

4K UHD Network Video Recorder User Manual

Table of Contents

About this document	2
Disclaimer	2
Caution	2
Introduction	3
Features	3
Trademarks and Registered Trademarks	3
Chapter 1 Getting Started	4
Chapter 1-1 NVR Settings Quick Guide	4
Chapter 2 NVR Settings	5
Chapter 2 System Setup	5
Chapter 2-2 Time	5
Chapter 2-3 User	6
Chapter 2-3 Storage	6
Chapter 2-3-1 HDD MGT	6
Chapter 2-3-2 S.M.A.R.T.	7
Chapter 2-3-3 USB MGT	7
Chapter 2-4 Maintenance	8
Chapter 2-4-1 Firmware Update	8
Chapter 3 Network Setup	9
Chapter 3-1 General	9
Chapter 3-1-1 Configuring HTTPS Service	9
Chapter 3-2 Advanced	11
Chapter 3-2-1 TCP/IP	11
Chapter 4 Remote Browser	12
Chapter 4-1 WebAdmin Nx Witness	12
Chapter 4-2 Download Nx Witness	13

About this document

This document includes instructions for operating the 4K UHD Network Video Recorder Series.

Disclaimer

Please be aware that this user manual may cover a range of product specifications for various models. Characteristics and features discussed and/or illustrated in this manual may not be applicable or available to all models. We reserve the right to change product specifications, designs and equipment without notice and without incurring obligation.

Caution

- Do not drop or strike the equipment.
- Do not install the equipment near naked flames or heat sources.
- Do not expose this unit to rain, moisture, smoke or dusty environments.
- Do not cover the opening of the unit with cloth or plastic or install this unit in a poorly-ventilated place. Allow 10cm between this unit and its surroundings.
- Do not continue to operate the unit under abnormal conditions such as detection of smoke, strange smell or no display on screen while power is turned on.
- Do not touch the power connection with wet hands.
- Do not damage the power cord or leave it under pressure.
- To avoid unnecessary magnetic interference, do not operate this unit near magnets, speaker system, etc.
- All connection cables must be grounded properly.

CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED WITH AN
INCORRECT TYPE.





Introduction

The NVR6800E-NX embedded NVR is LILIN's next-generation PoE network video recorder series featuring a built-in Nx Witness Server.

The NVR6800E-NX can directly power up to 16 PoE (IEEE 802.3af) cameras without the need for an additional PoE switch and support up to 20 Ultra HD 4K IP cameras (If LILIN EDGE AI IPCAM Meta data support is enabled, the maximum input capacity will be adjusted to 8 channels).

Users can easily perform device discovery, camera and recorder connection, recording and event configuration, as well as live view and playback through the Nx Witness Client, enabling fast and intuitive system setup.

The NVR6800E-NX is designed for high-end megapixel surveillance applications such as medium to large enterprises, factories, hotels, retail chains, and smart buildings, delivering a stable and efficient video management solution.

Features

- Standalone NVR
- Supports up to 4K UHD camera.
- 16 Port PoE, automatic network camera plug and play
- Supports Setup Wizard

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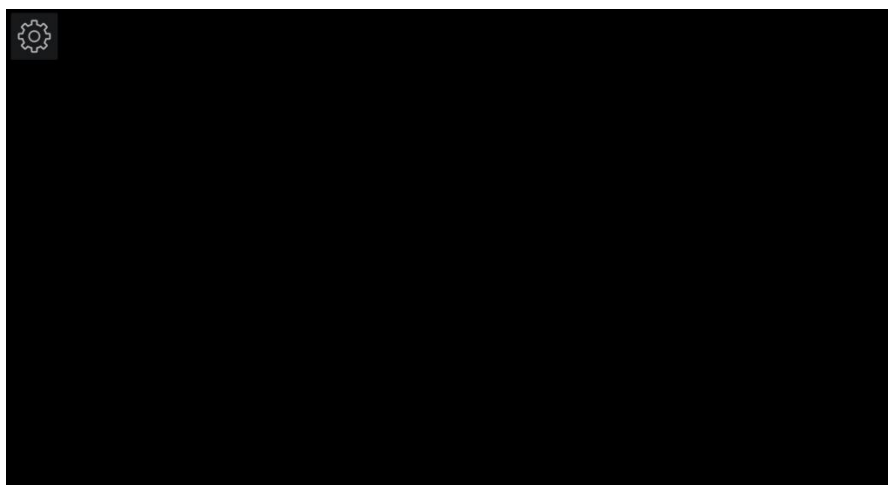
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Linux, Macintosh, and Mozilla are registered trademarks of respective holders.

