check <Result> to check for results of profile deletion.

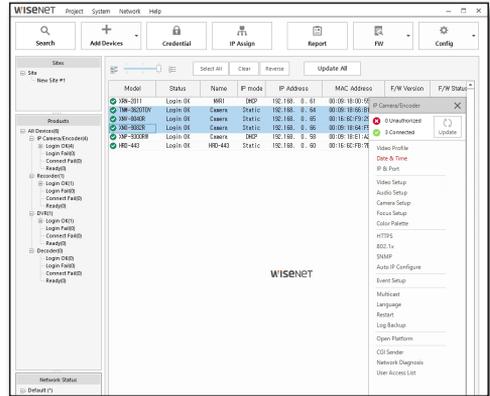


# Device Setup

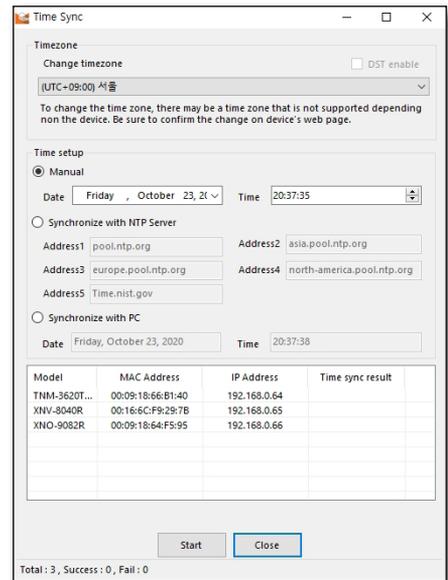
## DATE & TIME

Device date and time can be configured. This is a useful function to apply the same time for multiple devices since it can configure time information for multiple items simultaneously.

1. Select the device to configure time information.
2. In the device setup menu, select **<Date & Time>**.



3. Configure the standard time zone and select whether to enable DST or not.
4. Select the time setup method.
  - Manual: Manually enter the date and time information for the device.
  - Synchronize with NTP server: Synchronize the device date and time through NTP server.
  - Synchronize with PC: Synchronize the device date and time with the PC where the Device Manager is installed.
5. Click the start button once the time setup is complete.



6. Check **<Time Sync Result>** to check for completion of time setup for the device.

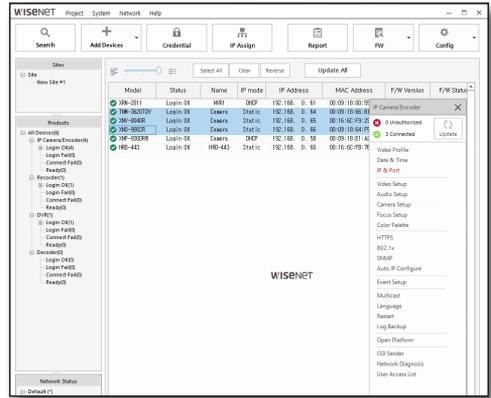
Model	MAC Address	IP Address	Time sync result
TNM-3620T...	00:09:18:66:B1:40	192.168.0.64	Success
XNV-8040R	00:16:6C:F9:29:7B	192.168.0.65	Success
XNO-9082R	00:09:18:64:F5:95	192.168.0.66	Success

Total : 3 , Success : 3 , Fail : 0

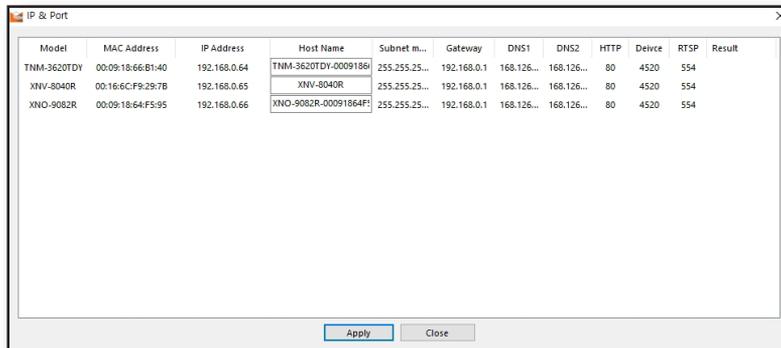
# IP & PORT

You can check for IP of network camera and other information. You can also change the host name.

1. Select the device to change the host name.
2. In the device setup menu, select <IP & Port> menu.



3. When IP & port settings window opens, enter host name and click [Apply] button.

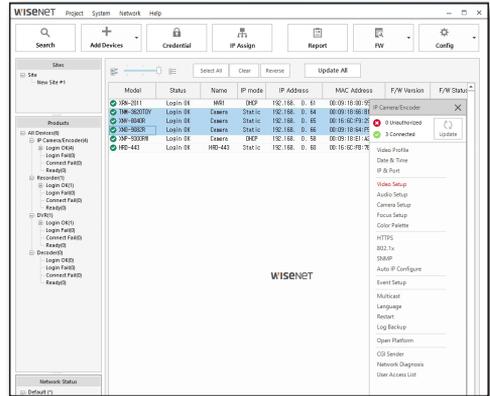


# Device Setup

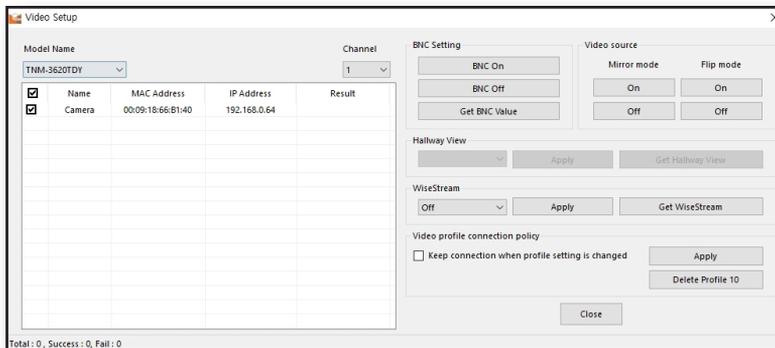
## VIDEO SETUP

You can check IP address and other information, and change the host name for the IP camera. This is a function to configure some items for IP camera.

1. Select a device for video setup.
2. In device setup menu, select **<Video Setup>**.



3. Select **<Model Name>** on the top left to select the device to configure.
  - Only for the devices selected from the device list, **<Model Name>** is displayed.
4. Click Menu Setting button to the right to configure. Refer to **<Result>** to check for application of settings.

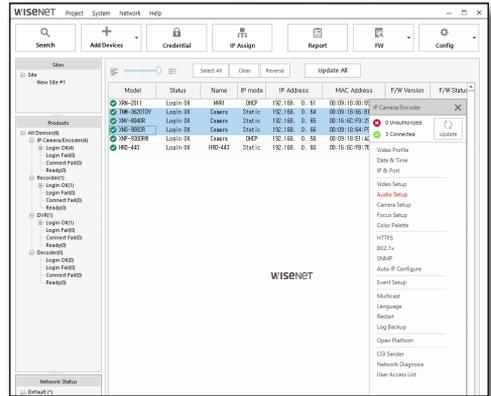


- BNC setting: This configures the analog video output of the camera. Use **[BNC On]** or **[BNC off]** button to select usage. Click **[Import BNC Settings]** button to check the current settings.
- Video source: This is a function that can perform flip/mirror for the video. **<Flip>** reverses the camera video top and bottom, **<Mirror>** is a function that reverses the camera video left and right. To apply the function, click **[On]** button.
- Hallway view: You can rotate the video at a ratio appropriate for the path to expand the top/bottom monitoring area when the camera is installed in an environment such as a narrow hallway or an alleyway.
- WiseStream: You can select how much to compress the video through WiseStream.
- Video profile connection policy: When **<Keep connection when profile setting is changed>** is applied, the video output is still produced with previous settings even if the settings for a profile connected to other devices have been changed. If not used, the device will reconnect when settings for a profile connected to other devices have been changed.
- Delete profile 10: This is a field to delete profile 10 configured for the IP camera. Some IP cameras are configured with profile 10 by default for mobile viewer but this is a button used to delete the profile when it is not being used.

