# Network Keyboard

## Quick Start Guide

V2.1.1

# Foreword

## General

This document mainly introduces appearance, functions and operations of network keyboard (hereinafter referred to as "the keyboard").

## Safety Instructions

The following signal words might appear in the manual.

| Signal Words | Meaning |
|---|---|
| DANGER | Indicates a high potential hazard which, if not avoided, will result in death or serious injury. |
| 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, lower performance, or unpredictable result. |
| TIPS | Provides methods to help you solve a problem or save you time. |
| NOTE | Provides additional information as the emphasis and supplement to the text. |

## Revision History

| Version | Revision Content | Release Time |
|---|---|---|
| V2.1.1 | Updated images and functions. | July 2024 |
| V2.1.0 | • Delete audio adjustment.<br>• Add USB check and log backup.<br>• Add global settings. | July 2021 |
| V2.0.0 | • Add audio adjustment, task management, plan tour and channel group configuration to local preview module.<br>• DSS-PRO, and DSS-Express platforms support TV wall and live view.<br>• Add safety baseline V1.4 needs.<br>• Lock the screen with one button. | October 2019 |
| V1.1.0 | • Update the program | December 2018 |
| V1.0.0 | • First Release | October 2017 |

## Privacy Protection Notice

As the device user or data controller, you might collect the personal data of others such as their face, fingerprints, and car 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 describes the contents covering proper handling of the Device, hazard prevention, and prevention of property damage. Read these contents carefully before using the Device, comply with them when using, and keep the manual well for future reference.

## Operation Requirements

**WARNING**

This is a class A product. It might cause radio interference in domestic environments. Take necessary measures as required.

- Transport, use and store the device under allowed humidity and temperature conditions.
- Prevent liquids from splashing or dripping on the device. Make sure that there are no objects filled with liquids on top to avoid liquids flowing into the device.
- Do not disassemble the device.
- Only use the device within the rated power range.
- Make sure that the power supply of the device works properly before use.
- Do not pull out the power cable of the device while it is powered on.
- Only applicable for use in non-tropical climates.
- Power off the device before maintenance.
- The rated current and power of the device are2.1 A and 25 W respectively.
- Do not put open flames, such as a lit candle, on the device.

## Installation Requirements

- Observe all safety procedures and wear required protective equipment provided for your use while working at height.
- Do not expose the device to direct sunlight or heat source.
- Do not install the device in humid, dusty or smoky places.
- Install the device in a well-ventilated place, and do not block the ventilator of the device.
- Strictly abide by local electrical safety standards, and make sure that the voltage in the area is steady and conforms to power requirements of the device.
- Use the power adapter or case power supply provided by the device manufacturer.
- Connect the device with the adapter before power on.
- Do not connect the device to more than one power supply. Otherwise, the device might be damaged.
- The power supply must conform to the requirements of ES1 in IEC 62368-1 standard and no higher than PS2. Note that power supply requirements are subject to the device label.
- Connect the class I electrical appliance to a power socket with protective earthing.

# Table of Contents

# 1 Introduction

## 1.1 Overview

The network keyboard can add TV wall, display videos on the TV wall, and carry out PTZ control.

For appearance of the keyboard, see Figure 1-1. For details, see Table 1-1.

Figure 1-1 Appearance


Table 1-1 Icon description

| No. | Icon | Function |
|---|---|---|
| 1 | Power | Working power indicator light.<br>Green light turns on when working power of network keyboard is normal. |
| | Network | Network indicator light.<br>Green light turns on when the keyboard is connected to network normally. |
| | Alarm | Alarm indicator light.<br>Red light turns on in case of alarms. |
| 2 | / | Zoom in/zoom out PTZ lens. |
| | / | Increase/decrease the focus of PTZ lens. |
| | / | Increase/decrease the iris of PTZ lens. |
| | | Shortcut key to control speed dome light. |
| | | Shortcut key to control speed dome wiper. |
| 3 | — | Touch screen, showing keyboard screen menu. |
| 4 | | Navigation bar. |

| No. | Icon | Function |
|---|---|---|
| | | Homepage. |
| | | Return. |
| 5 | Fn | Function key. It is line scanning by default. |
| | Preset | Make PTZ control, and configure presets. |
| | Tour | Make PTZ control, and tour between presets. |
| | Aux | Auxiliary key. It is pattern by default. |
| 6 | — | Includes remote control lever, auxiliary menu and function operation. |

# 1.2 Key Module

- Key module is not available in platform preview mode.
- F1 cannot be called in platform TV wall mode.

After key module is connected to network keyboard through USB or Bluetooth successfully, green indicator light at the upper right corner will glow for 10 seconds and then turn off. For appearance of key module, see Figure 1-2. For details, see Table 1-2.

When key module is connected with network keyboard, turn on main switch at the side of key module. For Bluetooth connection, default WLAN network name is "KEYBOARD".

Figure 1-2 Key module


Table 1-2 Key description

| Key | Example | Function |
|---|---|---|
| F1 | Number 1 to 16 + F1 | Call No. 1 to 16 plans quickly. It applies to preview and TV wall functions.<br>View the plan numbers on the **Plan Management** interface. |
| F2 | Number 1 to 16 + F2 | Call No. 1 to 16 MAC plans quickly.<br>View the Mac plan numbers on the **MAC** interface. |
| F3 | Press F3 | Reserved. |
| F4 | Press F4 | Reserved. |

| Key | Example | Function |
|---|---|---|
| Mode | Operation mode switch. It is operation mode at present. | Reserved. |
| 0–9 | Number 0–9 | — |
| Screen | 123 + Screen | Select screen. |
| Window | 3 + Window | Focus on the third window of present screen. |
| Split | 4 + Split | Divide present screen into 4 splits. |
| ⌫ | Press | Delete 1 digit from number buffer zone. The icon is similar to squares. |
| (Camera group) | 123 + | Drag No. 123 camera group onto the current window for automatic tour of videos in the channel. |
| (Camera) | 567 + | Drag No. 567 camera onto present window.<br>0 + camera means to turn off present video source. |
| Preset | 2 + Preset | Call No. 2 preset. |
| Tour | 5 + Tour | Call No. 5 tour. |
| PTZ | — | In case of USB power supply, press and hold the button to turn on and off the backlight. |
| Scan | 3 + Scan | Call No. 3 scan. |
| Pattern | 4 + Pattern | Call No. 4 pattern. |
| Rotate | Press | Press it once to start rotation, and then press it again to stop rotation. |
| Exit | — | Reserved. |
| Confirm | — | Reserved. |
| (Switch) previous channel | KEY_ previous channel | Present focus window channel reduces by 1. The icon is similar to squares. |
| (Next channel) | KEY_ next channel | Present focus window channel adds by 1. The icon is similar to squares. |
| | 2+ | Play back videos of No. 2 channel. |

# 1.3 Port Introduction

## 1.3.1 Rear Panel Ports

For rear panel ports, see Figure 1-3. For details, see Table 1-3.

Figure 1-3 Rear panel port

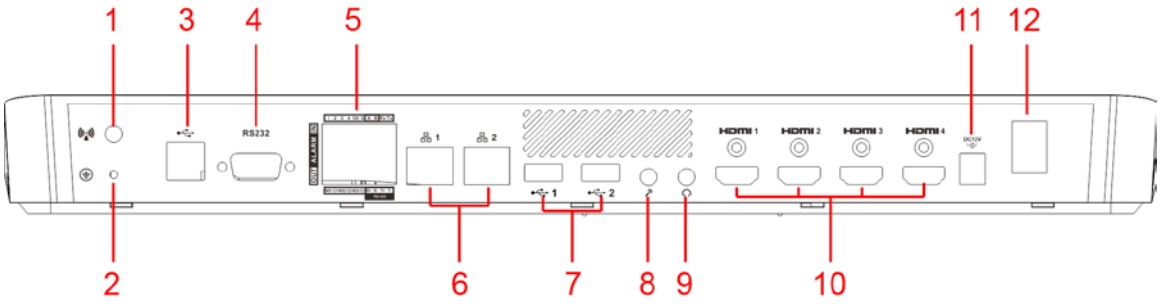



Table 1-3 Rear panel port description

| Number | Name | Description |
|---|---|---|
| 1 | WLAN port | Connect WLAN antenna. |
| 2 | Grounding stud | Grounding. |
| 3 | USB2.0 | Connect mouse and USB. |
| 4 | RS–232 | Connect serial port. |
| 5 | Alarm input/output port | For details, see Table 1-4. |
| 6 | Network port | Connect the network. |
| 7 | USB3.0 | Connect mouse and USB. |
| 8 | Microphone | Reserved. The software does not support at present. |
| 9 | Earphone | Reserved. The software does not support at present. |
| 10 | HDMI1–HDMI4 | Connect devices with HDMI port, such as display screen. |
| 11 | Power port | Connect power cord to supply power. |
| 12 | Power button | Turn on and off the power supply. |

For alarm input and output port, see Figure 1-4. For details, see Table 1-4.