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Chapter 1 Getting Started

You will see the following screen through HDMI or VGA connection once you power on the NVR. Move mouse cursor slightly to display the NVR controls:

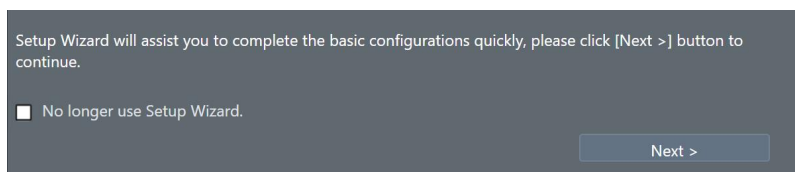


Below are NVR controls that are at the upper-left corner of the screen:

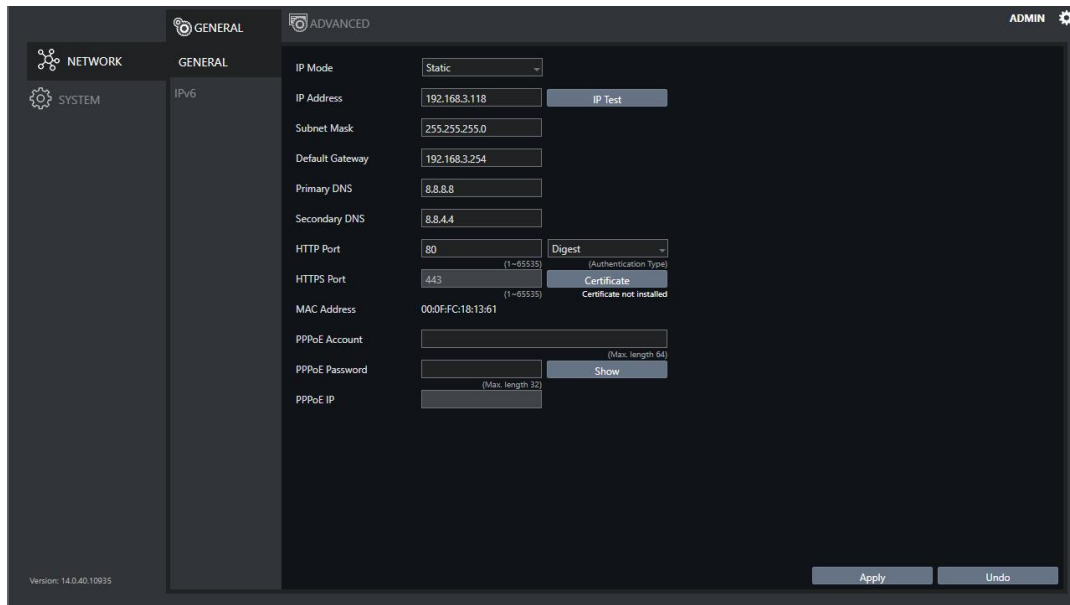
Icons	Description
	NVR Settings

Chapter 1-1 NVR Settings Quick Guide

If you access the **NVR SETTINGS** for the first time, you will see **Setup Wizard** on the screen as below, which provides you with quick configurations for the NVR, including language, date/time, storage, and network setting. Please follow the instructions to finish the necessary setup and start recording. To prevent the wizard from appearing again, be sure to check **No longer use Setup Wizard**. Whenever you want to run **Setup Wizard** again, go to **NVR SETTINGS> SYSTEM > MAINTENANCE**, and click **Run** to start **Setup Wizard**.



If the **Setup Wizard** is closed, the following setting menu will appear.