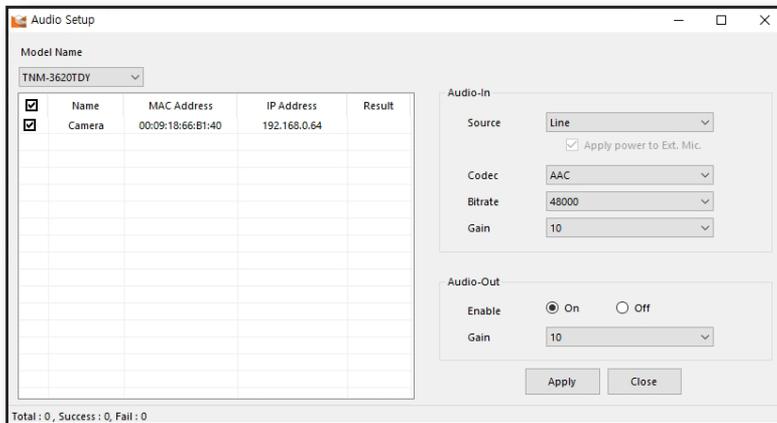
# AUDIO SETUP

You can configure audio/input/output settings for camera.

1. Select the device for audio setup.
2. In the device setup menu, select **<Audio Setup>**.



3. Select **<Model Name>** on the top left to select the device to configure.
  - Only for the devices selected from the device list, **<Model Name>** is displayed.
4. After configuring the menus on the setting menu to the right, click **[Apply]**.  
Check **<Result>** to check for application of settings.



## Audio In Setting

- Audio in: Configure audio input method.
  - Internal microphone: Connect to the camera's built-in microphone to use.
  - External microphone: Connect to the camera external microphone to use.
  - Line: Connect to the audio device through cable to use.

# Device Setup

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- Codec: Configure audio codec.
  - G.711: It is the voice codec standard that uses 64Kbps pulse code modulation (PCM) voice coding method. As an ITU standard voice codec, this format can deliver digital voice through PSTN or PBX.
  - G.726: It is an ITU voice codec using the adaptive differential pulse code modulation (ADPCM) voice encoding by changing the 64Kbps pulse code modulation (PCM) to 40/32/24/16Kbps, etc.
  - AAC: It stands for advanced audio coding and it is the international stand succeeding MP3. You can use audio with higher sampling rate compared to when using G.711 and G.726 codecs.
- Bitrate: When using G.726 codec, it configures different compression rate through bitrate settings.
- Gain: It configures amplification of audio input. When audio input is low, gain value can be increased for signal amplification. Range of configuration is 1 to 10. The amplification value increases as gain value increases.

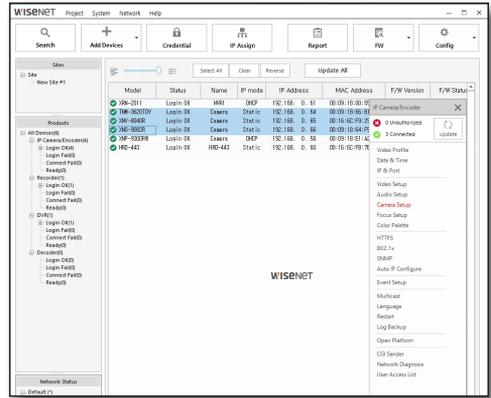
## Audio Out Setting

- Audio Out: Configure audio output use. Select **<On>** for audio output to produce audio through the connected speaker.
- Gain: Configure the amplification value of the audio output. Set this to **<On>** to activate gain.

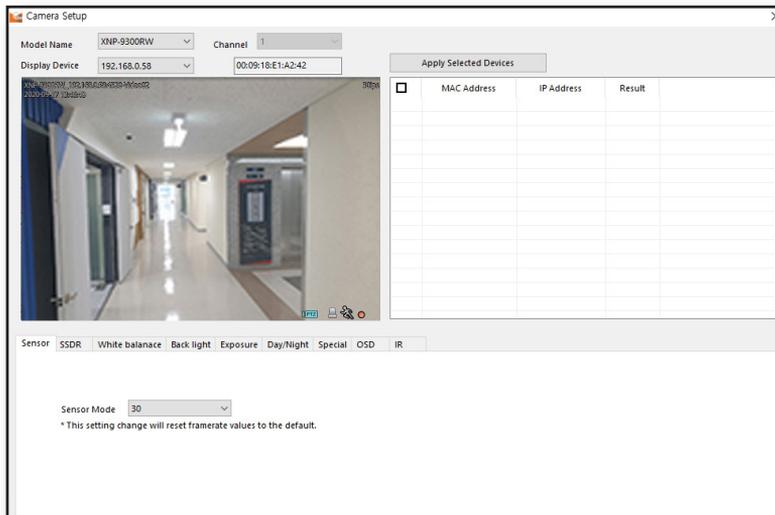
# CAMERA SETUP

You can change the camera settings for the environment where the camera is installed.

1. Select device to change video setup.
2. In device setup menu, select <Camera Setup>.



3. Select <Model Name> on the top left to select the device to configure.



4. Select the menu tab at the bottom of the screen to configure camera settings.
  - Sensor: Configure how many frames the sensor will shoot per second.
  - SSDR: You can increase the brightness only in dark areas in an environment with significant difference between light and dark areas to produce a video with an overall even brightness. Brightness in dark areas gets higher as the level increases.
  - White balance: You can calibrate to produce normal colors based on color white in any lighting environment.
  - Back light: Calibrate to see both areas in an environment where light and dark areas coexist. You can configure mode, BLC level, WDR level, HLC level, and mask tone.

# Device Setup

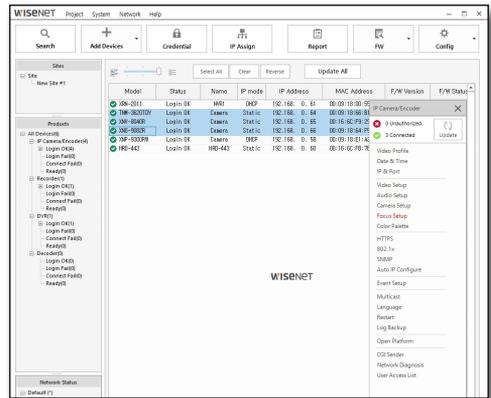
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- Exposure: You can change exposure according to the camera installation environment.
    - You can configure brightness, minimum shutter, maximum shutter, anti flicker, SSNR, SSNR level, iris, iris focal length, and AGC.
  - Day/Night: You can have the video to colored or black/white video according to the camera installation environment.
    - You can configure mode, dwell time, duration, and alarm input.
  - Special: You can configure sharpness mode, sharpness level, gamma, color level, fog calibration, DIS, and defog level.
  - OSD: You can display the camera title, or date and time in the video, and configure the position of display, etc.
  - IR: When IR LED is on in a black/white video, it prevents the saturation in the middle of the screen to allow identification of the subjects even from a close distance.  
You can configure mode options, and level.
-  ■ It is applied to the camera immediately after changing the camera settings.
- The function may not be supported depending on the model.  
Refer to camera user manual for more detailed settings.

