

2-Channel Splicing Unit

Quick Start Guide



Foreword

General

This manual introduces the installation, functions, and configuration of the 2-channel decoding splicing unit (hereinafter as the “device”). Read this manual before you use the product and keep this manual for future reference.

Models

NVD0200FX-A01

Safety Instructions

The following signal words might appear in the manual.

Signal Words	Description
 WARNING	Indicates a medium or low potential hazard which, if not avoided, could result in slight or moderate injury.
 CAUTION	Indicates a potential risk which, if not avoided, could result in property damage, data loss, reductions in performance, or unpredictable results.
 TIPS	Provides methods to help you solve a problem or save time.
 NOTE	Provides additional information as a supplement to the text.

Revision History

Version	Revision Content	Release Date
V1.0.0	First release.	October 2023

Privacy Protection Notice

As the device user or data controller, you might collect the personal data of others such as their face, audio, fingerprints, and license plate number. You need to be in compliance with your local privacy protection laws and regulations to protect the legitimate rights and interests of other people by implementing measures which include but are not limited: Providing clear and visible identification to inform people of the existence of the surveillance area and provide required contact information.

About the Manual

- The manual is for reference only. Slight differences might be found between the manual and the product.
- We are not liable for losses incurred due to operating the product in ways that are not in compliance with the manual.
- The manual will be updated according to the latest laws and regulations of related jurisdictions. For detailed information, see the paper user’s manual, use our CD-ROM, scan the QR code or visit our official website. The manual is for reference only. Slight differences might be found between the electronic version and the paper version.
- All designs and software are subject to change without prior written notice. Product updates might result in some differences appearing between the actual product and the manual. Please contact customer service for the latest program and supplementary documentation.

- There might be errors in the print or deviations in the description of the functions, operations and technical data. If there is any doubt or dispute, we reserve the right of final explanation.
- Upgrade the reader software or try other mainstream reader software if the manual (in PDF format) cannot be opened.
- All trademarks, registered trademarks and company names in the manual are properties of their respective owners.
- Please visit our website, contact the supplier or customer service if any problems occur while using the device.
- If there is any uncertainty or controversy, we reserve the right of final explanation.

Important Safeguards and Warnings

This section introduces content covering the proper handling of the Device, hazard prevention, and prevention of property damage. Read carefully before using the Device, comply with the guidelines when using it, and keep the manual safe for future reference.

Transportation Requirements



Transport the device under allowed humidity and temperature conditions.

Storage Requirements



Store the device under allowed humidity and temperature conditions.

Installation Requirements



WARNING

- Do not connect the power adapter to the device while the adapter is powered on.
- Strictly comply with the local electric safety code and standards. Make sure the ambient voltage is stable and meets the power supply requirements of the device.
- Do not connect the device to two or more kinds of power supplies, to avoid damage to the device.
- Replace unwanted batteries with new batteries of the same type and model. Replace unwanted batteries with new batteries of the same type and model to avoid the risk of fire and explosion. Dispose of the old batteries as instructed.
- Do not expose the battery to extremely hot environments, such as direct sunlight and fire, to avoid the risk of fire and explosion.



- Personnel working at heights must take all necessary measures to ensure personal safety including wearing a helmet and safety belts.
- Do not place the device in a place exposed to sunlight or near heat sources.
- Keep the device away from dampness, dust, and soot.
- To ensure heat dissipation, the gap between the device and the surrounding area should not be less than 10 cm on the sides and 5 cm on top of the device.
- Install the device on a stable surface to prevent it from falling.
- Use an adapter or cabinet power supply provided by the manufacturer.
- The power supply must conform to the requirements of ES1 in IEC 62368-1 standard and be no higher than PS2. Please note that the power supply requirements are subject to the device label.
- The device is a class I electrical appliance. Make sure that the power supply of the device is connected to a power socket with protective earthing.
- Use the power cords that are recommended for the region and conform to the rated power specifications.

- When installing the device, make sure that the power plug and appliance coupler can be easily reached to cut off power.
- The appliance coupler is a disconnection device. Keep it at a convenient angle when using it.
- A safety circuit breaker is designed on the device panel to cut the power of the device. Make sure the breaker can be easily operated during installation.

Operation Requirements



This is a class A product. In a domestic environment this may cause radio interference in which case you may be required to take adequate measures.



- Check whether the power supply is correct before use.
- Do not unplug the power cord on the side of the device while the adapter is powered on.
- Operate the device within the rated range of power input and output.
- Use the device under allowed humidity and temperature conditions.
- Do not drop or splash liquid onto the device, and make sure that there is no object filled with liquid on the device to prevent liquid from flowing into it.
- Do not place an open flame on the device, such as a lit candle.
- Do not disassemble the device without professional instruction.

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1 Product Overview

1.1 Introduction

2-ch decoding splicing unit has powerful functions such as decoding, multi-device cascading, roaming, virtual LED and more. It can be applied in multiple scenarios such as the public security management center of the village, intelligent community control room, comprehensive management center, transparent kitchen, education and more.

1.2 Main Functions

Network Video Decoding

Decodes video data transmitted by front-end devices.

Display Function

- Content can be customized and overlaid.
- The background image can be configured.
- The background color can be configured.
- Schemes with video wall configurations can be saved and automatic scheme tour can be applied.

Screen Functions

- Splices one or more screens.
- Splices window on single or splicing screen.
- Controls screen on or off through RS-232 port.

2 Device Appearance and Installation

2.1 Unpacking and Checking

When you receive the device, check whether there is any visible damage. The protective packaging can withstand impacts during transportation.

The label at the bottom of the box contains the device serial number and other information. Protect the label and show it to the after-sales service personnel when you need assistance.

2.2 Device Appearance

2.2.1 Front Panel

Figure 2-1 Front panel



Table 2-1 Parameter description of front panel

No.	Description
1	Power indicator
2	Activity indicator
3	USB port. Used for connecting external devices such as mouse and keyboard
4	Power button

2.2.2 Rear Panel

Figure 2-2 Rear panel



Table 2-2 Parameter description of rear panel

No.	Description
1	Ground
2	Power port
3	RJ-45 network port
4	HDMI output port
5	USB Port
6	RS-232 series port of screen control
7	Reset button. Press and hold it for more than 5 s, and then the device will restore factory default settings
8	3.5 mm audio output

3 Web Operations

3.1 Connecting to Network

Procedure

- Step 1 Connect the network port of the device to the network port of your computer with the network cable.
- Step 2 Set the computer and the device on the same IP segment.
- Step 3 Ping `***.***.***.***` (IP address of the device) on your computer to check whether the connection is working normally. Usually the returned TTL value should be less than or equal to 64.
- Step 4 Enter the IP address of the device in the address bar of the browser, and then press the Enter key.
- Step 5 After you log in to the webpage, change the IP address of the device according to the actual situation.



Web controls can be automatically recognized and downloaded. The system can download the latest web controls and remove the old one.

3.2 Logging in to the Webpage

Procedure

- Step 1 Enter the IP address of the Unit in the browser address bar. (the IP address is 192.168.1.108 by default), and then press Enter.

Figure 3-1 Initialization

Device Initialization

Username admin

Password

Low Middle High

Confirm Password

OK

- Step 2 Set the password for the admin user.



- The password must consist of 8 to 32 non-blank characters and contain at least two types of the following characters among uppercase and lowercase letters, numbers, and special characters (excluding ' , " , ; : and &). The confirming password must be the same as the new password.
- Set a high security password according to the password strength prompt.

- Step 3 Click **OK**.