Figure 1-4 Alarm input and output port

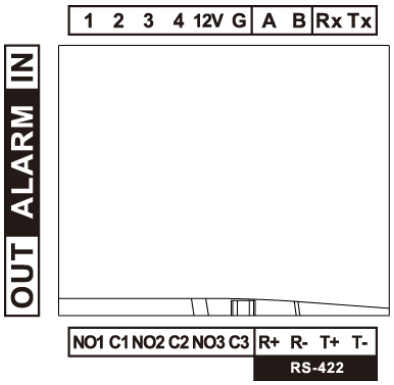



Table 1-4 Alarm input and output port description

| Name | Description |
|---|---|
| 1–4 | Alarm input port.<br>Reserved. The software does not support at present. |
| 12V | 12V DC 4A power. |
| G | Grounding. |
| A, B | Connect PTZ through RS–485. |

| Name | Description |
| --- | --- |
| Rx, Tx | RS-232 receiving and sending port.<br>Reserved. The software does not support at present. |
| NO1C1, NO2C2, NO3C3 | 3 groups of alarm output port.<br>Reserved. The software does not support at present. |
| R+, R-, T+, T- | RS-422 port.<br>Reserved. The software does not support at present. |

## 1.3.2 Side Panel Port

There are three reserved volume keys on the side panel, the software does not support at present.

# 2 Start and Shutdown

## 2.1 Start

Connect the power, press power button, and then boot up the keyboard. The system displays login interface after it is booted up successfully. Its interface can be operated with touch screen and external mouse.

## 2.2 Shutdown

Step 1 Shut down the keyboard.

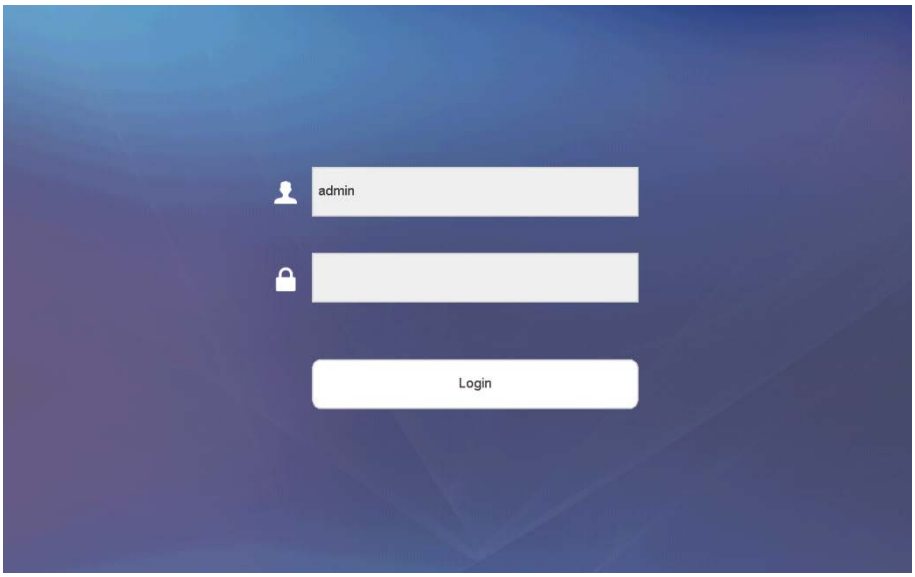
- Method 1: Click  at the upper right corner of main interface, and then select **Shutdown** to exit the system.
- Method 2: Press power button on the rear panel.

Step 2 After exiting the system, unplug the power cable to turn off the device.

## 2.3 Lock Screen

Press and hold  at the lower left corner of the keyboard. The keyboard will lock screen, and displays the login interface.

Figure 2-1 Login interface



# 3 Quick Configuration

## 3.1 Initialization

Initialize the device for the first use.

On the login interface, press and hold  at the lower left corner of the keyboard for 15 s. The interface prompts that "Do you want to clear all of the configurations?" Click **OK** to initialize the device.

All configurations will be cleared after initialization. Be cautious.

Step 1 Boot up the device.
The **End-User License Agreement** interface is displayed.

Step 2 Read the agreement, and select I have read and agree to all terms.

Step 3 Click **Next**.
The **Device Initialize** interface is displayed.

Step 4 Enter password and confirm password.

The password must consist of more than 8 characters, and must be the combination of numbers and letters.

Step 5 Click **OK**.
The initialization succeeds.

Step 6 Click **OK**.
The login interface is displayed.

## 3.2 Login

After booting up, the login interface is displayed.

Step 1 Enter password. Default password of the system is admin.

Step 2 Click **Login**.
After successful login, the main interface is displayed.

Please modify admin password timely after login.

## 3.3 Main Page

Main interface consists of preview, TV wall, playback, platform, settings and extension. For details, refer to Table 3-1.

Figure 3-1 Main interface

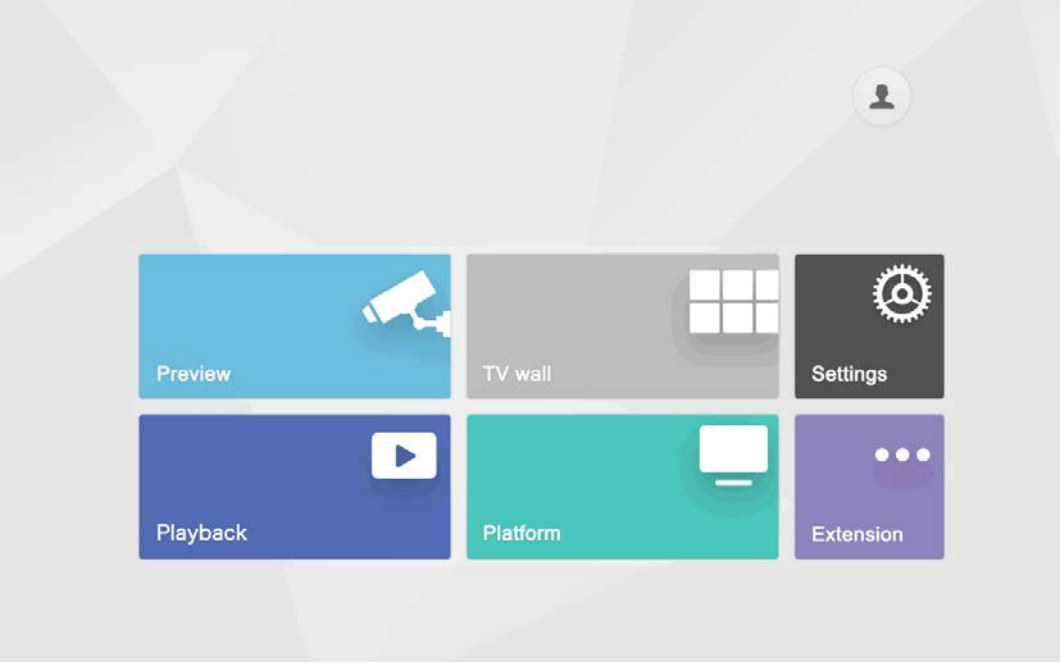



Table 3-1 Main interface description

| Name | Description |
|---|---|
| Preview | Decode and preview local encoding devices and corresponding operations. |
| TV wall | Control the locally added decoder, matrix and TV wall. |
| Playback | Play back videos in local added recording device. |
| Platform | After connecting to the platform, network keyboard is able to control devices on the platform. |
| Settings | There are four modules, including device, general, account and system. |
| Extension | Control the devices with direct physical connection with network keyboard. At present, it only supports to control speed dome with RS-485 port. |

# 3.4 Settings

On the main interface, click **Settings** to enter the interface. See Figure 3-2. For details, refer to Table 3-2.