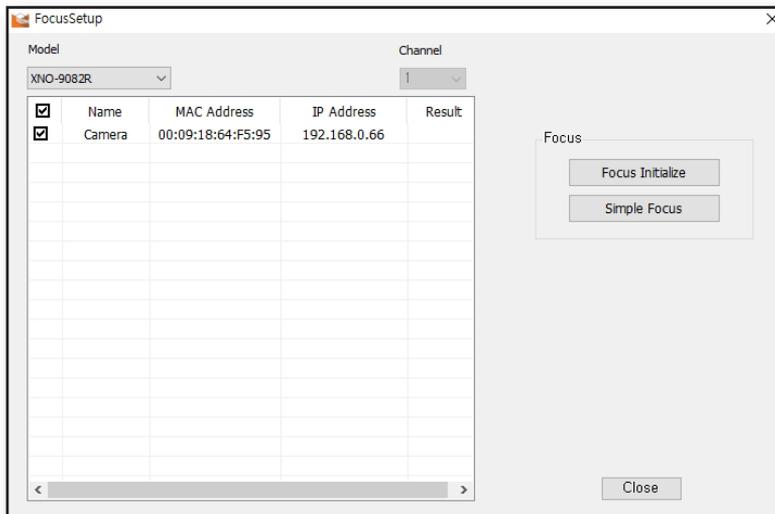
# FOCUS SETUP

You can configure focus of the IP camera.

1. Select the device for focus configuration.
2. In the tool box, select **<Focus Setup>**.



3. Select **<Model Name>** on the top left to select the device to configure.
4. You can initialize camera focus or configure simple focus.  
Click the button of desired function.



- Focus initialize: It initializes focus.
- Simple focus: It automatically adjusts focus.

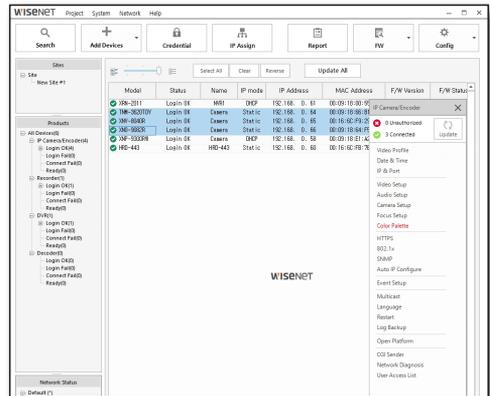
# Device Setup

## COLOR PALETTE

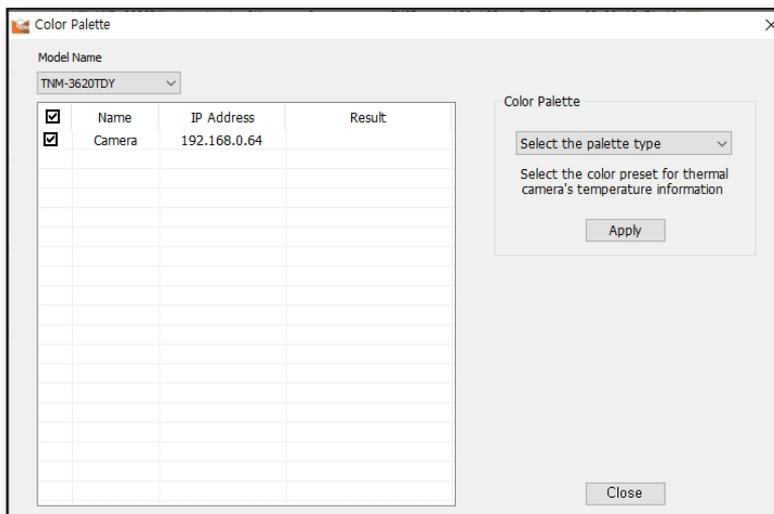
The color palette expresses the video of thermal camera for easier visual analysis of the video. You can configure color palette type, etc. to apply to camera video when the camera is detecting temperature.

1. Select the device for color palette configuration from the device list.
2. In device setup menu, select **<Color Palette>**.

 Menu is active only in the devices supporting the function.



3. Select **<Model Name>** on the top left to select the device to configure.

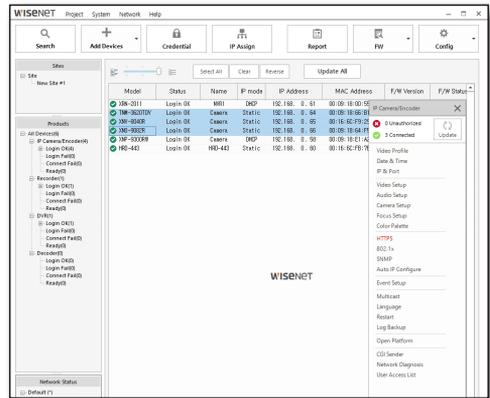


4. Select desired type of color palette, and click **[Apply]** button.

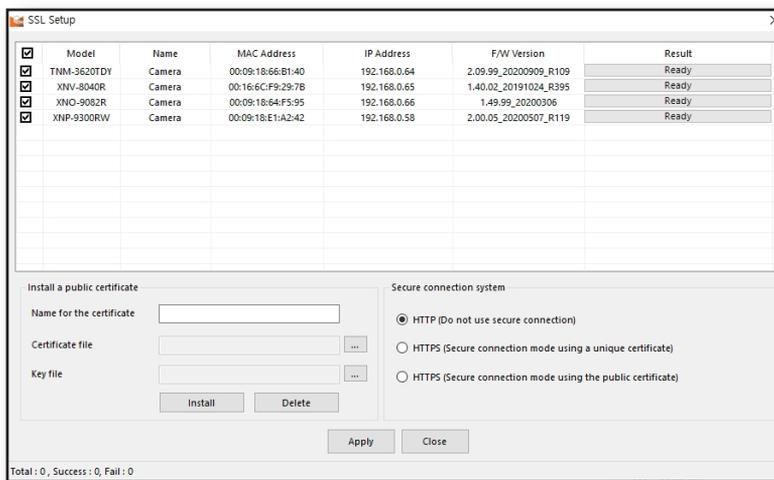
# HTTPS

This is a function for SSL setup of the IP camera. You can select the camera secure connection system or install a public certificate through this function.