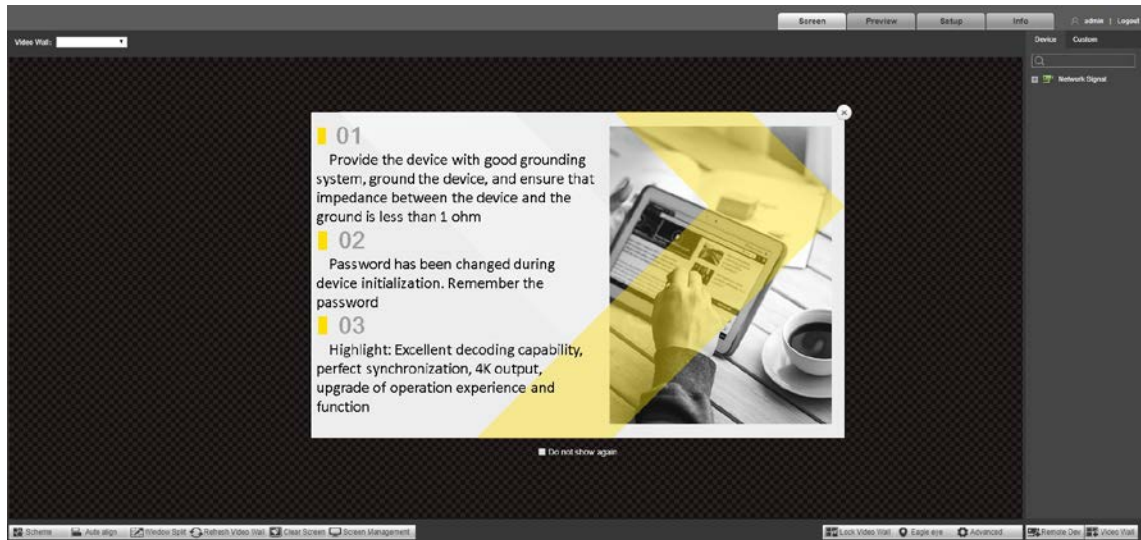
- Step 4 Enter the username and password, and then click **Login**.

Step 5 Check the notes and product highlights on the page.



- Follow the important notes on the page.
- Click  to close the page.
- Select the **Do not show again** check box, and the prompt will not be displayed when you log in to the page next time.

Figure 3-2 Operation page



Step 6 Follow the system instructions to install or load controls.

3.3 Screen

Click **Screen** to enter the video wall page.

Figure 3-3 Screen

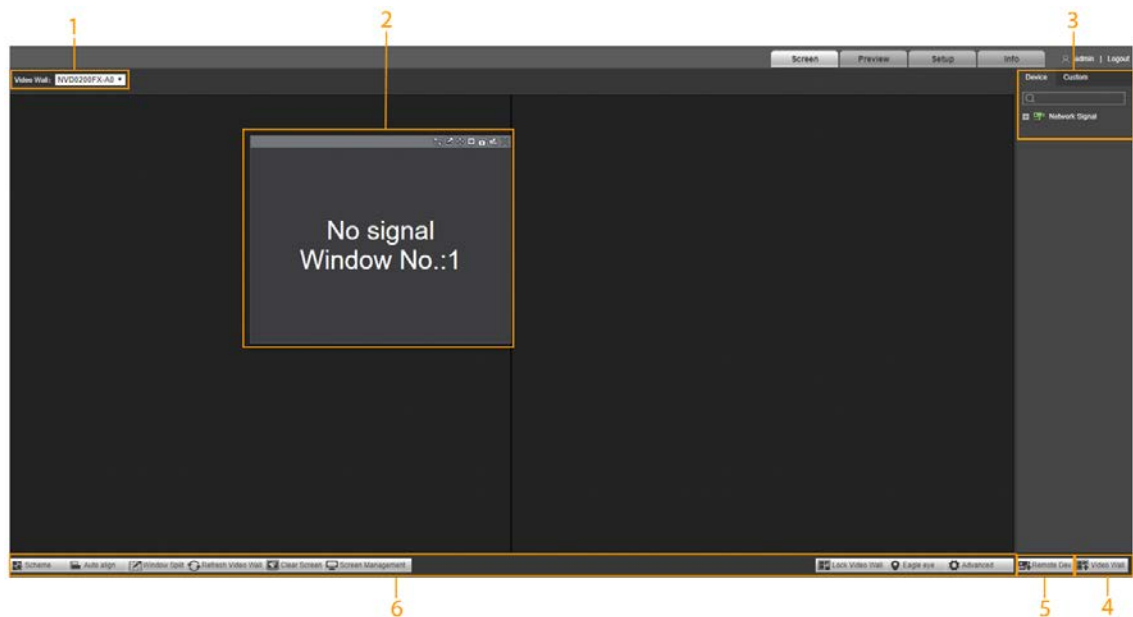


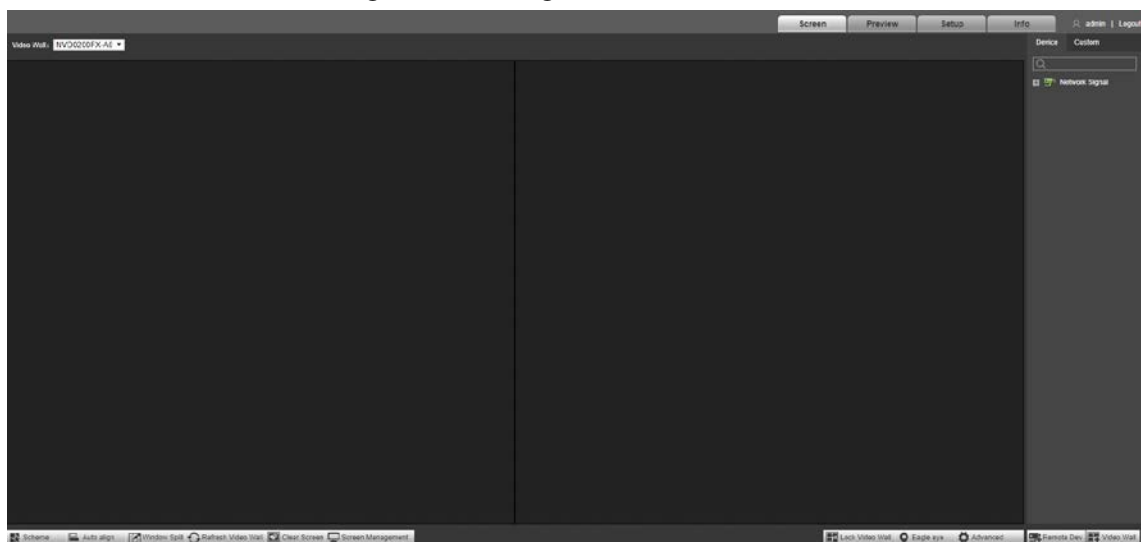
Table 3-1 Description of screen functions

No.	Parameter	Description
1	Video wall selection area	After adding a video wall, you can select the video wall from the drop-down list of Video Wall .
2	Window configuration	You can turn off signals and add, adjust and put windows down at the bottom.
3	Signal management	Select different tabs to operate. ● Click Device, and then you can view network signal, channel information, preview and display the signal on the video wall. ● Click Custom, and then you can view information on signal groups and configure signal tour on the video wall.
4	Video wall	Click Video Wall to enter Video Wall Setup page, and then you can add, modify and delete video walls.
5	Remote device	Click Remote Dev to go to the Network Signal page where you can add, modify, and delete devices.
6	Video wall management	You can manage schemes, align windows automatically, split windows, refresh the video wall, clear the screen and turn on/off screen, lock or unlock the video wall, and more.

Adding video walls

For first-time login, click **Screen** to go to the video wall page, you can see a default video wall. You can directly configure the default video wall or click  to add new video walls.

Figure 3-4 Adding video walls

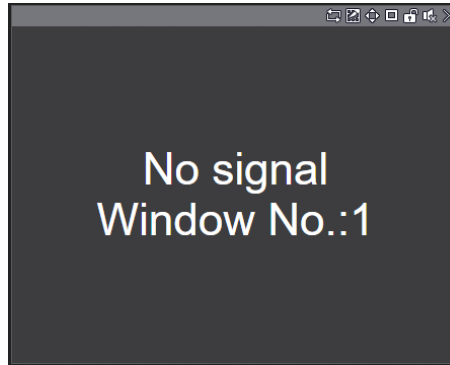


3.3.1 Window Configuration

3.3.1.1 Adding Windows

Press and hold the mouse to drag and form a window.

Figure 3-5 Add windows



- Select a window, press and move the left mouse button, and then the selected window will be moved to the required position.
- Select a window, drag the control point in any direction to change the dimensions of the selected window.
- Select a window, right-click and select **Bottom**. The selected window will appear at the bottom of other windows.
- Select a window that is displaying signal, right-click and then select **Signal Off**. The signal will be turned off.