Figure 3-2 Settings

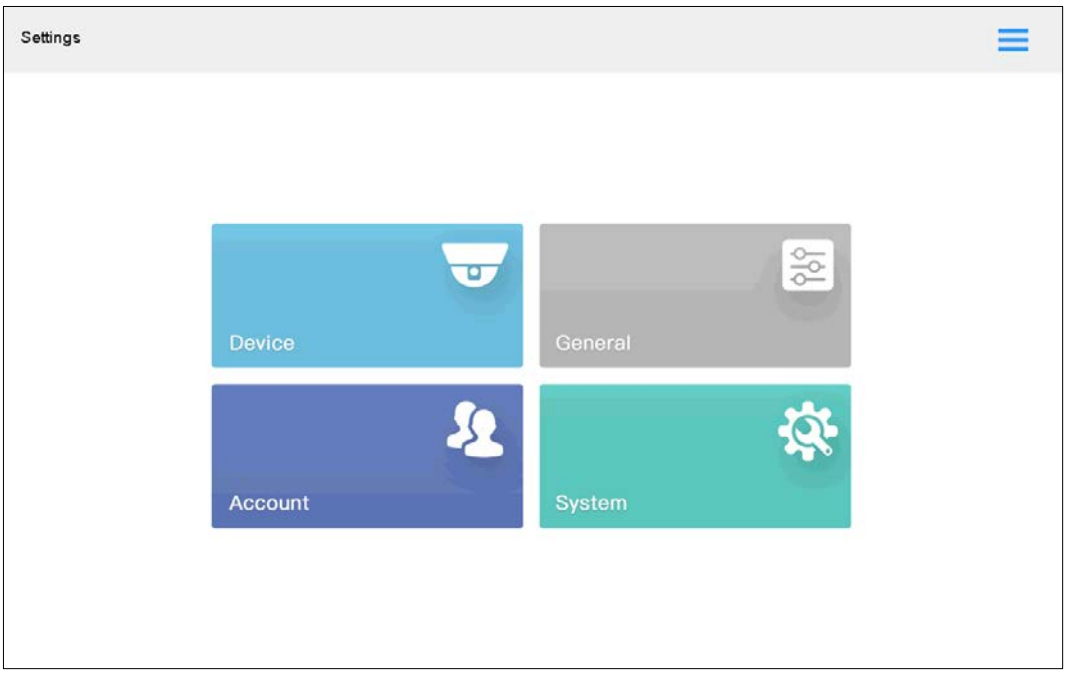



Table 3-2 Settings description

| Name | Description |
|---|---|
| Device | Add, modify and delete devices; view input channel, and modify input channel number. |
| General | Set network, Bluetooth, serial port, date, time, hardware and MAC. |
| Account | Add, delete and modify role information and account information. |
| System | View program version and upgrade. |

Click at the upper right corner, and a navigation bar appears in the page. With navigation bar, quickly return to preview, device, settings, playback, extension and homepage interfaces.

# 3.5 Network Settings

It includes wired network and WLAN settings.

## 3.5.1 Wired Network

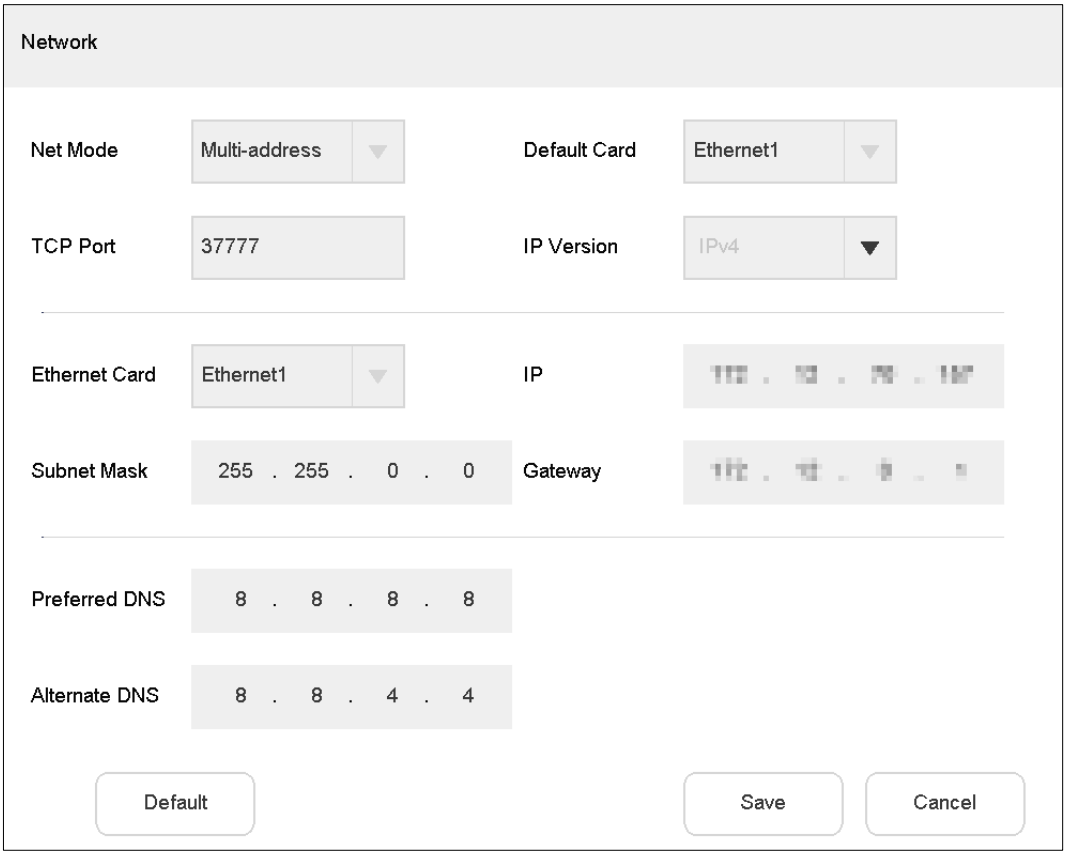
Configure IP address and DNS server of network keyboard to connect other devices in the networking.

Before setting network parameters, ensure that the network keyboard is connected to network correctly.

Step 1 On the **Settings** interface, click **General**.

The **Network** interface is displayed. See Figure 3-3.

Figure 3-3 Network




Step 2 Set the parameters. For details, see Table 3-3.

Table 3-3 Wired network parameter description

| Parameter | Description |
|---|---|
| Net Mode | It includes multi-address, fault tolerance and load balance.<br>● Multi-address: Two Ethernet cards are used independently. During network status detection, network is deemed to be disconnected if one Ethernet card is disconnected.<br>● Fault tolerance: Two Ethernet cards use one IP address. Only one Ethernet card works under normal conditions; if the working Ethernet card breaks down, the other Ethernet card starts to work automatically, so as to ensure smooth network. During network status detection, network is deemed to be disconnected only when both Ethernet cards are disconnected. Both Ethernet cards shall be in the same LAN.<br>● Load balance: Two Ethernet cards use one IP address and work together to bear network load. Their network throughput is basically the same. If one breaks down, the other one still works normally. During network status detection, network is deemed to be disconnected only when both Ethernet cards are disconnected. Both Ethernet cards shall be in the same LAN. |
| Default Card | When Net Mode is set to be **Multi-address** and multiple Ethernet cards are bound, one Ethernet card can be designated to be default working Ethernet card. |
| TCP Port | Keep the default value. |
| IP Version | Keep the default value. |

| Parameter | Description |
|---|---|
| Ethernet Card | Select Ethernet card. |
| IP | Enter numbers to modify IP address, set corresponding Subnet Mask and Gateway. Default IP address of network keyboard is 192.168.1.108. |
| Subnet Mask | |
| Gateway | |
| Preferred DNS | IP address of DNS server. |
| Alternate DNS | IP address of alternate DNS server. |

Step 3 Click **Save**.