1. Select device for SSL configuration.
2. In the device setup menu, select <HTTPS>.



3. HTTPS setting window is displayed.
4. Install a public certificate on the camera.



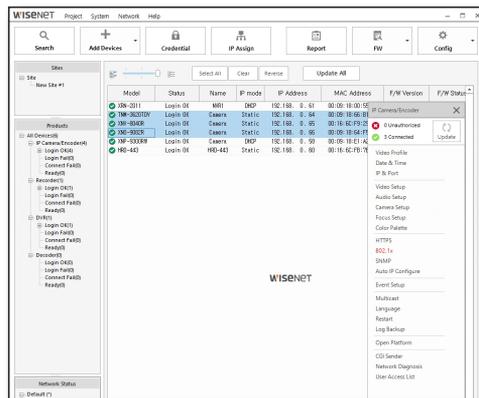
5. In order to install a public certificate on the camera, you must enter certificate name, certificate file issued by the certifying institution, and key file, and then click **[Install]** button.
  - Enter the name to delete the installed certificate, and click **[Delete]** button.
6. Select the secure connection system to be used for the camera. After selecting the secure connection system to apply, click **[Apply]** button.
  - HTTP (No secure connection): Select when transmitting data without encryption.
  - HTTPS (Secure connection mode using a unique certificate)
    - It uses the internal certificate provided by the camera for secure connection.
  - HTTPS (Secure connection mode using a unique certificate): It uses a public certificate for secure connection.

# Device Setup

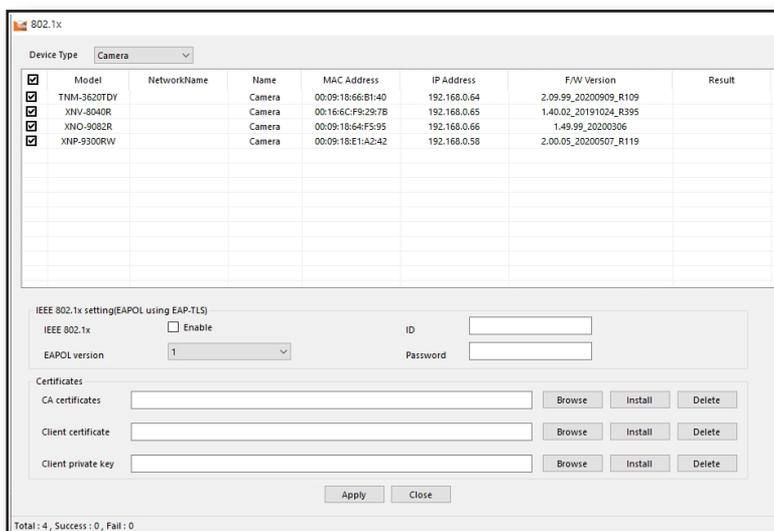
## 802.1X

You can select the option to use 802.1x protocol and install the certificate when connecting to a network.

1. Select the device for 802.1x protocol configuration.
2. In the device setup menu, select <802.1x>.



3. 802.1x setting window is displayed.



4. Install 802.1x setting and certificate.
5. Select usage of IEEE 802.1x protocol.
6. Select either EAPOL version 1 or 2.
7. Enter ID and password for the certificate.
8. Select security access method used for the camera. Click **[Apply]** after selecting the security access method to be applied.

9. Install the certificate.

- CA certificate: Select when it is a public certificate including the public key.
- Client certificate: Select when it is a public certificate including client authentication key.
- Client private key: Select when it is a public certificate including client private key.

10. Click **[Browse]** button for each field and select a public certificate or a key, and then click **[Open]** button.

11. Click **[Install]** button. Message reading 'Installed' will be displayed when certificate installation is complete.

12. Click **[Delete]** button to delete the certificate installed.

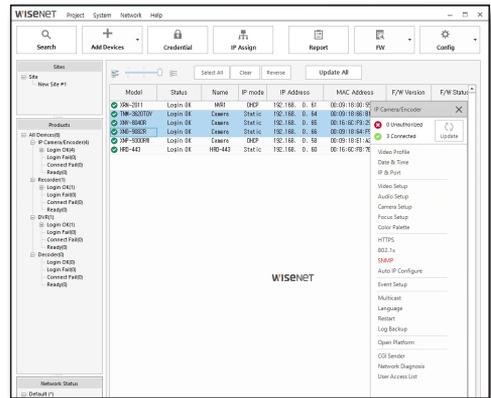
13. Click **[Apply]** button when configuration is complete.

# Device Setup

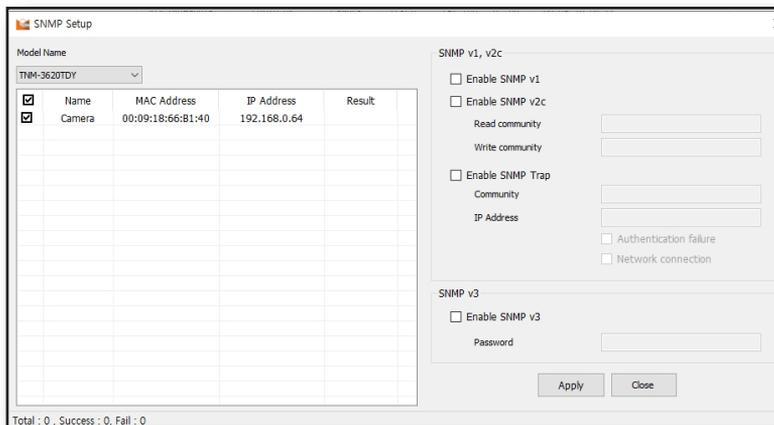
## SNMP

The system or the network administrator can remotely monitor the IP camera or manage it through configuration change, etc.

1. Select the device to set up SNMP.
2. In the device setup menu, select **<SNMP>**.



3. Select **<Model Name>** on the top left to select the device to configure.
4. Configure SNMP.



- Enable SNMP v1: It has no encryption and there are almost no security functions.
- Enable SNMP v2c: Algorithm was added for data and authentication security. It allows efficient use of bandwidth compared to SNMP v1. Select **<Enable SNMP v2c>** to activate read community and write community.
  - Read community: Enter read only community name to access SNMP information.
  - Write community: Enter write only community name to access SNMP information.
- Enable SNMP trap: Enable SNMP trap to send the important events and status to the management system. Select SNMP trap to activate selection screen community, IP address, authentication failure, and link connection.
  - Community: Enter trap community name to receive message.
  - IP address: Enter the IP address to send message.
  - Authentication failure: Configure whether to trigger the event or not when the community information is incorrect.
  - Link connection: Configure whether to trigger the event or not when a network is connected again after being disconnected.
- Enable SNMP v3: For SNMP v3, the authentication method has been changed to improve security compared to v1, and v2c. It encrypts the packets to prevent data access of unauthorized users.
  - Password: Configure user password for SNMP v3.

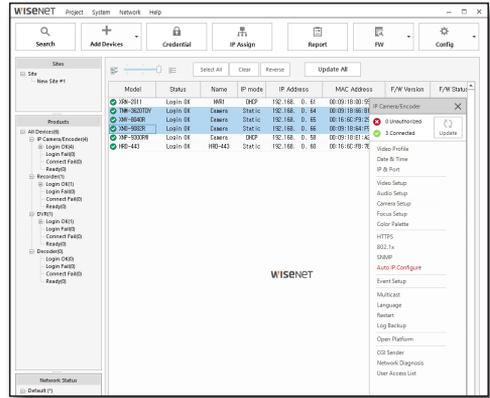
5. Click **[Apply]** button when configuration is complete. Check **<Result>** for confirmation.