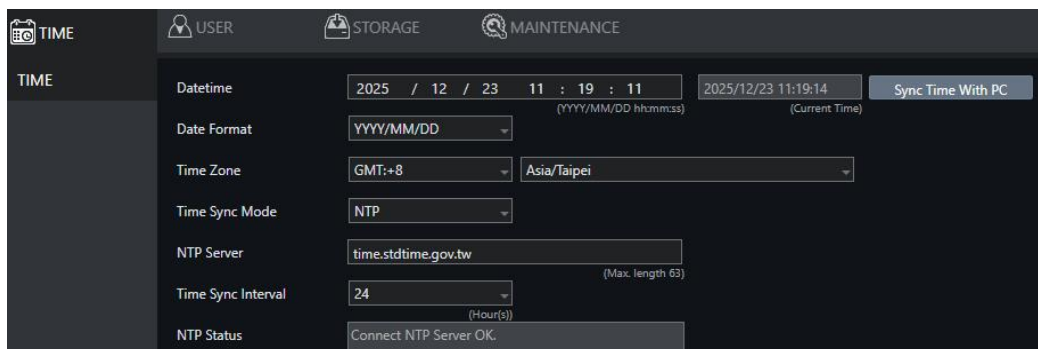
Note: Click the gear icon at the upper-right corner of the screen to switch users or change the NVR language.

Chapter 2 NVR Settings

Chapter 2 System Setup

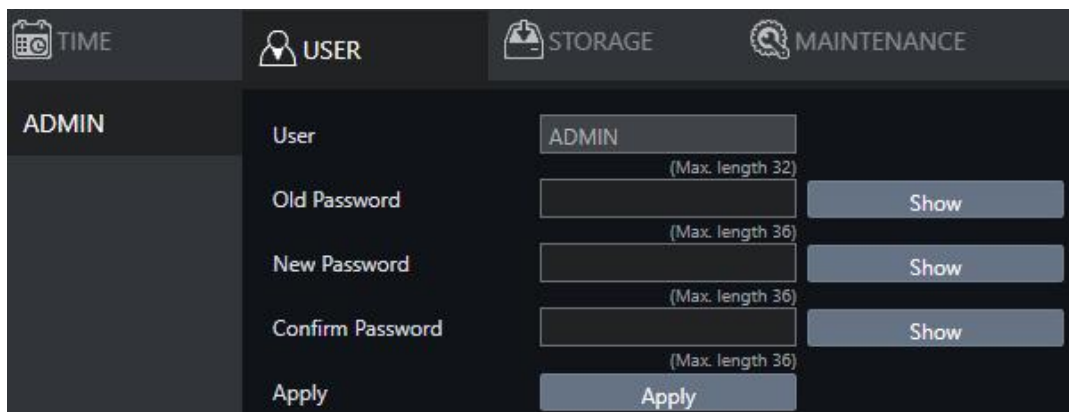
Click NVR Settings icon to enter **NVR SETTINGS**, and then click **SYSTEM** in the left menu to enter SYSTEM SETUP page. The setting options are described below:

Chapter 2-2 Time



- Date/Time: Set the date/time of the NVR.
- Date Format: Modify the date display format.
- Time Zone: Change the time zone of the location where the NVR is installed.
- Time Sync Mode: Choose how you would like the time to be synchronized.
- NTP Server: Enter the NTP server you want to use.
- Time Sync Interval: Choose the interval for the time to be synchronized.
- NTP Status: The status of connection to the selected NTP server will appear here.