Adjusting the Window

Click icons on the upper-right corner to adjust windows.

Table 3-2 Icon description

Icon	Name	Description
	Start/stop signal tour	Click the icon to start signal tour, and the icon becomes . Click to stop signal tour.
	Split	Split the window across 2 windows, including 2 splits (horizontal and vertical), 4 splits, 9 splits, 16 splits and 25 splits. When the window is maximized or pasted to the screen, the icon becomes . Click the icon to drag the window to any positions.
	Paste screen	The window is pasted to the screen and cannot change its size.
	Paste window	Maximize the window without overlapping other windows.
	Lock	When the window is locked, the position and size cannot be adjusted. Click to unlock the window.
	Audio	Turn on/off audio (reserved function).

Icon	Name	Description
✕	Close	Close the window.

3.3.1.2 Configuring Window Information

Configure the coordinates and size of the window.

Procedure

- Step 1 Log in to the webpage, and then click **Screen**.
- Step 2 Double-click the window.
- Step 3 Configure window position and size.

Figure 3-6 Window information

- Step 4 Click **Apply**.
The window position and size are adjusted according to the configuration.

3.3.2 Signal Configuration

Select signals, or enter the name of the signal in the search bar to search for signals.

3.3.2.1 Device Tree

The device tree displays all the network signals. You can click **Add** to add signals.

3.3.2.2 Custom

The **Custom** tab displays groups that were added and the signal sources in groups. After you drag a signal group to a window, signals in the signal group are played in a loop.

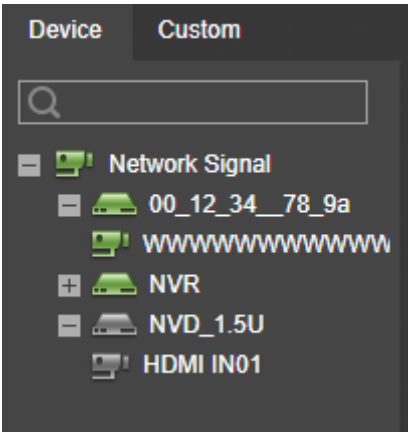
3.3.2.3 Signal on Wall

You can view videos related to the signal on the video wall.

Procedure

- Step 1 Log in to the webpage, and then click **Screen**.
- Step 2 Select a window on the video wall, or press and hold the left mouse button to create a window on the video wall.
- Step 3 Select a signal source from the **Device** or **Custom**.

Figure 3-7 Select signal source



- Step 4 Display the signal on the video wall.
- Press and hold the left mouse button to drag the signal to the designated window, and the signal will be output to the window.
 - Select a window, double-click channel preview or main/sub stream, and the signal will be output to the window.
- Step 5 Log in to the webpage, and then click **Screen**.
- Step 6 Select a window to tour signals.
- Step 7 Select **Custom > Collection**.
- Step 8 select a signal group, and press and hold left mouse button to drag the signal group to the designated window.
- The window starts to tour signals automatically.
- Step 9 Click  at the bottom of the page.
- All signal information in the window is displayed.

Figure 3-8 Signal information

No.	IP	Channel Name	Stay Time	Stream Type	Operation
1		HDMI IN02	10	Preview Stream ▼	⌕ ⬆ ⬇ ⬆

- Step 10 Set **Stay Time** and **Stream Type**. The default stay time is 10 s.



- Click corresponding to a signal, and the signal will not appear in the tour queue, but still exists in the signal group.
- Click or to adjust the sequence of signal tour.
- The configuration takes effects immediately.
- Click on the upper-right corner of the window to stop signal tour.

3.4 Setup

3.4.1 Event Management

Set alarm mode of abnormal events for the device. When an abnormal event occurs during local device operation, alarm linkage is triggered.

Procedure

- Step 1 Log in to the webpage of the device.
- Step 2 Select **Setup > Event Management > Abnormal**.
- Step 3 Select abnormality mode, including **Network Offline**, **IP Conflict**, and **MAC Conflict**.
- Step 4 Select the **Enable** check box, and then configure the parameters.
The parameters of the 3 abnormal event should be the same.

Figure 3-9 Abnormal event handling

☐ Enable

☐ Buzzer ☒ Log

Table 3-3 Parameters description of abnormal handling

Parameter	Description
Buzzer	The system activates a buzzer alarm when an alarm event occurs.
Logs	The log records alarm information when an alarm event occurs.

- Step 5 Click **Save**.

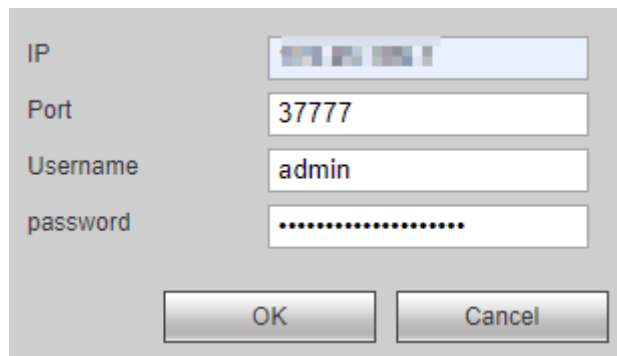
3.4.1.1 Cascade Configuration

Set the operating device as the main node, and add other devices as the sub nodes. In cascade system, you can use any output ports of the devices to create video wall.

Procedure

- Step 1 Log in to the webpage of the device.
- Step 2 Select **Setup > Cascade Config > Cascade Config**.
- Step 3 Click **Add**.
- Step 4 Enter the IP address, port number, username, and password of the sub node device.

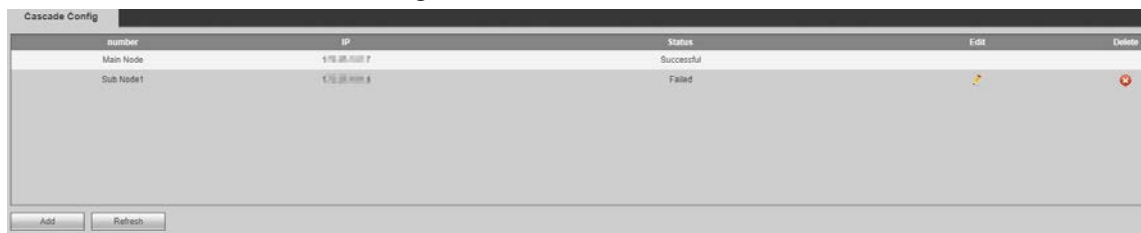
Figure 3-10 Add child node



A dialog box titled 'Add child node' with four input fields: IP (with a dropdown menu), Port (containing '37777'), Username (containing 'admin'), and password (with masked dots). At the bottom are 'OK' and 'Cancel' buttons.

Step 5 Click **OK**.

Figure 3-11 Sub node



A table titled 'Cascade Config' showing sub nodes. It has columns for number, IP, Status, Edit, and Delete. The first row is 'Main Node' with IP '192.168.1.1' and Status 'Successful'. The second row is 'Sub Node1' with IP '192.168.1.2' and Status 'Failed'. There are 'Add' and 'Refresh' buttons at the bottom.

number	IP	Status	Edit	Delete
Main Node	192.168.1.1	Successful		
Sub Node1	192.168.1.2	Failed		



- Main node can delete any sub nodes from cascade system.
- Sub node can be removed from the cascade system, and then you can perform operations on the webpage.

Related Operations

- Click  to edit sub node information.
- Click  to delete the sub node.

3.4.2 Signal Management

You can manage network signal, local signal, and add signal groups.

3.4.2.1 Network Signal

Select **Setup** > **Signal Management** > **Network Signal**, and then you can add devices in the network to preview and display network signal on wall, and also control the remote device.



The device shall have a decoding card, so network signal can be decoded and displayed on the video wall.