## 58\_ Device Setup

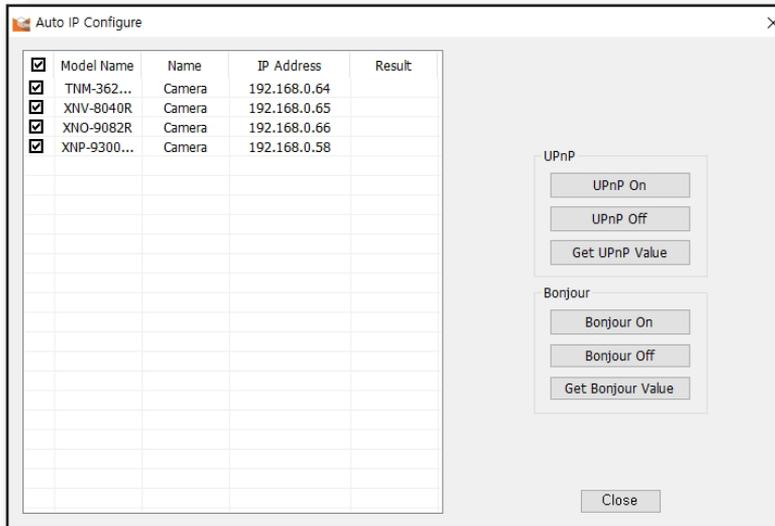
# AUTO IP CONFIGURE

You can automatically configure the IP for camera access and search.

1. Select the device for auto IP configure.
2. In device setup menu, select <Auto IP Configure>.



3. After selecting the suitable client or operating system for the protocol, click [UPnP ON] or [Bonjour ON] button.



- UPnP: You can automatically search for cameras in clients and operating systems that support UPnP (Universal Plug and Play) protocol. Cameras connected to the network are displayed in the Windows operating system that supports UPnP by default.
- Bonjour: You can automatically search for cameras in clients and operating systems that support Bonjour protocol. Cameras connected to the network are displayed in the Mac operating system that supports Bonjour bookmark by default.

 The name of registered camera is displayed in the format of "WISENET - Model name - MAC address".

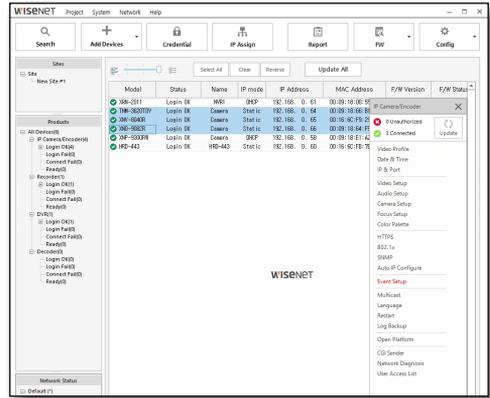
4. Refer to <Result> to check for application of settings.

# Device Setup

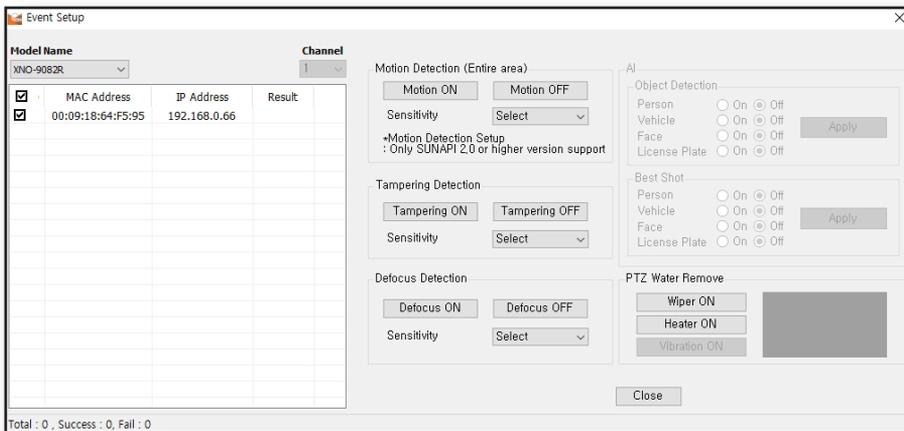
## EVENT SETUP

This is a function to configure the event of IP camera.

1. Select the device for event setup.
2. In device setup menu, select <Event setup>.



3. Select <Model Name> on the top left to select the device to configure.
4. Select detailed settings after selecting the option to use function.



- Motion detection (Entire area): You can configure for the event signal to be triggered when motion is detected. When **[Motion ON]** button is clicked, you can detect the motion within the entire area of the camera screen.
  - Sensitivity: You can lower sensitivity in an environment where object and background differentiation is clear. You can increase sensitivity in an environment such as dark places where object and background differentiation is difficult.
- ✎ It supports motion detection settings only when the device is using SUNAPI 2.0 protocol.
  - ✎ Menu is active only in the devices supporting the function.

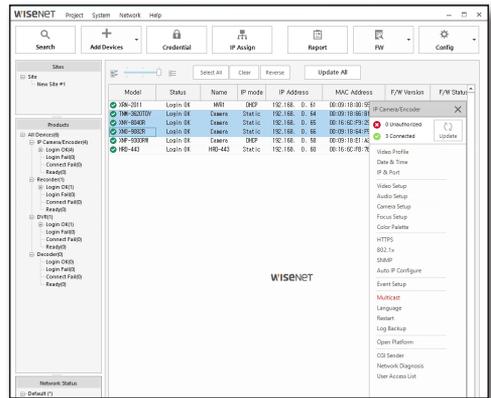
- Tampering detection: You can configure the tampering detection event signal to trigger when the screen is covered or the camera position has changed.
  - Defocus detection: You can trigger the defocus detection event when it is detected that the focus of the camera lens becomes blurry.
  - AI  
You can trigger the object detection event when the object configured by the user is detected. There are 4 types of detectable object consisting of human, vehicle, face, and license plate.
    - Object Detection: The event is triggered when configured object is detected.  
Select the object type for the camera to detect.
    - BestShot: It analyzes the information of the object detected by AI camera to extract as JPEG image.  
Select the object type to generate BestShot.
  - PTZ water remove  
It configures the wiper function enabling and disabling of the PTZ camera.
    - Wiper ON: Clicking the button activates the wiper.
    - Heater ON: Clicking the button activates the heater
5. Refer to **<Result>** to check for application of settings.

# Device Setup

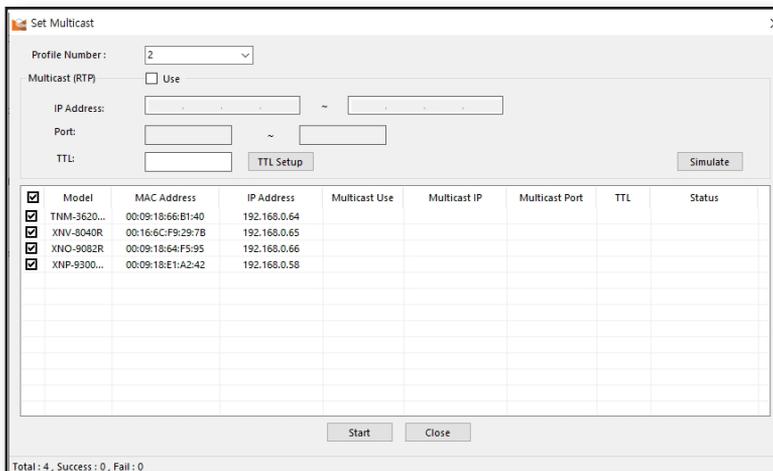
## MULTICAST

This is a function to configure multicasting for the device.