Chapter 2-3 User

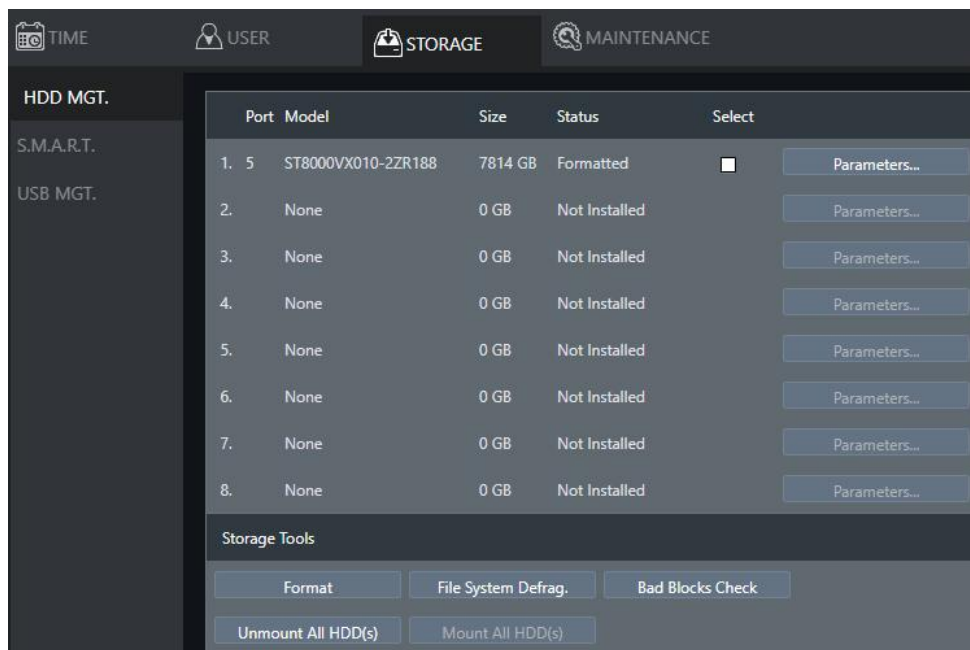


The NVR supports administrator user settings, change the password.

- Old Password, New Password, and Confirm Password: If you would like to change the password, enter your previous password, enter the new password and confirm the password. Press **Show** to reveal the password.

Chapter 2-3 Storage

Chapter 2-3-1 HDD MGT



Port	Model	Size	Status	Select
1. 5	ST8000VX010-2ZR188	7814 GB	Formatted	☐ Parameters...
2.	None	0 GB	Not Installed	Parameters...
3.	None	0 GB	Not Installed	Parameters...
4.	None	0 GB	Not Installed	Parameters...
5.	None	0 GB	Not Installed	Parameters...
6.	None	0 GB	Not Installed	Parameters...
7.	None	0 GB	Not Installed	Parameters...
8.	None	0 GB	Not Installed	Parameters...

Storage Tools

Format File System Defrag. Bad Blocks Check

Unmount All HDD(s) Mount All HDD(s)

- Format: Format HDD.
- File System Defrag.: Defragment HDD to improve efficiency. It may take minutes to hours depending on the size and level of fragmentation of HDD.
- Bad Block Check: Check HDD bad block and try to fix it. It may take minutes to hours depending on HDD status.

- Parameters: Click each device to enter the screen below.

ST8000VX010-2ZR188

System Reserve Ratio: 15%

Mount Option: Journal Data Writeback

Filesystem State: clean

OK Cancel

- System Reserve Ratio: Allows you to allocate the percentage of HDD space that will not be occupied by recorded files.
- Mount Option: Choose the writing mode for the hard drive.
- Filesystem State: HDD filesystem state.

Chapter 2-3-2 S.M.A.R.T.

HDD MGT. S.M.A.R.T. USB MGT.

HDD S.M.A.R.T. Analysis

Port	Model	Analysis	Spending	Status
6	ST8000VX01	Short	1Min	Result

Analysis Cancel

HDD S.M.A.R.T. Information (Port6 ST8000VX010-2ZR188)

Status	HDD Info.	Attributes	Event
Normal			

The S.M.A.R.T. status of your hard drive is displayed in **S.M.A.R.T.**, where you can run analysis (either short or extended) on the HDD. Choose between **Short** or **Extended** analysis and click **Analysis** to start the process. You will see HDD status, information, attributes, and event history under **HDD S.M.A.R.T. Information**.

Chapter 2-3-3 USB MGT.

HDD MGT. S.M.A.R.T. USB MGT.