## 3.5.2 WLAN

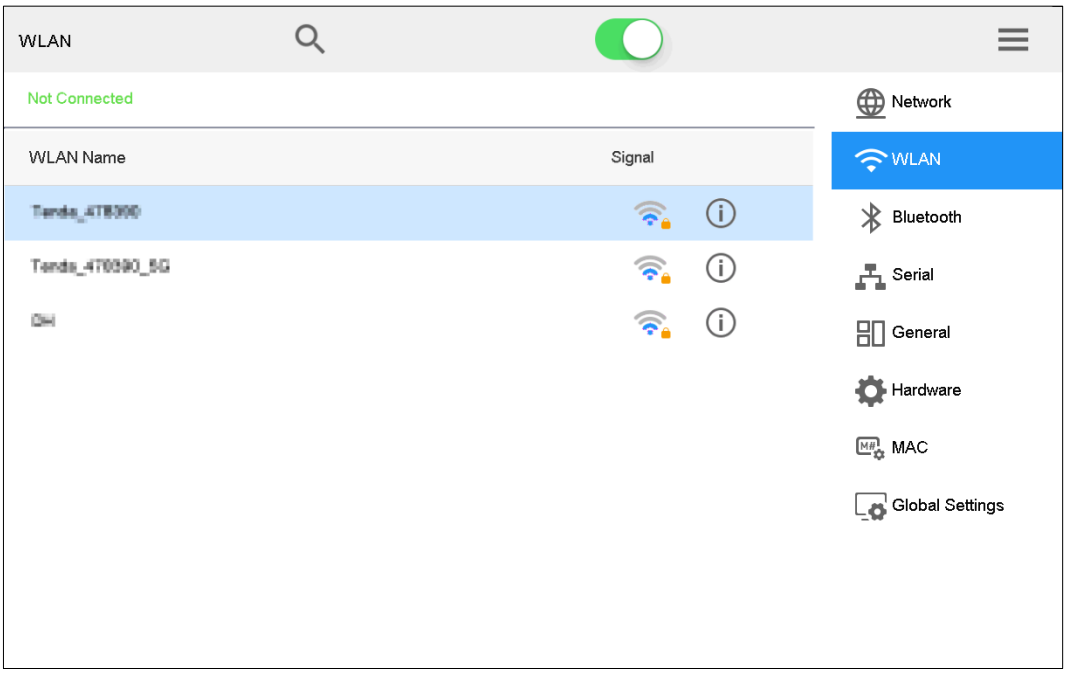
On the **General** interface, click the **WLAN** tab to enter the interface.

### Automatic Search for WLAN

Click to enable WLAN function.

The system will search WLAN automatically and display results. See Figure 3-4. Click to refresh.

Figure 3-4 Automatic search for Wi-Fi

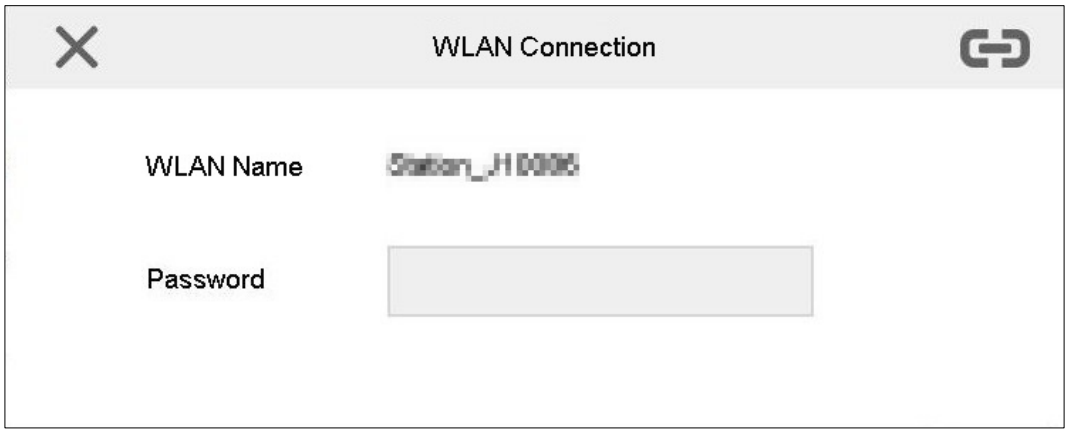



### WLAN Connection

Step 1 Double-click WLAN name or signal strength.

The **WLAN Connection** dialog box pops out. See Figure 3-5.

Figure 3-5 WLAN connection



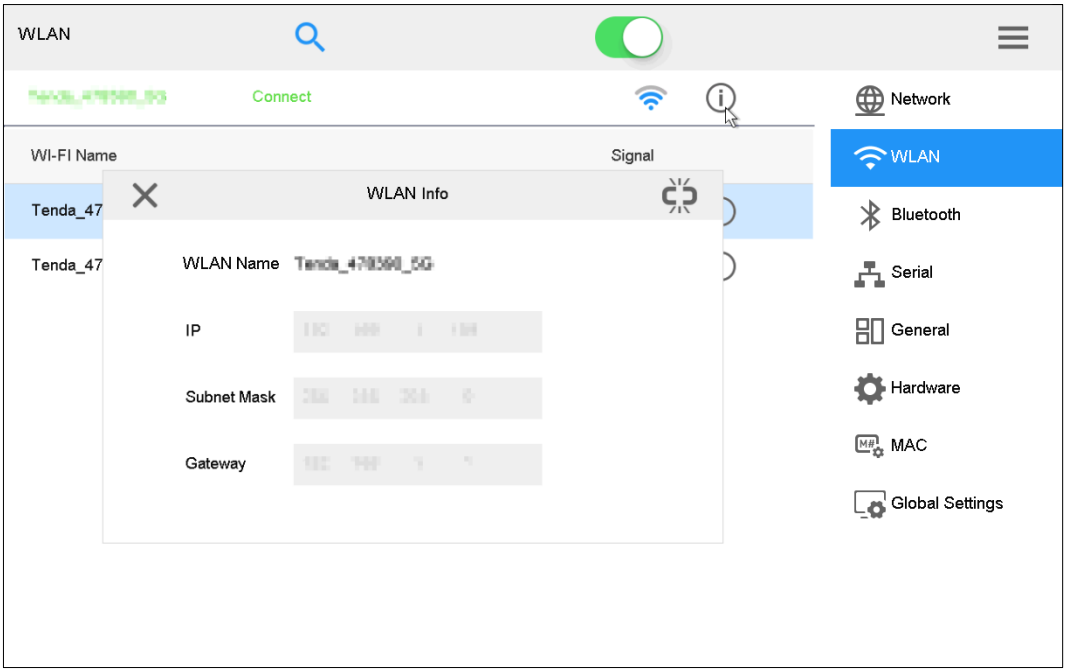

Step 2 Enter correct password, and then tap .

When connection is successful, the connected WLAN Name and **Connected** will be displayed at the upper-left corner.

## WLAN Disconnection

Click on the right of connected WLAN and click **Disconnect** in the pop-up dialog box. See Figure 3-6. Click to disconnect the WLAN.

Figure 3-6 Disconnect

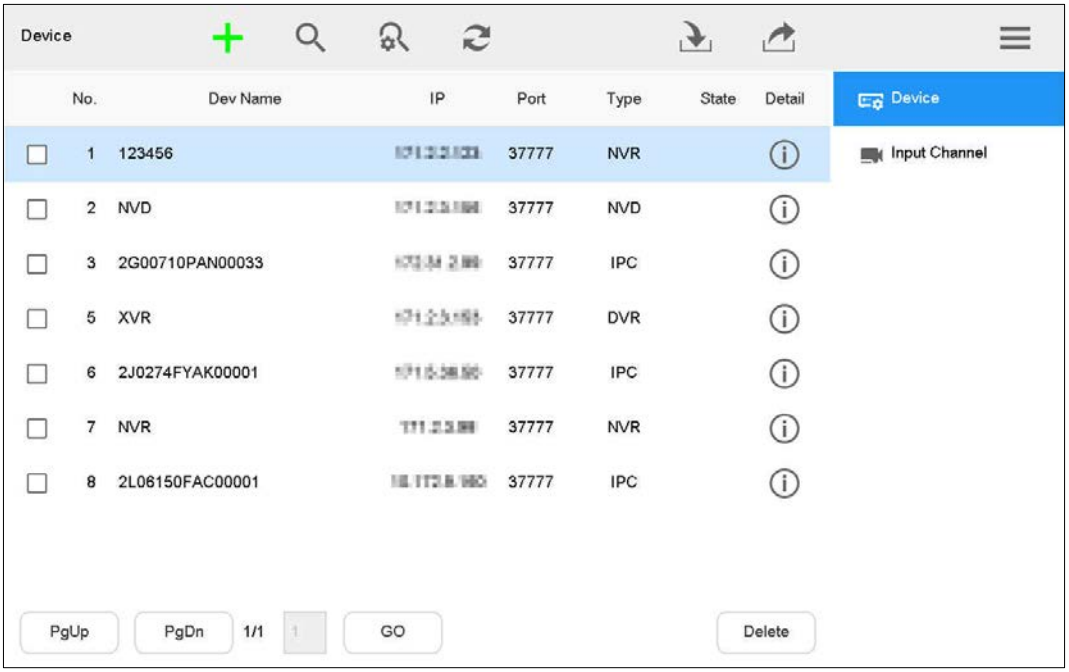



# 3.6 Adding Device

It includes manual adding and auto search.