1. Select the device for multicast.
2. In device setup menu, select **<Multicast>**.



3. Configure multicast.



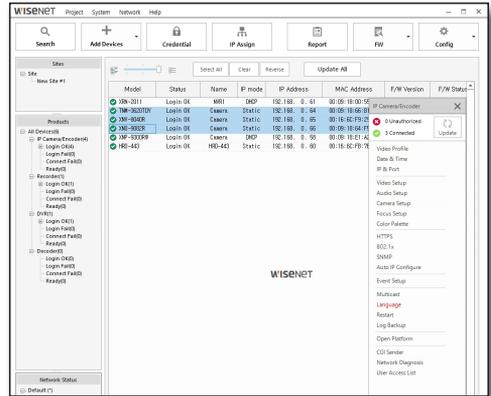
- Profile number: When connecting through multicast, select the video profile to use.
- Multicast (RTP): Select **<Use>** to configure network to use multicast.
  - IP address: This is the IP address for multicast. You can configure the IP address range between 224.0.0.0 and 239.255.255.254.
  - Port: This is the port for multicast. The port range is between 1024 to 65534.
    - ✎ Ports 0 to 1024 and port 3702 are ports generally used for other purposes so use a different port.
    - ✎ Multicast ports internally use 2 ports, RTP port and RTCP port so you can only configure an even number for the port.
  - TTL – It stands for time to live. It refers to the number of devices that the data can pass through. Select between 0 and 255.

4. Select the camera for multicast configuration, and click **[Start]** button.

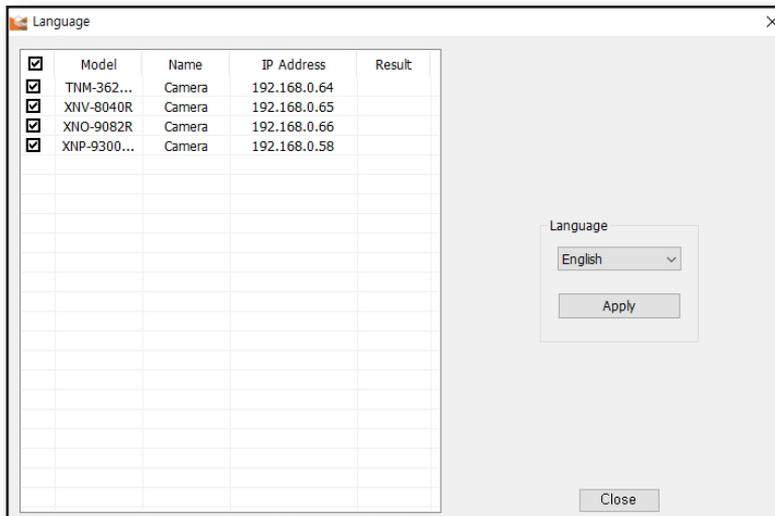
# LANGUAGE

You can configure the web viewer language for the IP camera.

1. Select the device for language configuration.
2. In device setup menu, select **<Language>**.



3. After selecting desired language, click **[Apply]**.

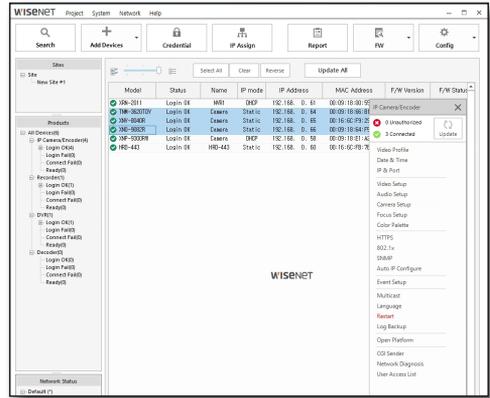


# Device Setup

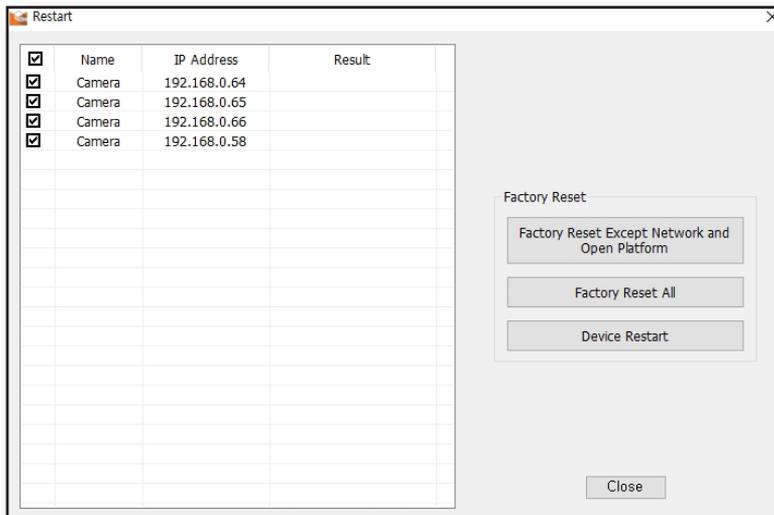
## RESTART

You can perform factory reset and restart the camera.

1. Select the device to restart.
2. In device setup menu, select **<Restart>**.



3. Click the button after selecting the desired settings.

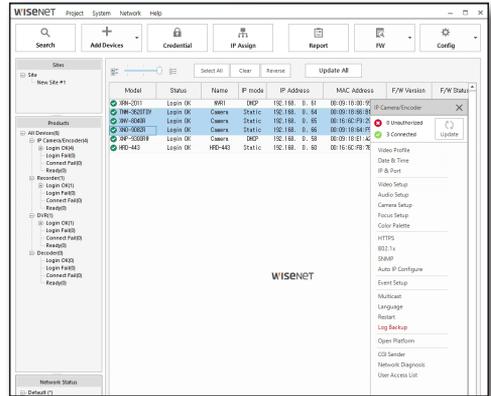


- Factory Reset Except Network and Open Platform: Perform factory reset for all settings except for network settings and installed open platform setup.
- Factory Reset all: Reset all settings to factory setting.
- Device Restart: Restart the device.

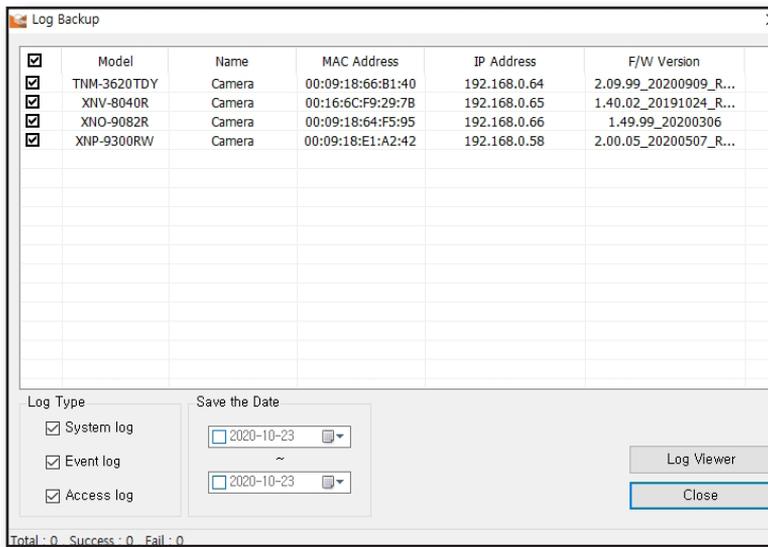
# LOG BACKUP

You can backup the log.