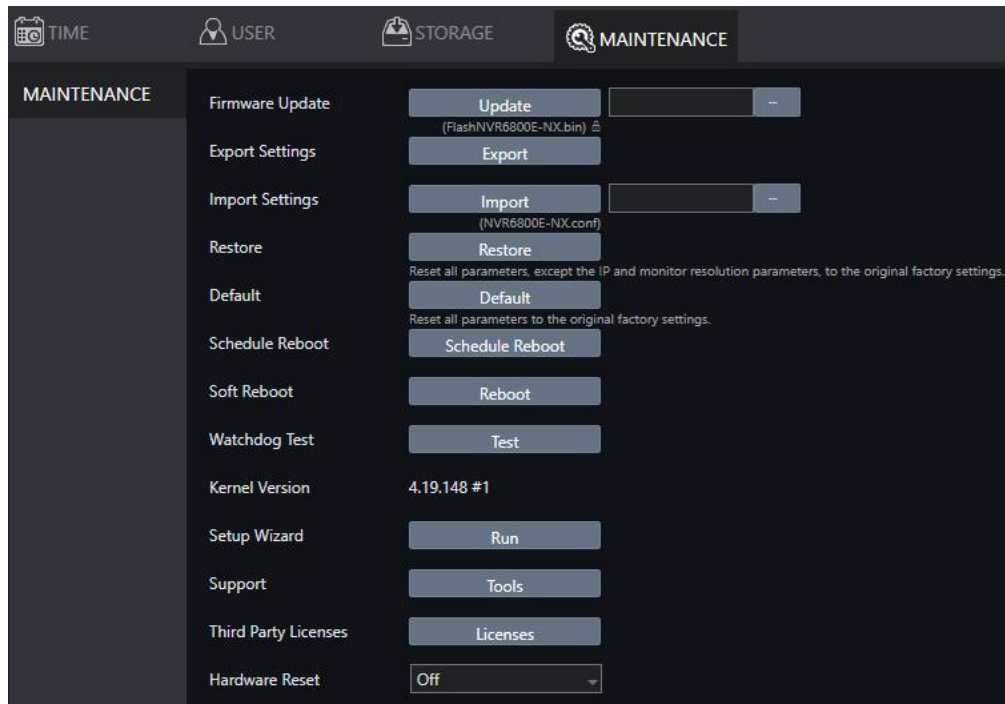
Model	Size	Status	Select
1. JetFlash Transcend 32GB	30944MB	Formatted	☐
2. None	0MB	None	☐

Storage Tools

Format Refresh

Connect a USB device (flash drive or hard drive) to the NVR, and check the one you want to format under this page, and then click **Format**.

Chapter 2-4 Maintenance



- Firmware Update: Choose a firmware file and click **Update** to proceed firmware update.
- Export Settings: Click **Export** to copy system settings to a USB flash drive.
- Import Settings: Click **Import** to apply a system setting that is stored in the plugged USB flash drive.
- Restore: Restore the NVR to its default settings, except for the NVR IP and screen resolution settings.
- Default: Click **Reset** to restore the system to the factory settings.
- Schedule Reboot: Click Schedule Reboot to set the device reboot time.
- Soft Reboot: Click to soft reset the system.
- Watchdog Test: Click to test the system watchdog function. This will reboot the NVR.
- Kernel Version: The kernel version of the system.
- Setup Wizard: Click to execute the quick setup wizard.
- Support: Click to open server execution log options dialog, record system execution details.
- Third Party Licenses: Click **Licenses** to display third-party software license information.
- Hardware Reset: After the function is enabled, press the RESET button on the back panel for ten seconds to reset the NVR to factory defaults.

Chapter 2-4-1 Firmware Update

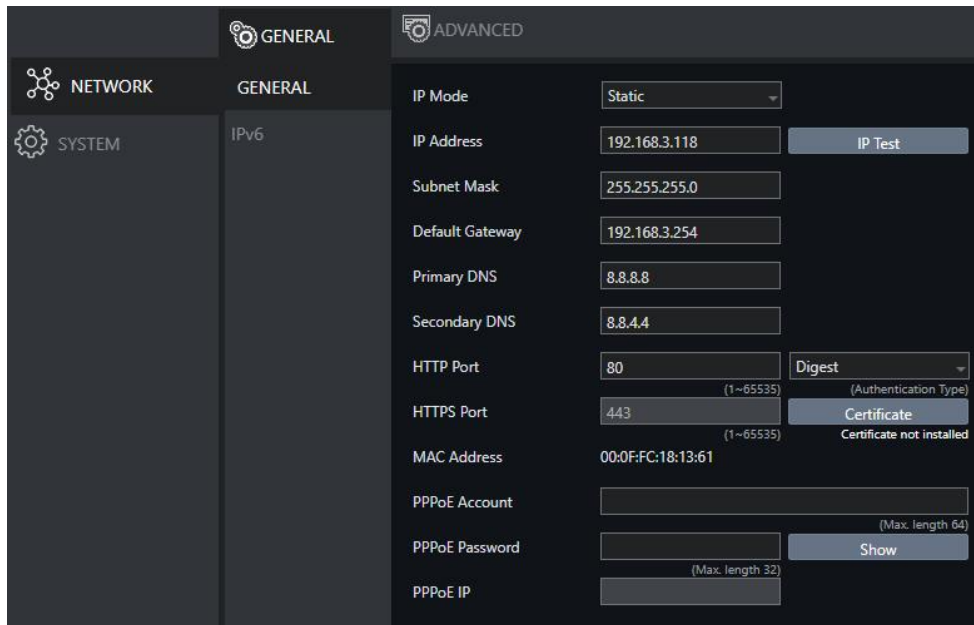
The local NVR firmware update method is as follows:

1. Create a "firmware" folder to the root directory of the USB flash drive.
2. Put the firmware of the NVR to the created "firmware" folder.
3. Plug the flash drive into the USB Port in the NVR rear panel.
4. Click the  gear icon in the upper left corner of the NVR to enter the NVR's Menu.
5. Click **SYSTEM>MAINTENANCE**, select the correct firmware file, then click the **Update** button to firmware update, and press **Submit** to start the firmware update.

Chapter 3 Network Setup

Click NVR Settings icon to enter **NVR SETTINGS**, and then click **NETWORK** in the left menu to enter **NETWORK SETUP** page. The setting options are described below:

Chapter 3-1 General



Field	Value	Notes
IP Mode	Static	
IP Address	192.168.3.118	IP Test button
Subnet Mask	255.255.255.0	
Default Gateway	192.168.3.254	
Primary DNS	8.8.8.8	
Secondary DNS	8.8.4.4	
HTTP Port	80	(1~65535)
HTTPS Port	443	(1~65535)
MAC Address	00:0F:FC:18:13:61	
PPPoE Account		(Max. length 64)
PPPoE Password		(Max. length 32)
PPPoE IP		

Enter the required information in the fields:

- IP Mode: Select the connection type of the NVR from **Static**, **DHCP**, and **PPPoE**.
- IP Address: Enter the IP address you want to use, and press **IP Test** if necessary.
- Subnet Mask: Enter the desired subnet mask.
- Default Gateway: Enter the desired default gateway.
- Primary DNS: Enter the first priority DNS server.
- Secondary DNS: Enter the secondary DNS server in case the primary DNS is not available.
- HTTP Port: Specify a desired HTTP port.
- HTTPS Port: Specify a desired HTTPS port and configure HTTPS.
- RTSP Port: Specify a desired RTSP port.
- FTP Port: Specify the desired FTP port.
- MAC: This is the MAC address of your NVR.
- PPPoE Account: If you choose to connect through PPPoE, enter the account name here.
- PPPoE Password: Enter the required password for PPPoE connection.
- PPPoE IP: Your PPPoE IP will be displayed here.

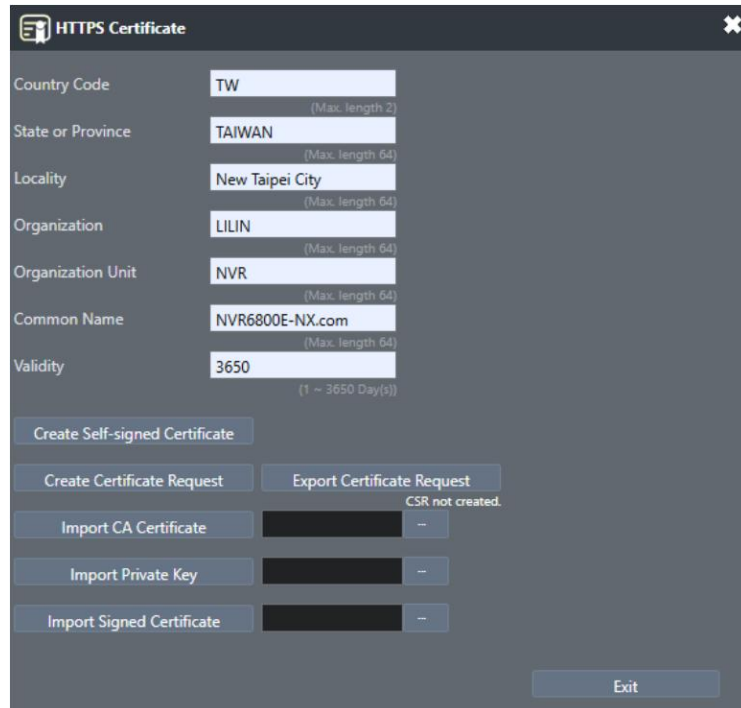
Chapter 3-1-1 Configuring HTTPS Service

NVR support HTTPS (Hypertext Secure Transmission Protocol) service. HTTPS is an Internet protocol that ensures the integrity and confidentiality of data as it travels between users' computers and websites. When users visit any website, they want a secure and private online experience.