On the **Settings** interface, click **Device**. The **Device** interface is displayed. See Figure 3-7.

Figure 3-7 Device




## 3.6.1 Manual Add

Step 1 On the **Device** interface, click  .

The **Manual Add** dialog box is displayed.

Step 2 Select **Protocol**.

The **Protocol** interface is displayed. See Figure 3-8.

Figure 3-8 Manual add (Private)

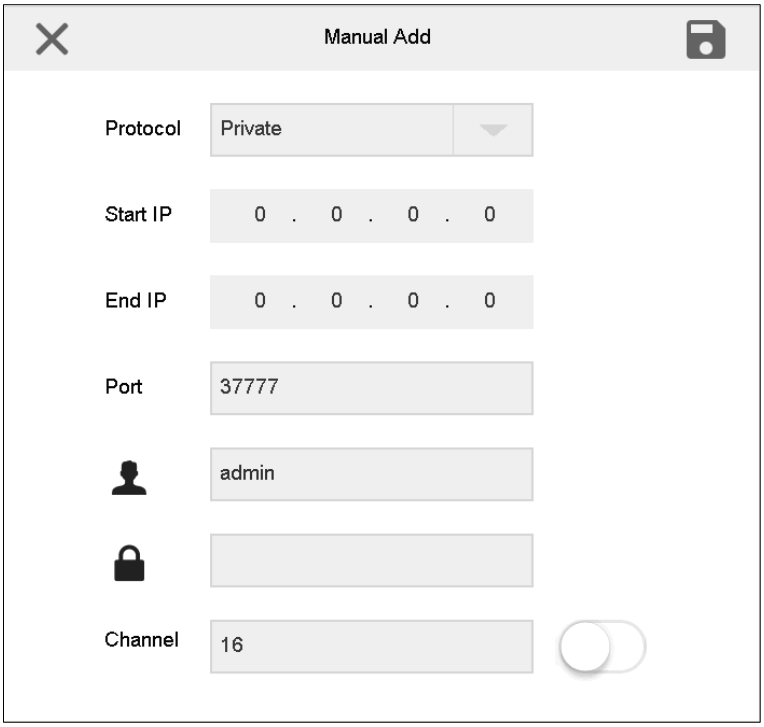
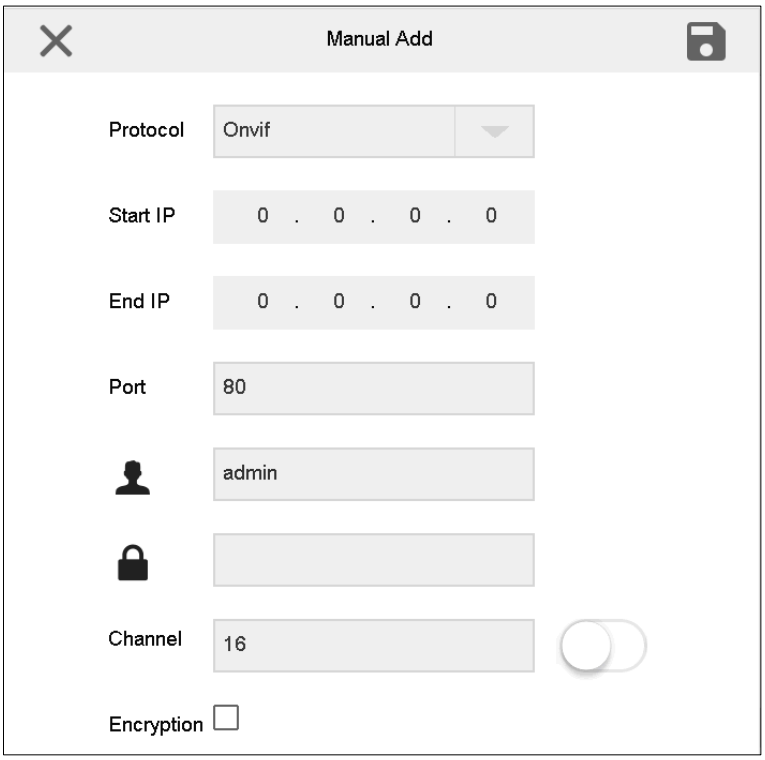


Figure 3-9 Manual add (ONVIF)




Step 3 Set the parameters. See Table 3-4.

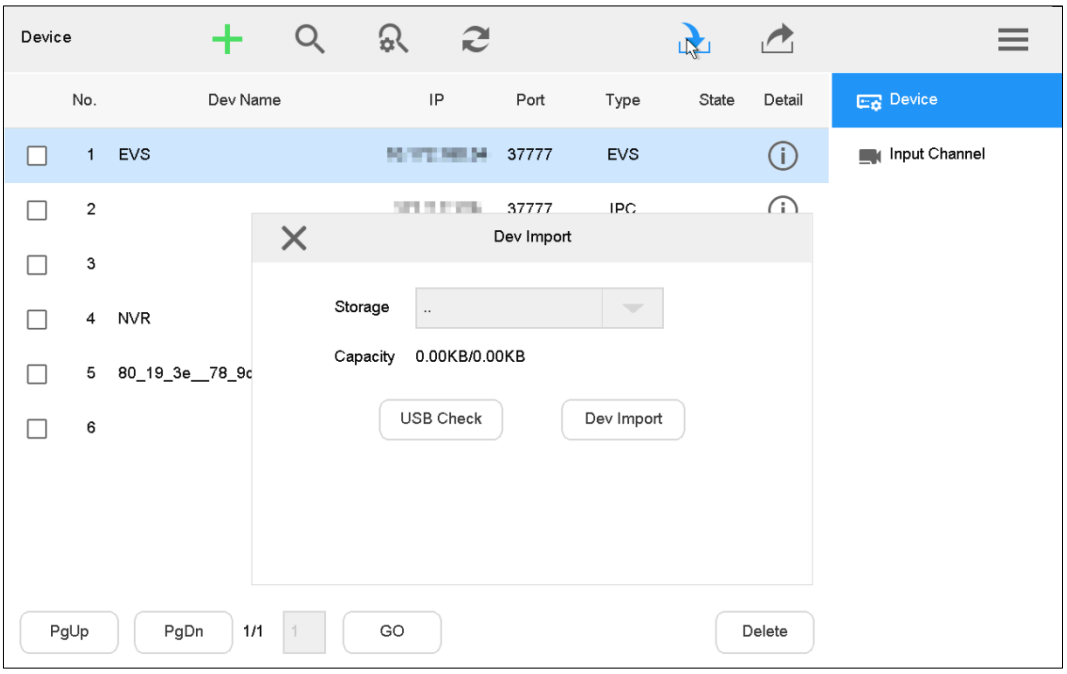
Table 3-4 Manual add parameter description

| Parameter | Description |
|---|---|
| Protocol | Select protocol type. It supports **Private** and **Onvif** at present.<br>With ONVIF protocol, PTZ control only supports rotation and zoom function in the fixed speed mode, rather than other auxiliary PTZ functions. |
| Start IP and End IP | ● Enter start IP and end IP when one IP segment is added.<br>● Enter start IP when one IP is added. |
| Port | Enter port number. It is usually default value. |
| Username and password | Enter username and password. |
| Channel | Enter channel quantity. means that it is enabled, while means that it is disabled.<br>● For example, total channel quantity of the device is 48.<br>● When it is enabled, you can set the channel quantity to display 1st channel –16th channel.<br>● When it is disabled, display the total acquired channels. |
| Encryption | It is supported by Onvif protocol only.<br>● When it is encrypted, port number is 443 by default.<br>● When it is not encrypted, port number is 80 by default.<br>Cameras shall enable HTTPS function. |

Step 4 Click .