Figure 3-12 Network signal

Network Signal

	No.	IP Address	Port	Device Name	Manufacturer	Type
☐	1	172.28.188.36	37777	NVR	Private	NVR
☐	2	172.28.188.36	37777	LCS-K1110	Private	LCS-K1110
☐	3	172.28.188.36	37777	00_12_34_78_9a	Private	IPC-HFW1430TL-A-L
☐	4	172.28.188.36	37777	LCS-K1000	Private	LCS-K1000-E
☐	5	172.28.188.36	37777	NVD_1.5U	Private	NVD_1.5U
☐	6	172.28.188.36	37777	NVD_9905_4K	Private	NVD_9905_4K
☐	7	172.28.188.36	37777	6C00D56YAGC2A26	Private	IPC-HFW540K-ZYH-LED-JM
☐	8	172.28.188.36	37777	6C02566YAG05417	Private	IPC-HF2233E

Device Search

Add

Display Filter: N/A

	No.	Connection Status	IP Address/URL	Port	Device Name	Channel No.	Manufacturer	Type
☐	1	Successful	172.28.188.36	37777	NVR	1	Private	NVR
☐	2	Successful	172.28.37.35	37777	00_12_34_78_9a	1	Private	IPC
☐	3	Failed	172.28.188.36	37777	NVD_1.5U	1	Private	Matrix

Delete

Manual Add

Refresh

Search Added Device(IP):

Export Config

Import Config

Note: The compatibility of IE version has a certain impact on the national standard function, please use the chrome browser

Note: The compatibility of IE version has a certain impact on the national standard function, please use the chrome browser

3.4.2.1.1 Adding Signals in Batches

Procedure

- Step 1** Log in to the webpage of the device.
- Step 2** Select **Setup > Signal Management > Network Signal**.
- Step 3** Select the check box corresponding to the network signal, and then click **Add**.
 - If the device is in normal use, **Connection Status** will change from **Failed** to **Successful** after several seconds. The system will display **Saved Successfully** again.
 - If **Connection Status** remains **Failed**, the device might not be started, or a block list has been configured, or it is not included in a allowlist.

Figure 3-13 Add signals

Network Signal

	No.	IP Address	Port	Device Name	Manufacturer	Type
	1	172.28.188.36	37777	NVR	Private	NVR
	2	172.28.188.36	37777	LCS-K1110	Private	LCS-K1110
	3	172.28.188.36	37777	00_12_34_78_9a	Private	IPC-HFW1430TL-A-L
	4	172.28.188.36	37777	LCS-K1000	Private	LCS-K1000-E
	5	172.28.188.36	37777	NVD_1.5U	Private	NVD_1.5U
	6	172.28.188.36	37777	NVD_9905_4K	Private	NVD_9905_4K
	7	172.28.188.36	37777	6C00D56YAGC2A26	Private	IPC-HFW540K-ZYH-LED-JM
	8	172.28.188.36	37777	6C02566YAG05417	Private	IPC-HF2233E

Device Search

Add

Display Filter: N/A

	No.	Connection Status	IP Address/URL	Port	Device Name	Channel No.	Manufacturer	Type
	1	Successful	172.28.188.36	37777	NVR	1	Private	NVR
	2	Successful	172.28.188.36	37777	00_12_34_78_9a	1	Private	IPC
	3	Failed	172.28.188.36	37777	NVD_1.5U	1	Private	Matrix

Delete

Manual Add

Refresh

Search Added Device(IP):

Export Config

Import Config

Note: The connectivity of IP session has a certain limit on the network standard for device, please use the stream browser.

Note: The compatibility of IE version has a certain impact on the national standard function, please use the chrome browser

Related Operations

- Search for devices
 - ◇ Filter device type in **Display Filter**. For example, select IPC, and then all IPC devices will be displayed here.
 - ◇ Enter IP address in **Search Added Device (IP)** search box, and then the device information will be highlighted in yellow on the list.
- Delete devices. Select devices from the device list, and then click **Delete**.

- Sort. Click each attribute field, and  will appear on the right of the field, which means that the network signal is arranged in descending order. Click it again, and the icon turns into , meaning the network signal is arranged in ascending order.

3.4.2.1.2 Adding Signals Manually

Procedure

- Step 1 Log in to the webpage of the device.
- Step 2 Select **Setup > Signal Management > Network Signal**, and then click **Manual Add**.
- Step 3 Enter the device parameters.



- The system supports **Private**, **Hikvision**, **Onvif**, and **General**. Select the protocol according to the devices.
- The parameters might be different depending on actual situation. We use **Private** protocol as an example.

Figure 3-14 Manual add

Table 3-4 Description of manual add parameters

Parameter	Description
Device Name	Enter the custom device name to differentiate it from others.
Manufacturer	Private.
Protocol	Transmission Control Protocol (TCP) is the default protocol and cannot be changed.
IP Address	Enter the IP address of the device to be added.
Port	TCP service port. You can enter the value as needed. The value is 37777 by default.
Username	Username and password used to log in to the device.
Password	

Parameter	Description
Channel No.	The total number of channels.

Step 4 (Optional) Configure the note, control ID and channel type.

- **Control ID** can correspond to the binding source (such as keyboard), so the binding source can be displayed on video wall.
- The channel type is remote channel by default.

Step 5 Click **OK**.

3.4.2.1.3 Importing and Exporting Configuration

Import and export configurations, to add network signals in batches.

Prerequisites

Enable HTTPS before using import and export configuration.

Procedure

Step 1 Log in to the webpage of the device.

Step 2 Select **Setup > Signal Management > Network Signal**.

Step 3 Import or export configurations.

- Click **Import Config** to import the preset device information into the system.
- Click **Export Config** to export configuration files and save them to your local computer.

Step 4 (Optional) Click **Import Config** or **Export Config** in HTTPS environment. You need to login again, and then click **Import Config** or **Export Config**.

3.4.2.2 Signal Grouping

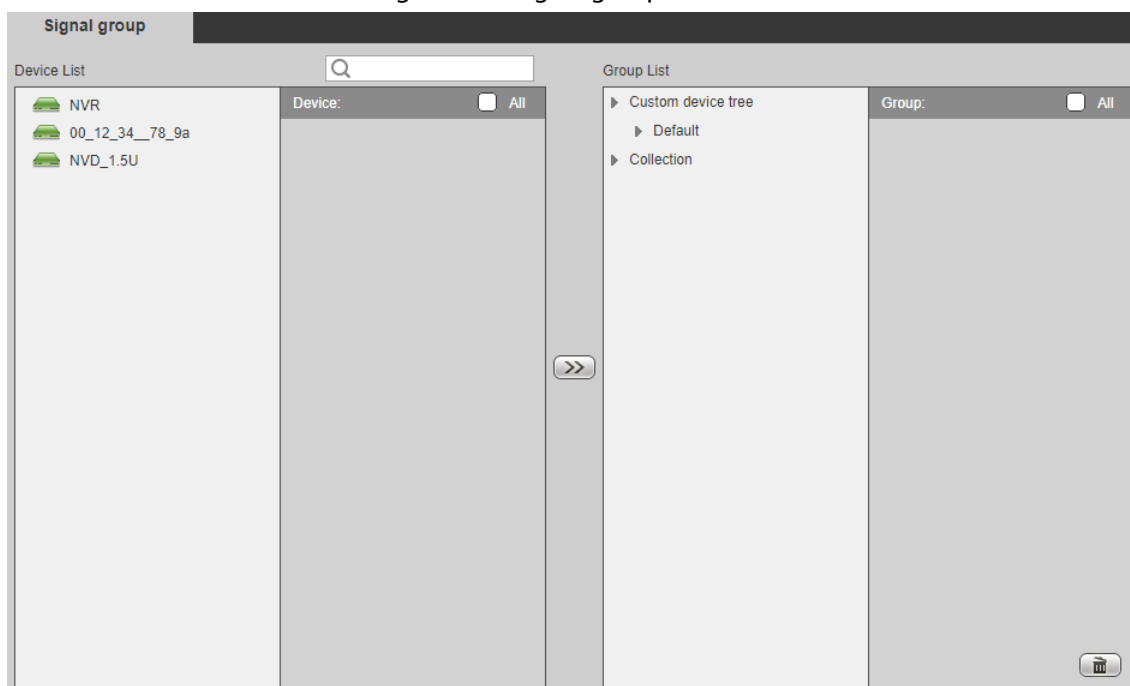
You can customize signal group and drag signals on the wall or for loop play of signals in the group.