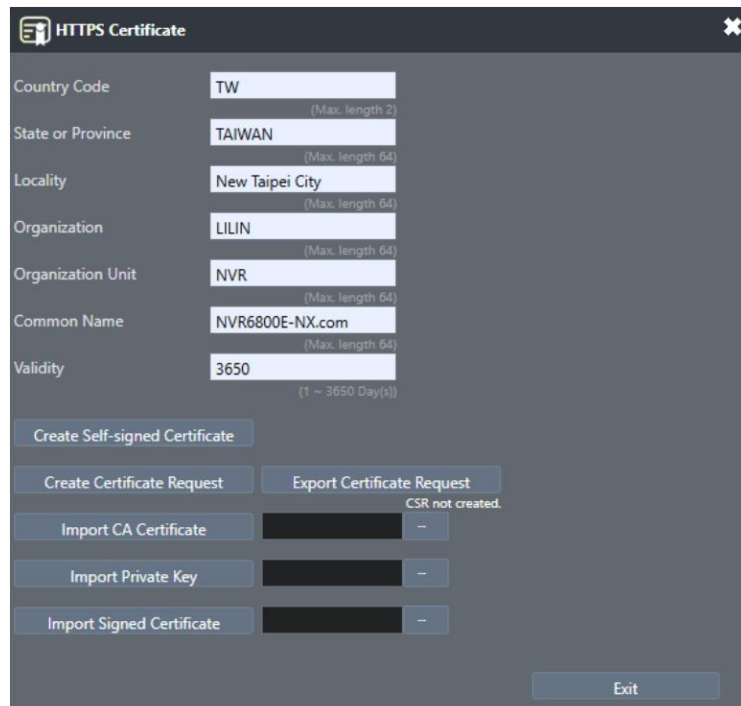
HTTPS can be regarded as the advanced security version of HTTP. The SSL protocol is added as a security certificate. Therefore, the website can prevent data thief from directly seeing the transmitted data even if they intercept the transmitted information by using the encryption on the agreement.

There are two options to set HTTPS service:

1. The first option is to create a free self-signed certificate by filling-in the blank field below. Then, click **Create Self-signed Certificate**.



2. The second option is to purchase an SSL certificate by filling-in the blank field below and clicking on **Create Certificate Request**. Then, click on **Export Certificate Request** to download the request into a PC and use to apply for official certification. After purchasing the SSL certificate from a third-party company, click on the **Import Signed Certificate**.



Chapter 3-2 Advanced

Chapter 3-2-1 TCP/IP

GENERAL		ADVANCED	
TCP/IP	1st TCP/IP	On	
	1st IP Address	192.168.97.111	IP Test
	1st Subnet Mask	255.255.255.0	
	2nd TCP/IP	Off	
	2nd IP Address	192.168.2.111	IP Test
	2nd Subnet Mask	255.255.255.0	
	3rd TCP/IP	Off	
	3rd IP Address	192.168.3.111	IP Test
	3rd Subnet Mask	255.255.255.0	

NVR supports three sets of virtual IP addresses. When **TCP/IP** is switched **On**, the NVR can access the camera or another NVR using the specific IP.

For PoE NVR series, the 1st set of TCP/IP address is enabled by default.

Chapter 4 Remote Browser

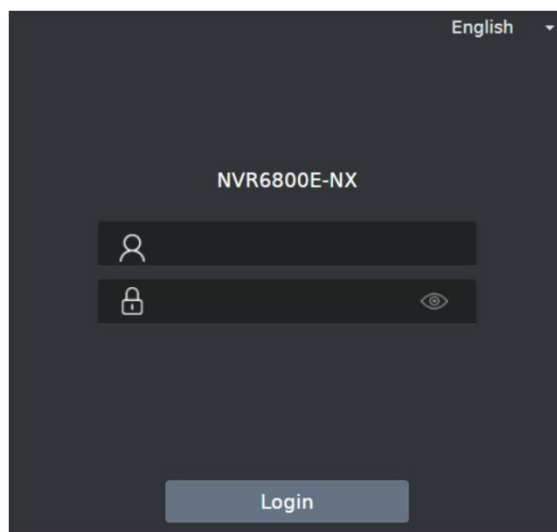
Once the network configurations are completed, it can be accessed remotely via a web browser to perform operations such as network and system settings.