- Click  . The **Dev Import** interface is displayed. See Figure 3-10.
  - ◇ Click **USB Check** to check USB capacity.
  - ◇ Click **Dev Import** to import device files.

Figure 3-10 Dev Import




- Click  . The **Dev Export** interface is displayed. Click **USB Check** to check whether USB flash drive is inserted, and then click **Dev Export** to export files.
  - ◇ Select **Dev Export Encryption** to export encrypted files. See Figure 3-11.
  - ◇ If **Dev Export Encryption** is not selected, export unencrypted files. See Figure 3-12.

Figure 3-11 Dev Export (Encrypted)

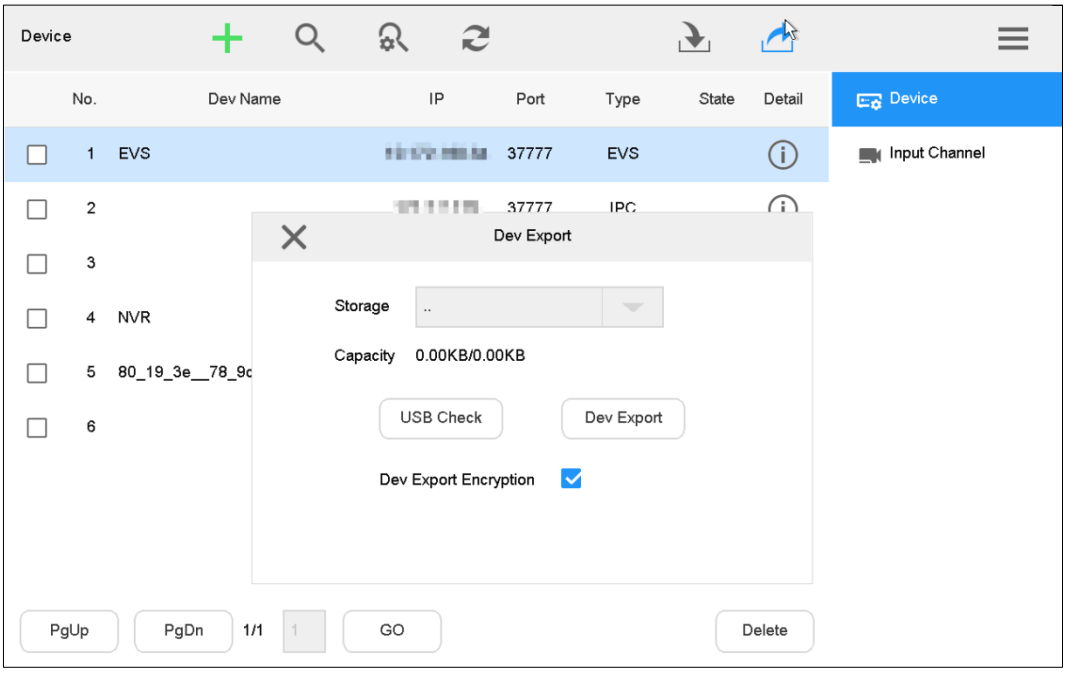
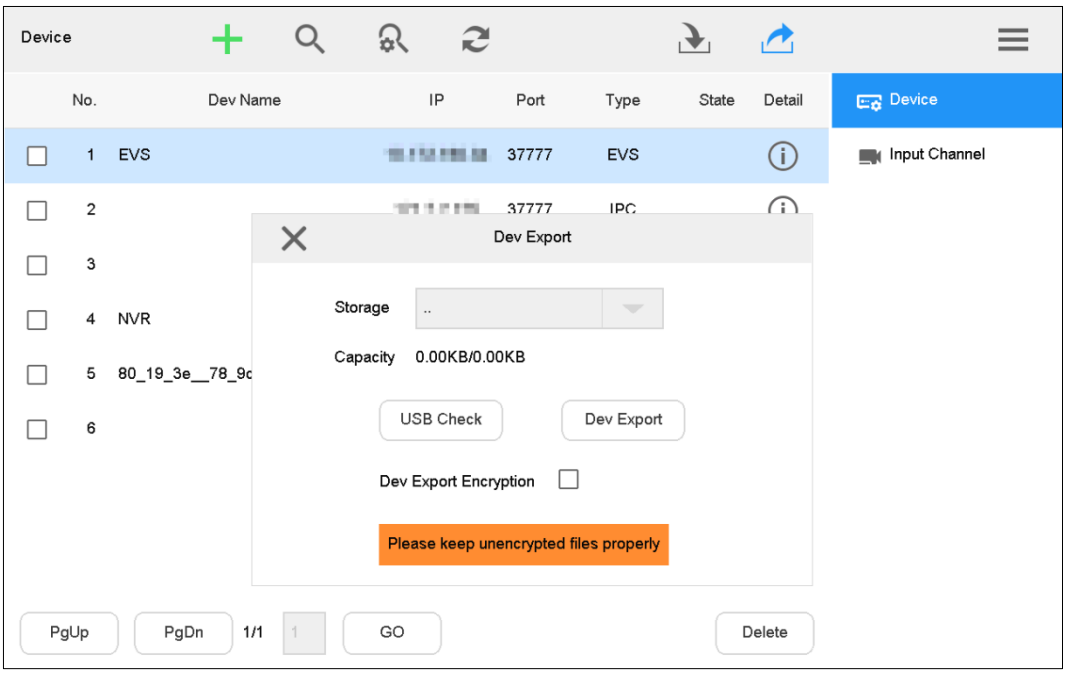


Figure 3-12 Dev Export (Unencrypted)



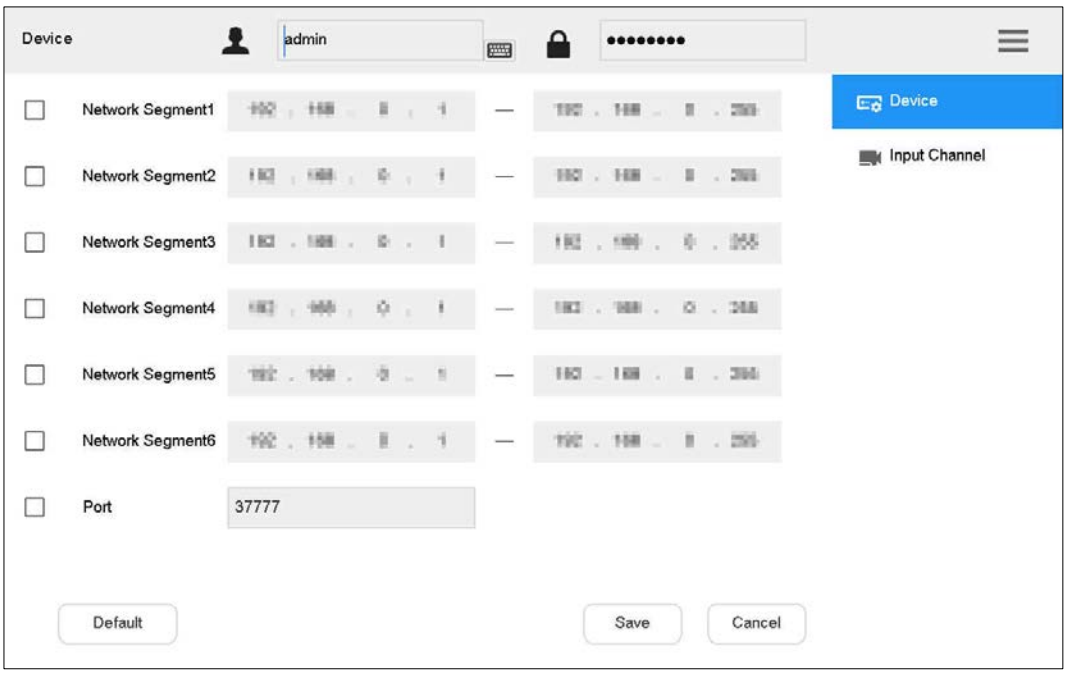

- Click  to refresh the interface.