Procedure

Step 1 Log in to the webpage of the device.

Step 2 Select **Setup > Signal Management > Signal Group**.

Figure 3-15 Signal group



Step 3 Add Groups.

- 1) Move your mouse to **Custom device tree** or **Collection** in **Group List**, and then click .
- 2) Enter the group name, and then click **OK**.
- 3) Move your mouse to the name of newly created group to edit the group.



Click  to create a sub group under this group. Sub group cannot be created for groups in **Collection**.

Step 4 Select a signal.

- 1) Select a device from **Device List**.
- 2) Select one signal or multiple signals.

Step 5 Select one group, and then click .

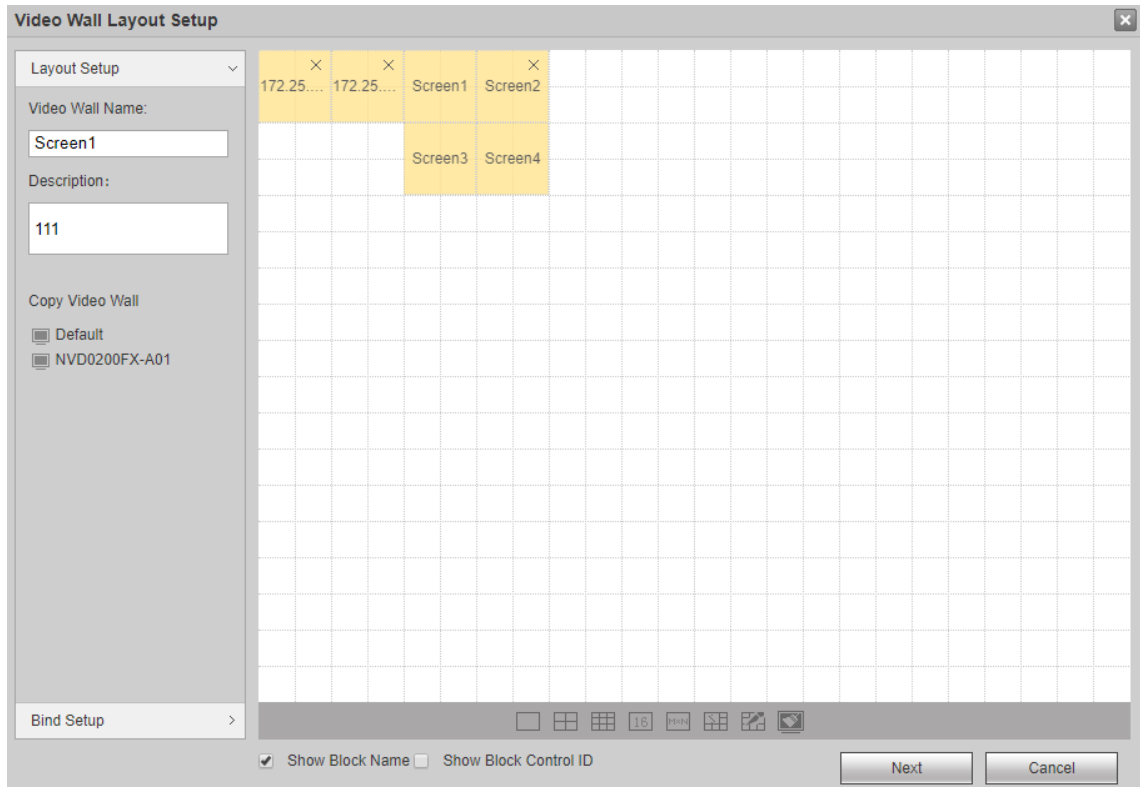
3.4.3 Adding Video Walls

You can configure video walls according to actual quantity of screens, so signals can be displayed on video walls.

Procedure

- Step 1** Log in to the webpage of the device.
- Step 2** Select **Setup > Display Management > Video Wall Setup**.
- Step 3** Click **Add Video Wall** to configure video wall layout.

Figure 3-16 Video wall layout configuration



- 1) Customize **Video Wall Name** and **Description**.
- 2) Click icons at the bottom of the page to add single screen and split screen quickly.



Press and hold the mouse to drag the screen to any positions you want.

Table 3-5 Parameters description

Icon	Name	Description
	Single screen and splicing screen	Click the icon to add single screen, 4-split, 9-split or 16-split screen.
	Customized splicing	Click this icon, enter row and column number in the pop-up User Custom page, and then add a custom screen.
	Splicing	Select single screens, and click the icon to splice them. ● Splicing screen cannot be selected. ● Single screens must be connected horizontally or vertically.
	Cancel splicing	Select splicing screens, and click this icon to cancel splicing.
	Screen clearing	Clear all screens on the video wall.

- 3) (Optional) You can select existing video wall from the **Copy Video Wall** zone on the left, and then display the video wall layout on the right. You can modify the layout directly.

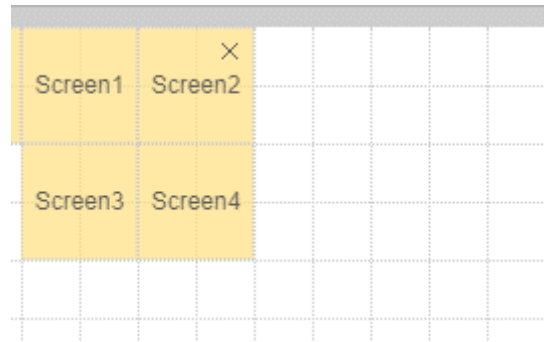
Step 4 (Optional) Select **Show Block Name** or **Show Block ID**, and then every splicing screen will

display a block name or ID.



- You cannot select **Show Block Name** and **Show Block Control ID** at the same time.
- Double-click to modify block name.

Figure 3-17 Display block name



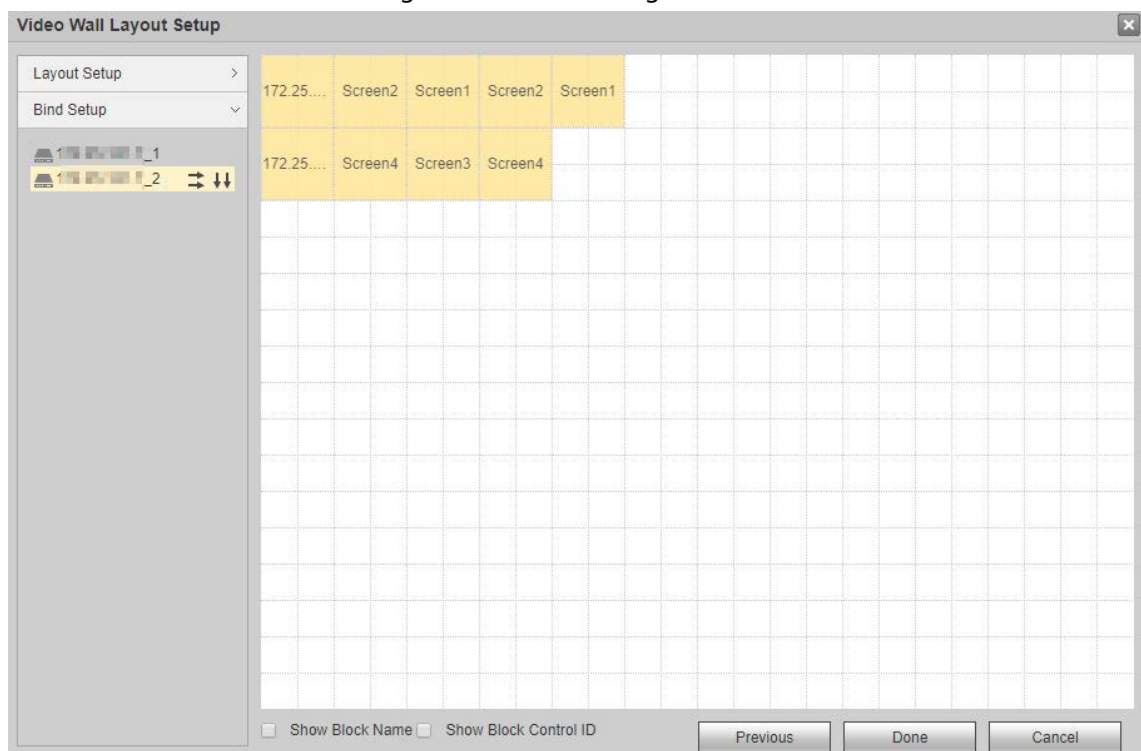
Step 5 Click **Bind Setup**.