Note: IE 10 or above, or Chrome are recommended.

Enter the NVR IP address or domain name in the address bar:



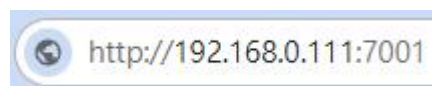
Enter the NVR username and password required for login authorization.



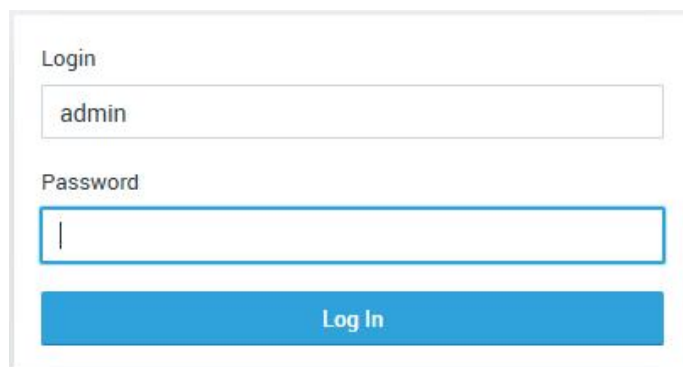
Then log into the **SETTING** menu.

Chapter 4-1 WebAdmin Nx Witness

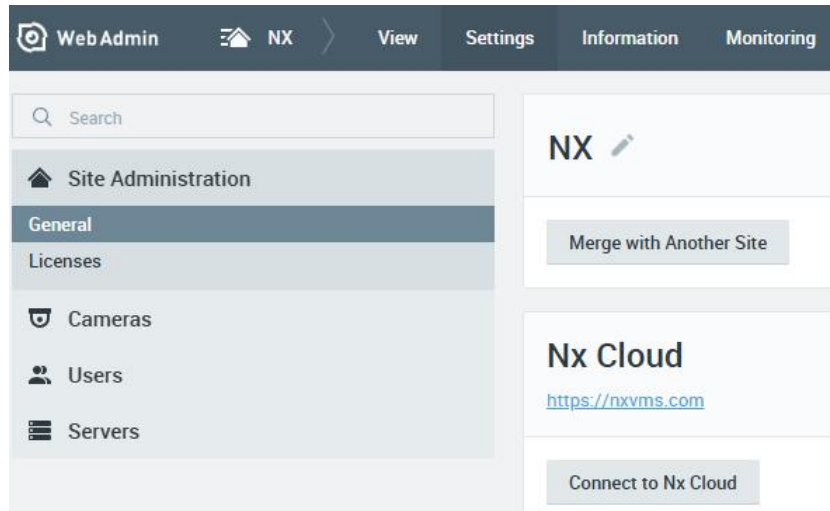
Enter the NVR IP address or domain name followed by port 7001 in the address bar:



Enter the NX username and password required for login authorization

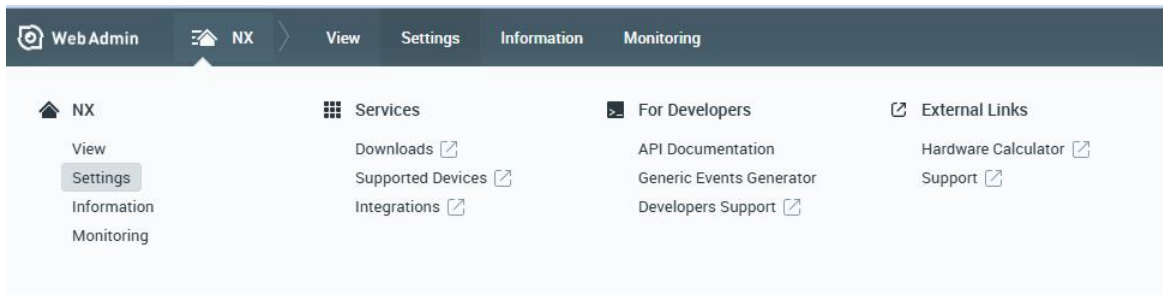


The web interface provides functions such as viewing, configuration, information display, and monitoring. For detailed operation instructions, please refer to the NX User Manual.



Chapter 4-2 Download Nx Witness

In the web management interface, click  and select the **Downloads** feature from the **service** items.



Click **downloads** to be redirected to the NX official website, where you can get the Nx Witness installer.