## 3.6.2 Auto Search

Step 1 On the **Device** interface, click  .

The auto search interface is displayed. See Figure 3-13.

Figure 3-13 Auto search setting



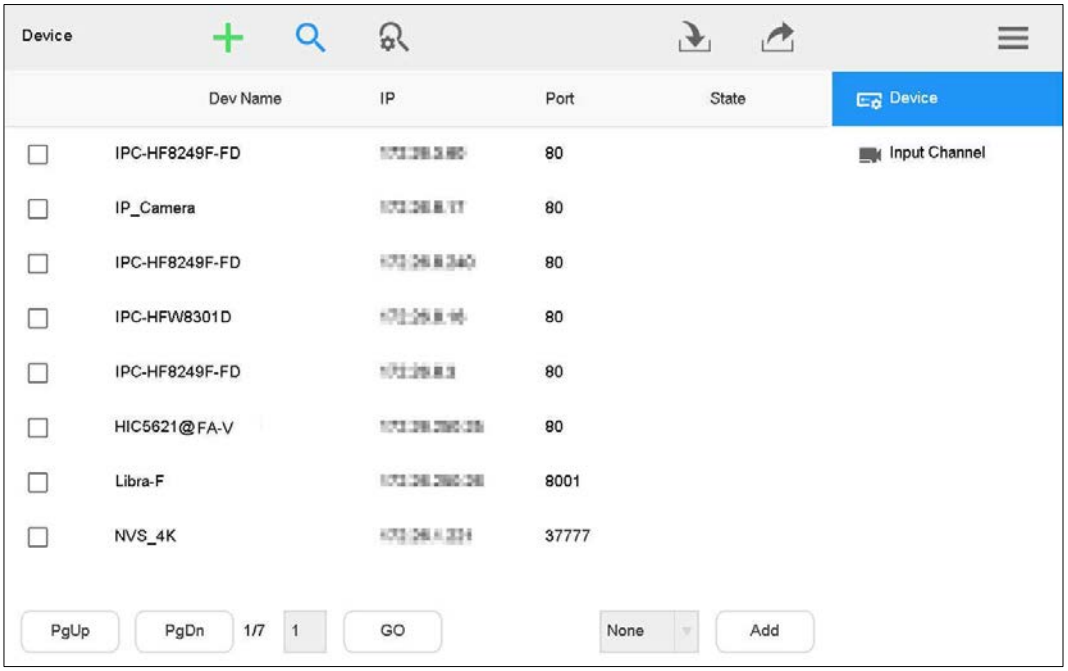

Step 2 Enter IP segment and select the check box.

Step 3 Click **Save**.

The auto search results are displayed. See Figure 3-14.

Alternatively, click to view search results.

Figure 3-14 Auto search result




Step 4 Select the check box in the line of a device, and then click to add the device.

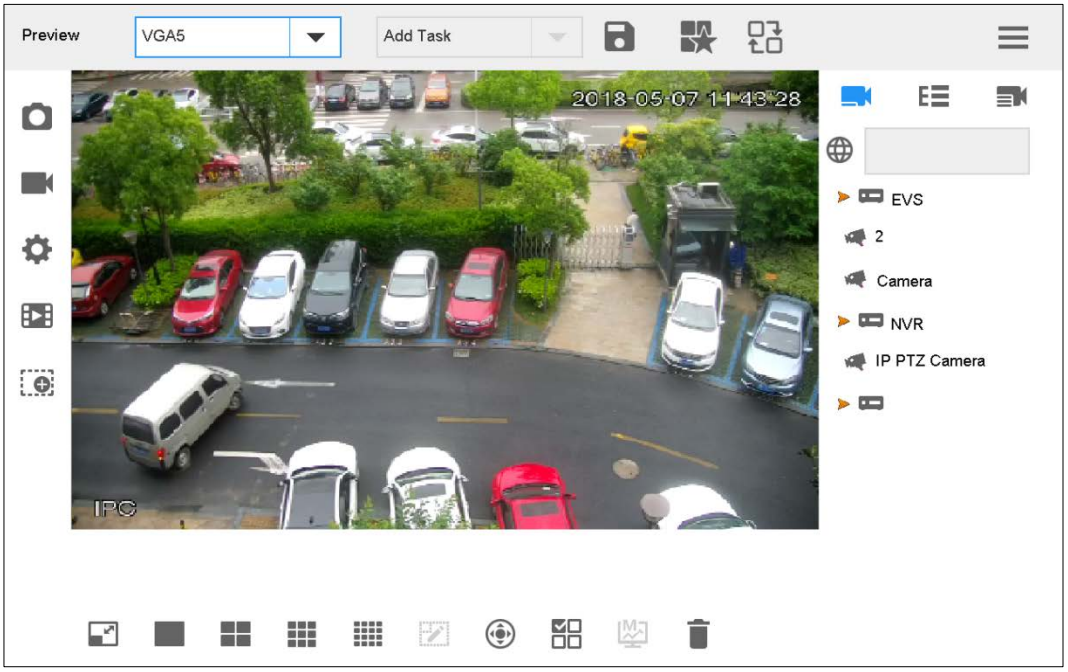
# 4 System Configurations

## 4.1 Preview

Preview local devices, video on wall, PTZ control, snapshot and recording.

Click **Preview** on the main interface. The **Preview** interface is displayed. See Figure 4-1. There are five modes, including HDMI1–HDMI4 and VGA5.

Figure 4-1 Preview




### 4.1.1 Icons of Preview Interface

Table 4-1 Preview interface icon description

| Icon | Description | Icon | Description |
|---|---|---|---|
| Add Task | Select a task. | | Add a task. |
| | Plan management. | | Enable plan tour. |
| | Snapshot and screenshot, and store in USB flash drive. | | Manual recording. |
| | Snapshot and recording settings. | | Play back recording. |
| | Maximize and restore the window. | | Single split. |
| | 4-split. | | 9-split. |

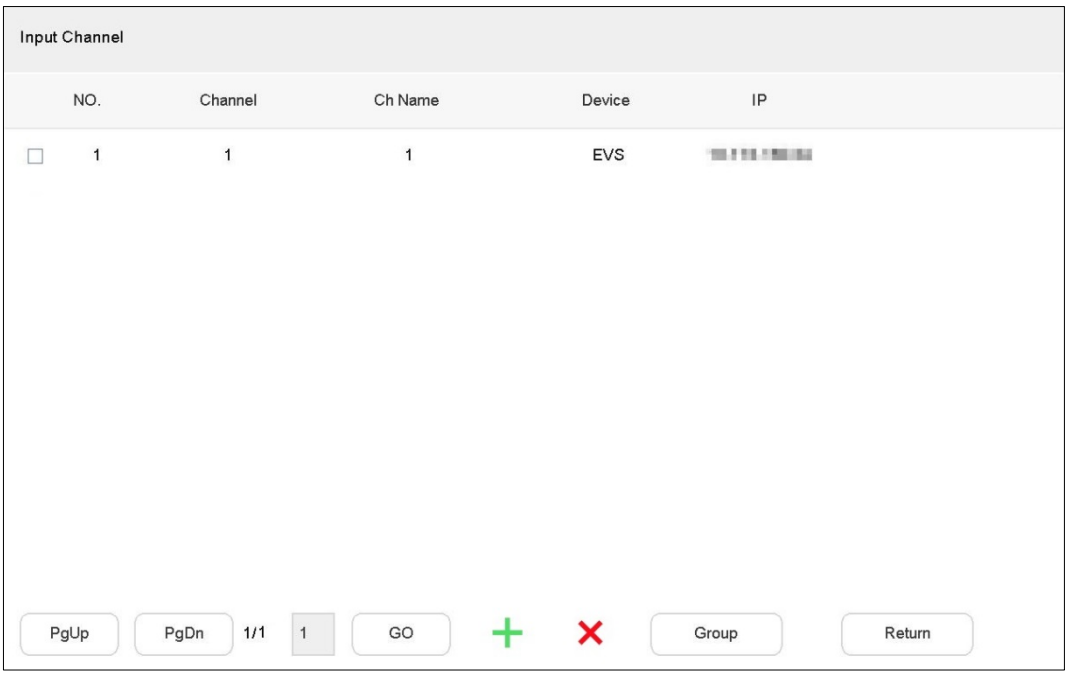
| Icon | Description | Icon | Description |
|---|---|---|---|
| | 16-split. | | Custom split.<br>Local preview interface does not support custom split. |
| | PTZ. | | Select window/all windows on the screen.<br>This button is used with deletion button. |
| | Smart stream mode.<br>• Switch main and sub streams on the local preview interface.<br>• Manual switch is not needed on the local preview interface. | | Delete. |

## 4.1.2 Channel Grouping

Step 1 On the **Preview** interface, click .