Step 6 Press and hold the mouse to drag the slot to the screen, and bind the slot channel with screen.



- All screens on the video wall should be bound with slot channel.
- Slot cannot be bound repeatedly. In case of error, drag a correct slot channel to the screen to cover it directly.
- Click  to bind the channel horizontally.
- Click  to bind the channel vertically.

Figure 3-18 Slot binding



Step 7 Double-click a new video wall block to configure block parameters.

Figure 3-19 Block configuration

Block Setup

Block Name

1

Row Delay

ms(0-100)

row-column	Output Port	Screen Resolution	Screen ControlID
1-1	1024x1024	1920*1080	1

OK

Cancel

Table 3-6 Description of block configuration parameters

Parameter	Description
Name	Configure block name.
Row Delay	Configure row delay time ranging from 0 ms to 100 ms to display video synchronously.
Resolution	Select Custom to configure the resolution of output screen corresponding to each slot.

Step 8 Click **OK**.

Step 9 Click **Done**.

The system exits the **Video Wall Layout Setup** page. The new video wall is displayed in video wall list.

Figure 3-20 Add video wall

Video Wall Setup

No.	Status	Name	Description	Operation
1	ON	NVD0200FX-A01		 

Add Video Wall

Delete



The new video wall is on by default. Click **ON** to turn off it.

4 Configuring GUI

You need to connect the display and mouse to the device.

4.1 Start and Shutdown

4.1.1 Start

Connect the device to the power supply, and then press the power button on the front panel. Power indicator on indicate the device starts.

4.1.2 Shutdown

Press and hold the power button on the front panel for 3 s to shut down the device.



- Unplug power supply to shut down the device.
- If the device is forcibly shut down or suddenly disconnected from its power supply while it is working, it will resume working on the operations it was doing before it was turned off.

4.2 Software Operations

Initialize the system, and then log in.

Procedure

- Step 1 Power on the Device to enter the initialization page.
- Step 2 Set the admin password, and then click **OK**.



- The password must consist of 8 to 32 non-blank characters, and can consist of upper case, lower case, numbers, and special characters (excluding ', ", ;, :&). The confirming password must be the same as the new password. Set a strong password based on the password strength prompt.
- For password security, the account will be locked if the wrong password is entered for 5 times within 30 minutes.

Figure 4-1 Initialization

Password reset

User admin

Password

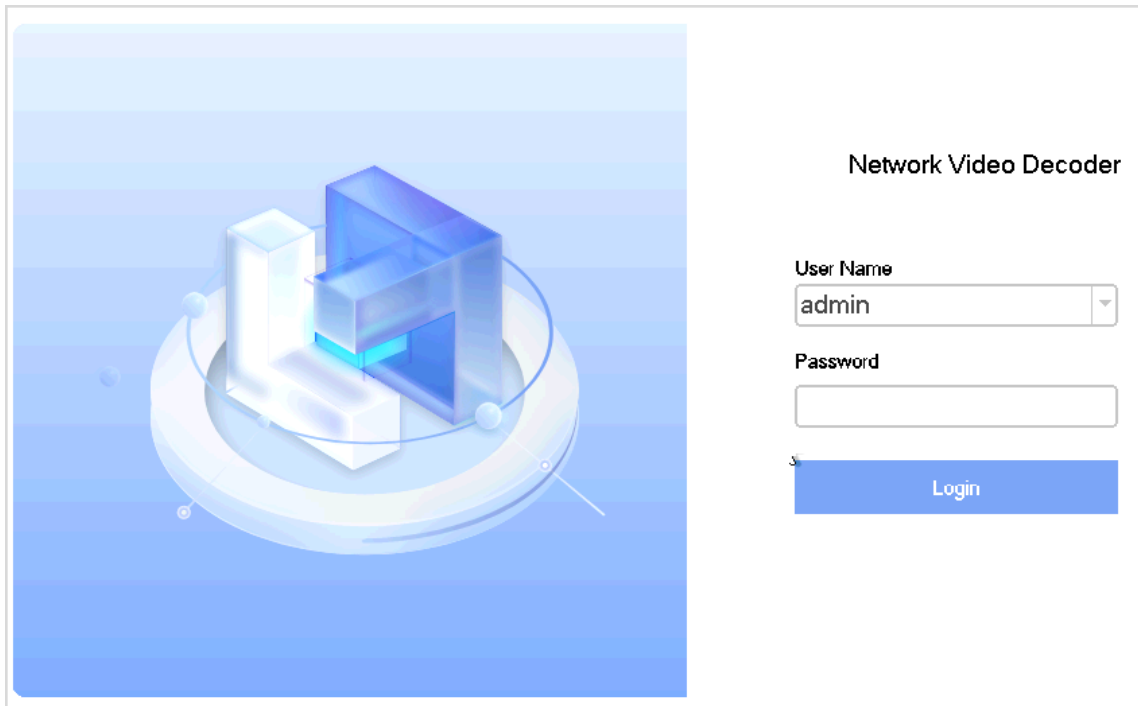
(Min 8-digit containing letter(s) and number(s))

Confirm Password

OK

Step 3 Enter the password, then click **Login** to log in.

Figure 4-2 Login

The image shows a login interface for a 'Network Video Decoder'. On the left is a 3D graphic of a blue and white geometric structure on a circular base. On the right, the title 'Network Video Decoder' is at the top. Below it are two input fields: 'User Name' with a dropdown menu showing 'admin', and 'Password' with a text box. At the bottom right is a blue 'Login' button.

Network Video Decoder

User Name
admin

Password

Login

4.3 Configuring the Network

Configure the network of the device to ensure that it is connected.

On the home page, Click **Network Settings** to configure the **IP Address**, **Subnet Mask** and **Gateway**. After that, click **OK**.

Figure 4-3 Network settings

 **Network**

IP Version

IPv4

DHCP

☐

IP Address

192 . 168 . 101 . 7

Subnet Mask

255 . 255 . 255 . 0

Gateway

192 . 168 . 1 . 1

TCP Port

37777

HTTP Port

80

UDP Port

37778

Max Connection

128

Preferred DNS

0 . 0 . 0 . 0

Alternate DNS

0 . 0 . 0 . 0

Save

Default

4.4 Signal Management

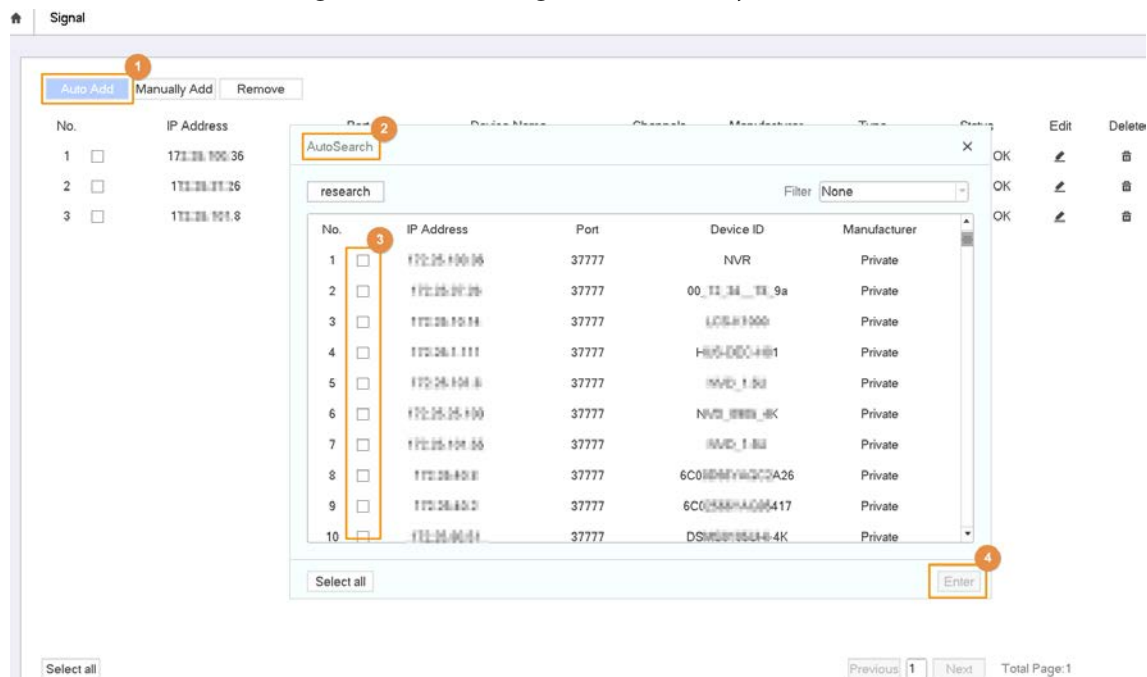
4.4.1 Adding Signals Automatically

Search and add signals automatically.