1. Select the device to open the log.
2. In the device setup menu, select <Log Backup>.

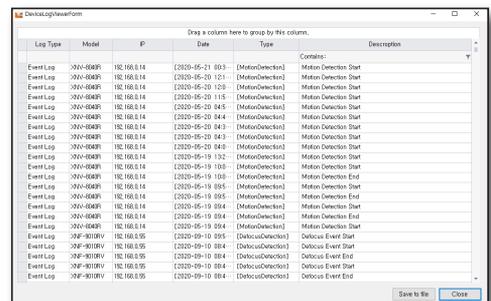


3. Select the device to backup the log file and select the log type and date.



4. Click the [Log Viewer] button.
5. Log information is displayed.
6. Click [Save to file] button to backup the log.
7. Configure the file name and pathway for the backup file to save, and press [Save] button.

 Log Backup file is generated in "csv" file format.

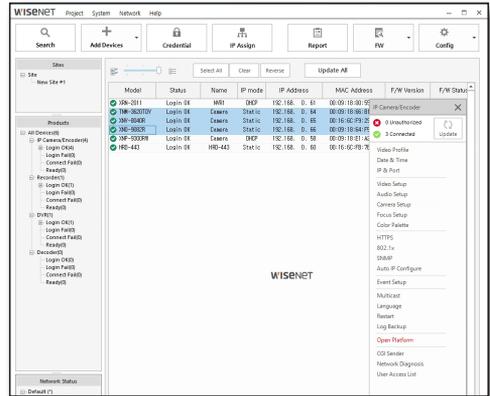


# Device Setup

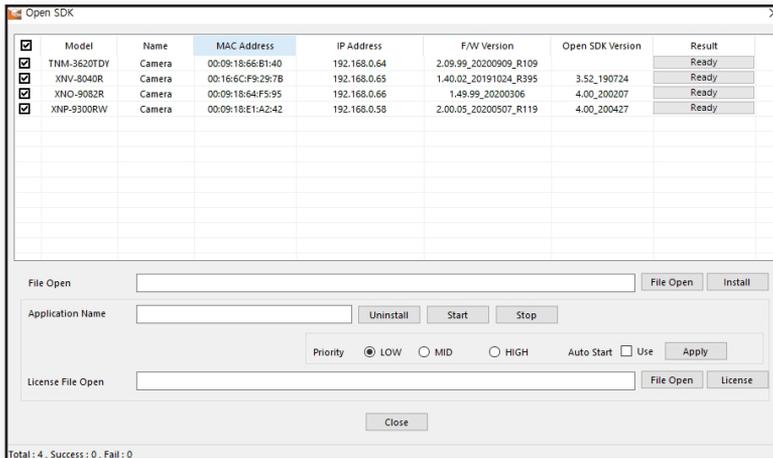
## OPEN PLATFORM

Install the application on the IP camera to additionally use the functions of the application.

1. Select a device to configure on the open platform.
2. In the device setup menu, select **<Open Platform>**.



3. Click the button after selecting the desired menu.



### Install Application

1. Click **[File Open]** button and select the application file to install (\*.cap).
2. Click **[Install]** button to install the application file.

### Execute and Delete Application

- Application Name: Enter the name of the installed application.
- Uninstall: Delete the currently active or installed application.
- Start: Execute the installed application.
- Stop: Stop the running application.
- Priority: Configure the priority between the running applications. (Low/Middle/High)
- Auto Start: Automatically execute the application configured to auto run when camera power is turned on and email tasks are executed.

### License File Open

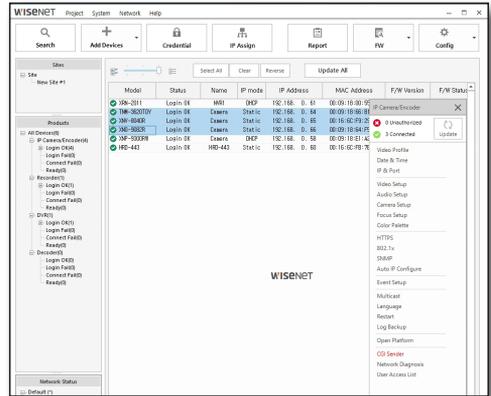
Install when license is required for the application being installed.

1. Click **[File Open]** button to select the license file to install.
2. Click **[License]** button to install license.

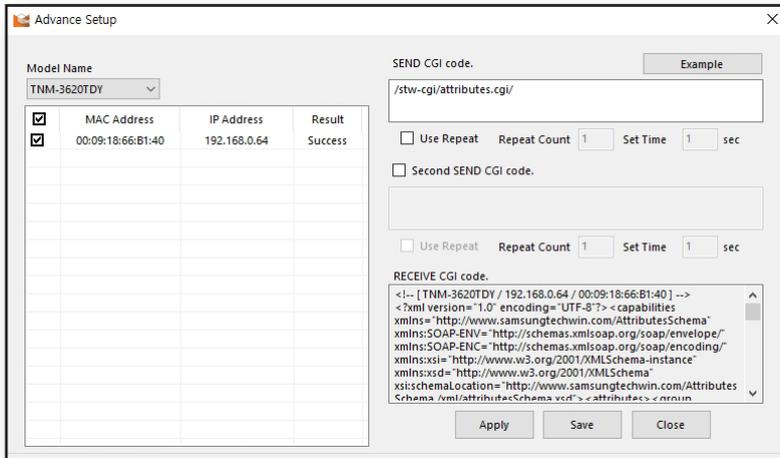
# CGI SENDER

You can send CGI code to the device.

1. Select the device to execute CGI Sender.
2. In the device setup menu, select <CGI Sender>.



3. Select <Model Name> on the top left to select the device to configure.
  - Only for the devices selected from the device list, <Model Name> is displayed.
4. Enter the CGI code to send to the device selected and enter <SEND CGI code> ,and click [Apply] button.



5. Successful application of CGI code sent can be checked under <Result>. Double click the device on the list to display the response code from the equipment after sending the CGI code under <RECEIVE CGI code>.

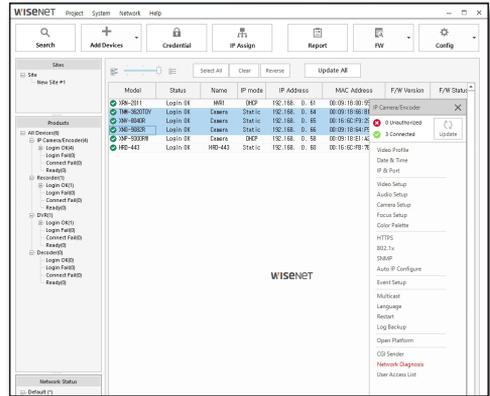
- Check use repeat when sending CGI code repetitively and configure the repeat count and set time to use.
- Exclude the IP address of the device from the CGI code requesting device specifications when writing the CGI code.
- Check the details regarding CGI code by device through CGI documents and by pressing [Example] button.