Procedure

- Step 1 On the GUI page, click **Signal**.
- Step 2 Select **Auto Add** > **Auto Search**.
- Step 3 Select a signal or multiple signals, and then click **Enter**.

Figure 4-4 Add the signal automatically



Related Operations

- Select a signal or multiple signals, and then click **Delete** to delete the added signals.
- Click the  corresponding to the signal to delete the signal.
- Click  to edit the signal.
- Click **Select all** to select all signals.
- Click **Research** to search for signals again.
- Click **Filter** to filter by device models.

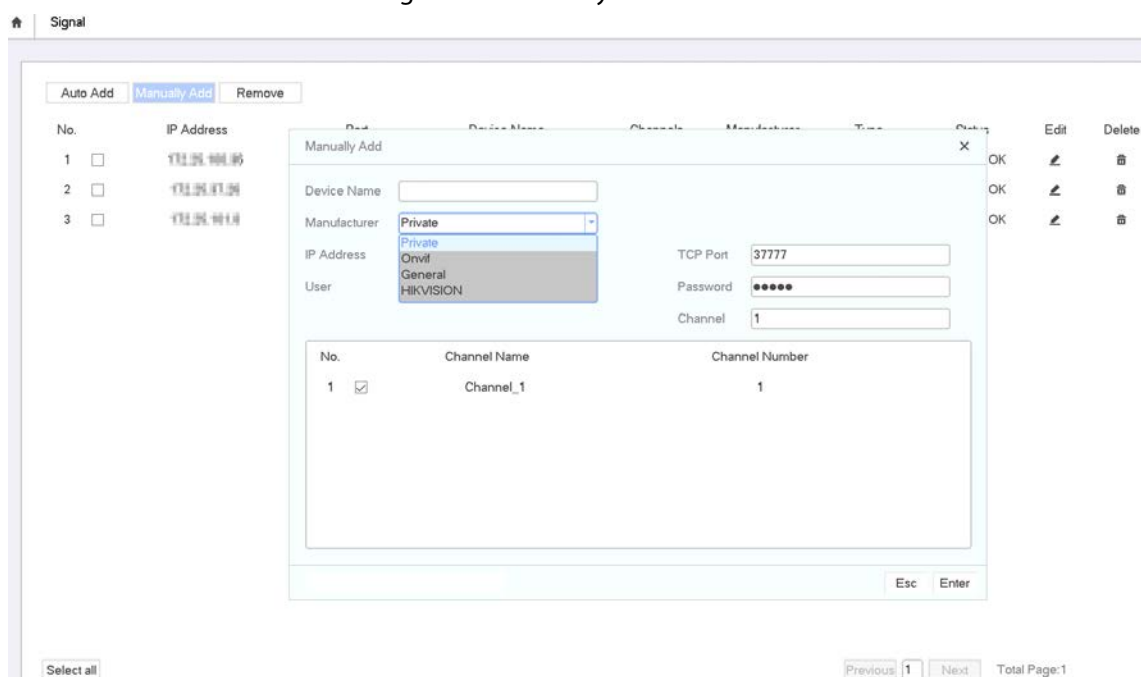
4.4.2 Adding Manually

Add the network signal manually.

Procedure

- Step 1 On the home page, click **Signal**.
- Step 2 Select the **Manually Add**.
- Step 3 Configure the parameters, and then click **Save**.

Figure 4-5 Manually add



4.5 Video Wall Operations in GUI

You can open windows, configure signals on the wall, download schemes, and more.

Log in to the GUI, and then click **TV wall**. Open a window on the video wall, and then drag the signal to the window.

Figure 4-6 Video wall

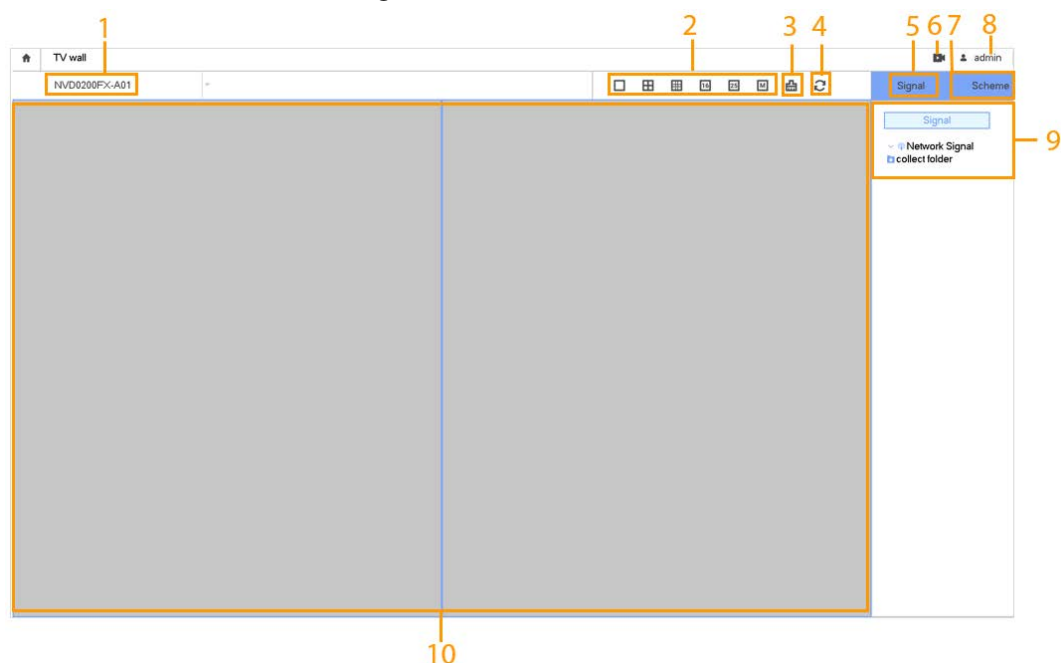


Table 4-1 Description of the TV wall

No.	Description
1	Video wall list.
2	Block division. You can select single screen, 4, 9, 16 and 25 windows.

No.	Description
3	Screen clearing.
4	Refresh.
5	Click to display the signal list.
6	Preview. Click to view the video of the current signal.
7	Scheme. Click to select scheme.
8	Account. You can log out, shutdown and restart.
9	Signal list.
10	Video wall layout.

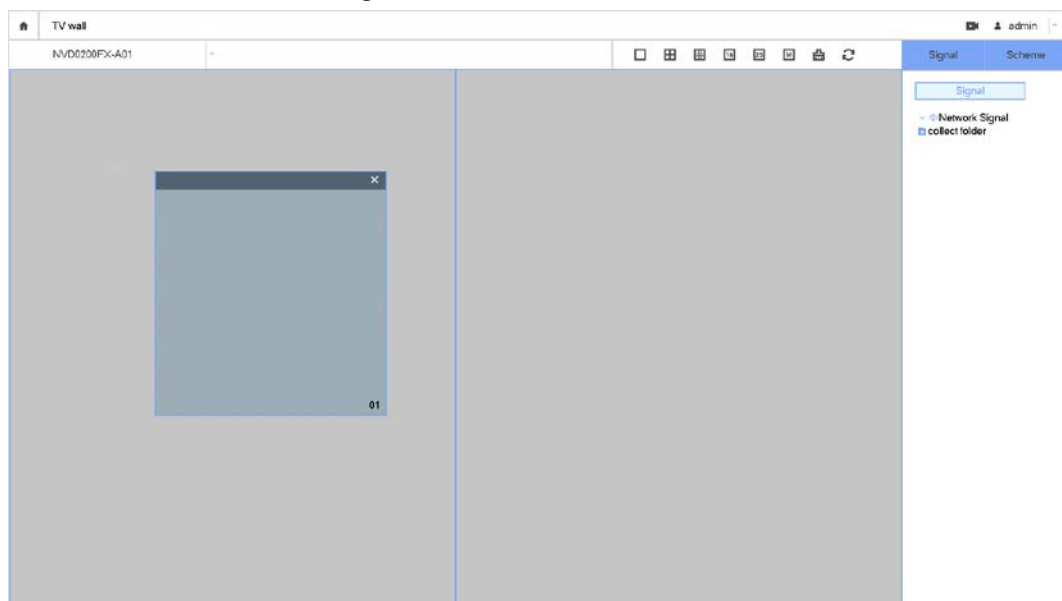
4.5.1 Window Configuration

Add windows in video wall blocks.

Procedure

- Step 1 In GUI, click **TV wall**.
- Step 2 Configure block division for the video wall.
- Step 3 Press and hold the mouse to form one or more windows on video wall.

Figure 4-7 Add windows



- Step 4 Drag the signal from the signal list to the window to enable signal on wall.

Related Operations

Click  to close the window.

4.5.2 Scheme Management

Configure scheme tour, and load the scheme in GUI.

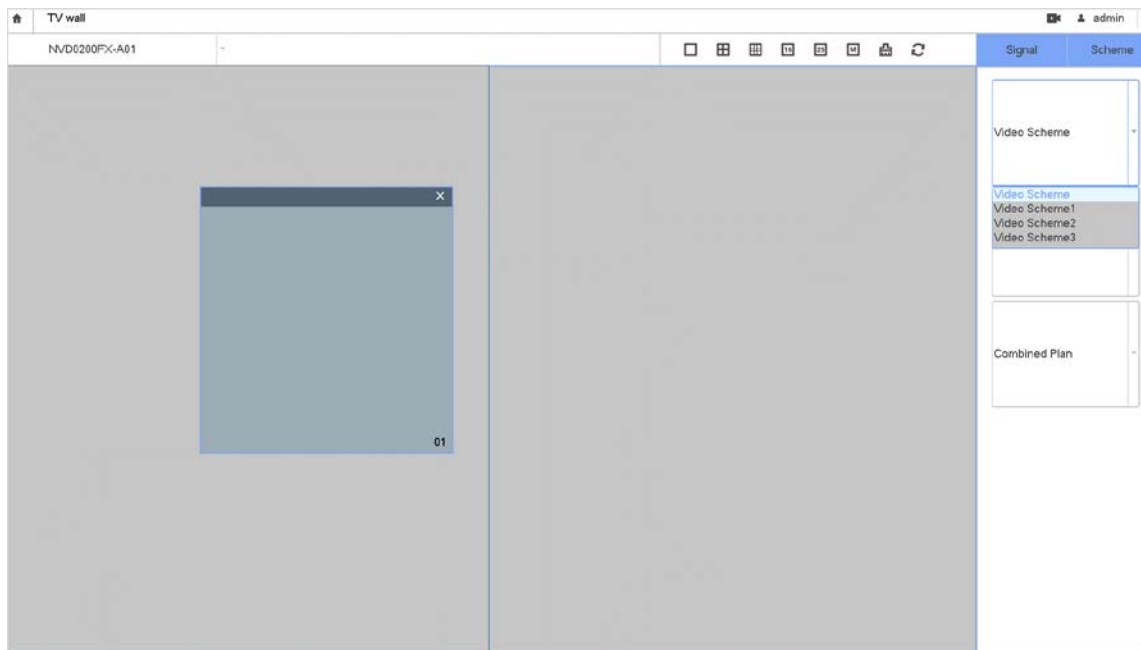
Prerequisites

You have configured schemes and scheme tour on the webpage.

Procedure

- Step 1 Log in to the GUI, and then click **TV wall**.
- Step 2 Click **Scheme** on the right side to load the scheme.

Figure 4-8 Load the scheme



Appendix 1 Security Recommendation

Account Management

1. Use complex passwords

Please refer to the following suggestions to set passwords:

- The length should not be less than 8 characters;
- Include at least two types of characters: upper and lower case letters, numbers and symbols;
- Do not contain the account name or the account name in reverse order;
- Do not use continuous characters, such as 123, abc, etc.;
- Do not use repeating characters, such as 111, aaa, etc.

2. Change passwords periodically

It is recommended to periodically change the device password to reduce the risk of being guessed or cracked.

3. Allocate accounts and permissions appropriately

Appropriately add users based on service and management requirements and assign minimum permission sets to users.

4. Enable account lockout function

The account lockout function is enabled by default. You are advised to keep it enabled to protect account security. After multiple failed password attempts, the corresponding account and source IP address will be locked.

5. Set and update password reset information in a timely manner

The device supports password reset function. To reduce the risk of this function being used by threat actors, if there is any change in the information, please modify it in time. When setting security questions, it is recommended not to use easily guessed answers.

Service Configuration

1. Enable HTTPS

It is recommended that you enable HTTPS to access web services through secure channels.

2. Encrypted transmission of audio and video

If your audio and video data contents are very important or sensitive, it is recommended to use encrypted transmission function in order to reduce the risk of your audio and video data being eavesdropped during transmission.

3. Turn off non-essential services and use safe mode

If not needed, it is recommended to turn off some services such as SSH, SNMP, SMTP, UPnP, AP hotspot etc., to reduce the attack surfaces.

If necessary, it is highly recommended to choose safe modes, including but not limited to the following services:

- SNMP: Choose SNMP v3, and set up strong encryption and authentication passwords.
- SMTP: Choose TLS to access mailbox server.
- FTP: Choose SFTP, and set up complex passwords.
- AP hotspot: Choose WPA2-PSK encryption mode, and set up complex passwords.

4. Change HTTP and other default service ports

It is recommended that you change the default port of HTTP and other services to any port between 1024 and 65535 to reduce the risk of being guessed by threat actors.

Network Configuration

1. **Enable Allow list**

It is recommended that you turn on the allow list function, and only allow IP in the allow list to access the device. Therefore, please be sure to add your computer IP address and supporting device IP address to the allow list.

2. **MAC address binding**

It is recommended that you bind the IP address of the gateway to the MAC address on the device to reduce the risk of ARP spoofing.

3. **Build a secure network environment**

In order to better ensure the security of devices and reduce potential cyber risks, the following are recommended:

- Disable the port mapping function of the router to avoid direct access to the intranet devices from external network;
- According to the actual network needs, partition the network: if there is no communication demand between the two subnets, it is recommended to use VLAN, gateway and other methods to partition the network to achieve network isolation;
- Establish 802.1x access authentication system to reduce the risk of illegal terminal access to the private network.

Security Auditing

1. **Check online users**

It is recommended to check online users regularly to identify illegal users.

2. **Check device log**

By viewing logs, you can learn about the IP addresses that attempt to log in to the device and key operations of the logged users.

3. **Configure network log**

Due to the limited storage capacity of devices, the stored log is limited. If you need to save the log for a long time, it is recommended to enable the network log function to ensure that the critical logs are synchronized to the network log server for tracing.

Software Security

1. **Update firmware in time**

According to the industry standard operating specifications, the firmware of devices needs to be updated to the latest version in time in order to ensure that the device has the latest functions and security. If the device is connected to the public network, it is recommended to enable the online upgrade automatic detection function, so as to obtain the firmware update information released by the manufacturer in a timely manner.

2. **Update client software in time**

It is recommended to download and use the latest client software.

Physical Protection

It is recommended that you carry out physical protection for devices (especially storage devices), such as placing the device in a dedicated machine room and cabinet, and having access control and key management in place to prevent unauthorized personnel from damaging hardware and other peripheral equipment (e.g. USB flash disk, serial port).