# Device Setup

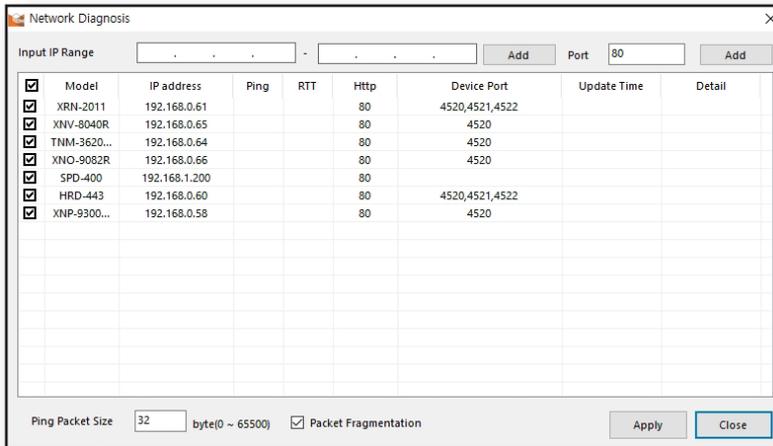
## NETWORK DIAGNOSIS

Network status of the device can be diagnosed.

1. Select the device for network diagnosis.
2. In the device setup menu, select **<Network Diagnosis>**.



3. The user can manually add the IP address to the diagnosis list. Enter the range of IP address to add to **<Input IP Range>** and click **[Add]** button.



- You can also enter the port number when adding the IP address.

4. You can adjust the size of the packet for ping test.

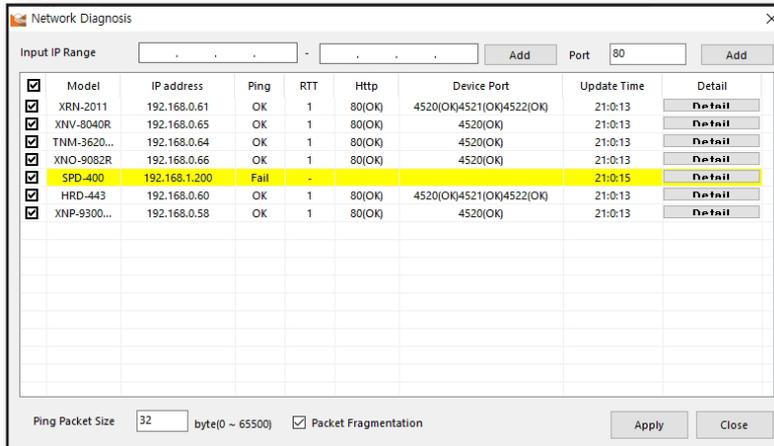
- Ping packet size: You can make the packet size different to recognize the results when the packet size is large or small.
- Packet Fragmentation: It is a method of fragmenting the packet when the configured packet size is too large and it cannot pass through the Ethernet as a single packet. The fragmented packet is reassembled after all packet fragments have been sent.



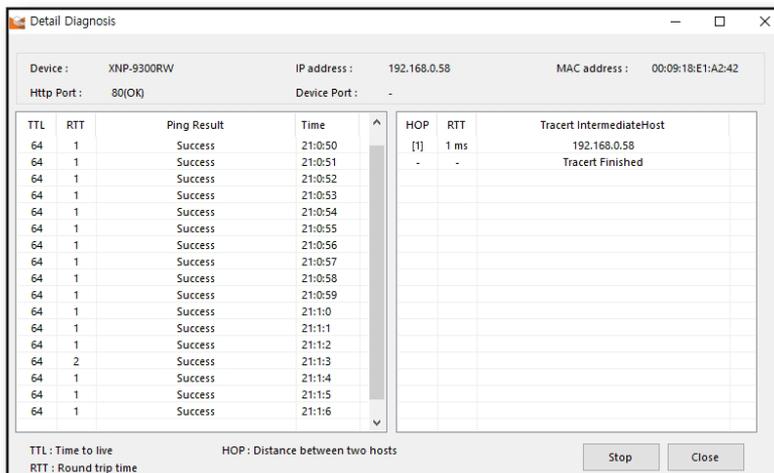
- When packet fragmentation is used, the following may occur.

- When a fragmented packet is not sent, the remaining packet fragments must be sent again and this results in overhead.
- Many overheads occur when fragmenting the packet in the router.
- There is the occurrence of dropping the fragmented packet depending on the firewall.

- Select the IP address to execute for network diagnosis, and click **[Apply]** button.
- Network diagnosis results are displayed by each item. The device is displayed in yellow if even one of the network diagnosis item results is not normal.



- Ping:** Check whether the data gram can arrive at the device.  
The device can be checked whether it is working or not by ping response.
- RTT:** It stands for round trip time, and it refers to the time it takes for the network data to be delivered to and return from the device.
- Http:** It diagnoses whether connection to HTTP port of the device is possible.
- Device port:** It diagnoses whether connection to device port is possible.
- Update time:** It shows the duration of network diagnosis.
- Details:** It shows details of the network diagnosis.  
To check the details, click **[Details]** button to display **<Detail Diagnosis>** window.

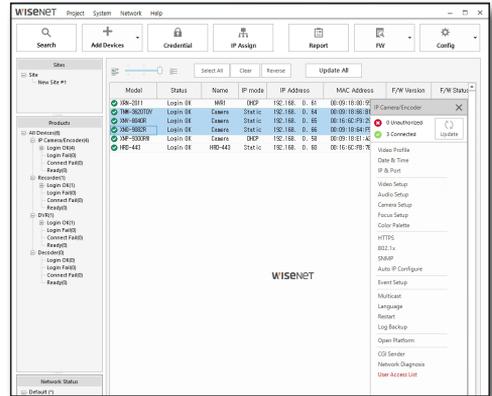


# Device Setup

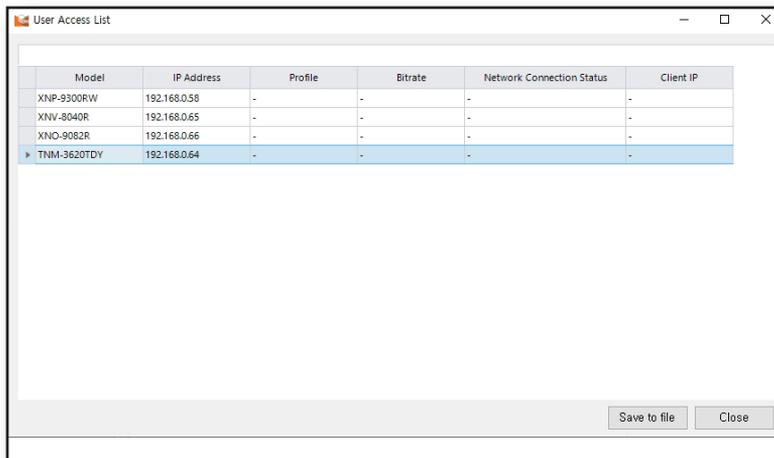
## USER ACCESS LIST

You can check and save the information of the user accessing the selected device.

1. Select the device to check user access information.
2. In the device setup menu, select **<User Access List>**.



3. User access list setup window is displayed.



4. To generate an user access list, click **[Save to file]** button.

- User access list file is generated in "csv" file format.