The **Input Channel** interface is displayed. See Figure 4-2.

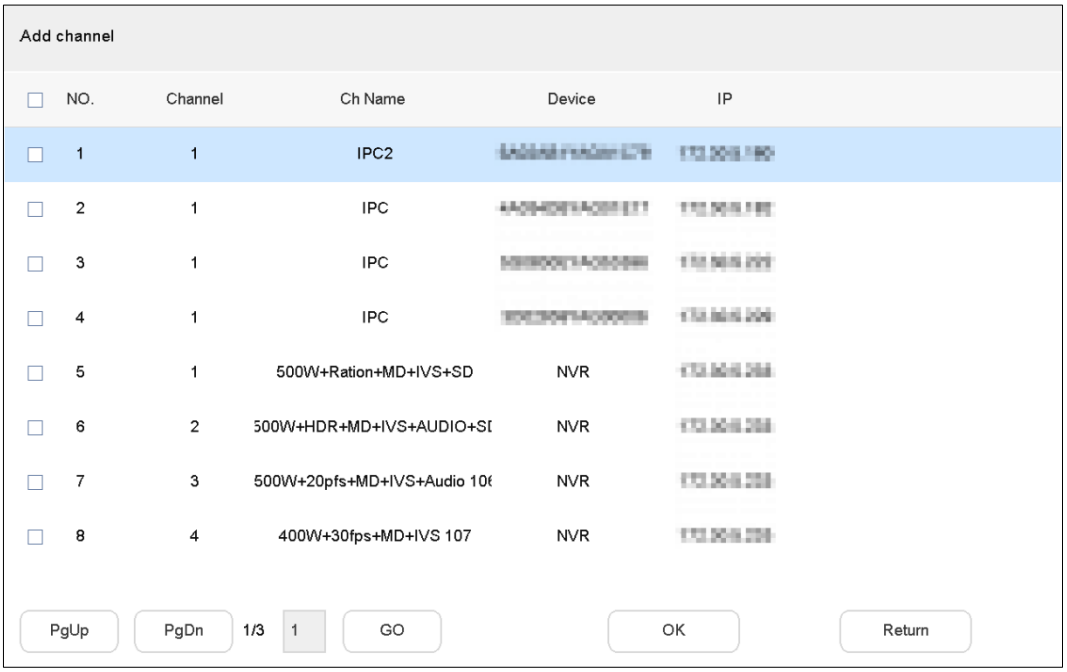
Figure 4-2 Input channel (1)




Step 2 Click .

The **Add channel** interface is displayed. See Figure 4-3.

Figure 4-3 Add channel



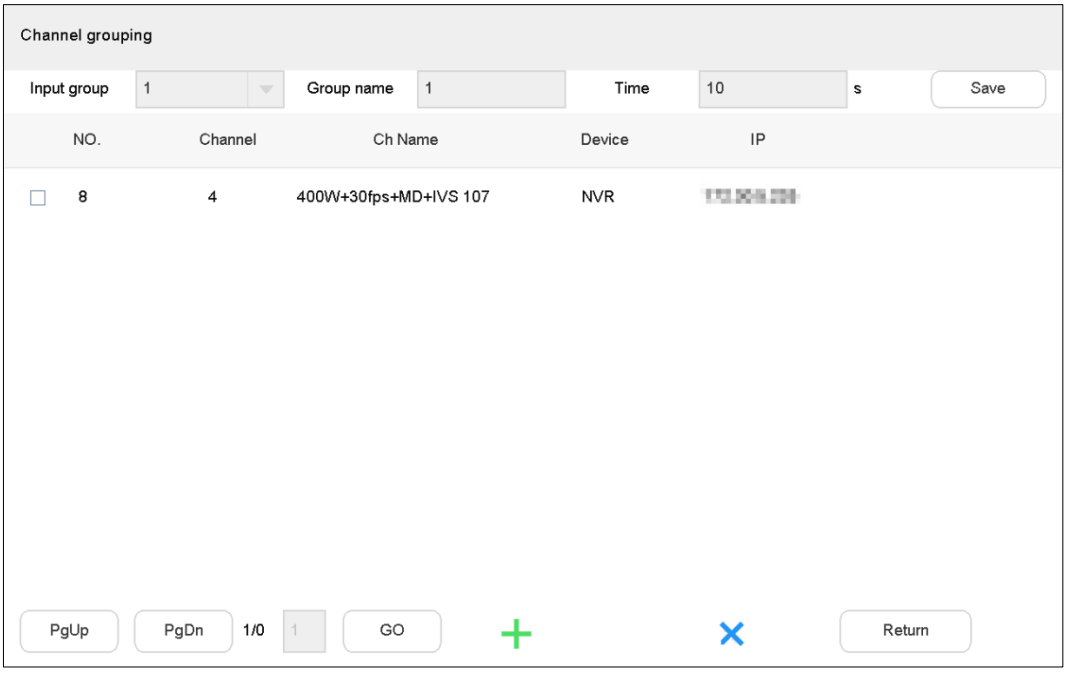

Step 3 Select the channels, and then click **OK**.

The added channels are displayed on the **Input Channel** interface.

Step 4 Click **Group**.

The **Channel grouping** interface is displayed. See Figure 4-4.

Figure 4-4 Channel grouping




Step 5 Select **Input group**, and then configure **Group name** and **Time**.

Step 6 Select the channels that you need.

Click + on the **Channel grouping** interface to add channels.

Step 7 Click **Save** to save the channel group.

## 4.1.3 Video on Wall

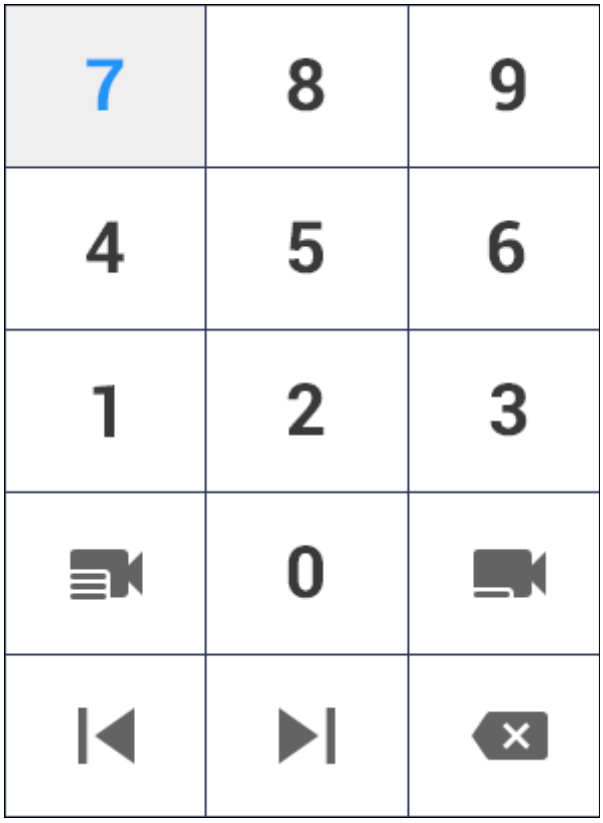
Step 1 On the **Preview** interface, select HDMI1–HDMI4 or VGA5 in drop-down list.

Step 2 Select video source on the right, drag it onto TV wall or double-click the video source.

### Quick Video on Wall (Optional)

- Click , and a dialog box pops up. See Figure 4-5. Enter a number (such as 1) + , so video of channel 1 will be displayed on wall quickly.
- Click , and a dialog box pops up. See Figure 4-5. Enter channel group number (such as 123) + , so videos of the channel group No. 123 will be displayed on wall quickly.

Figure 4-5 Short-cut




Refer to "4.6.1.2 Input Channel" to inquire **Number** in the input channel.

**Relevant operation**

- Click , and channel with the previous number will be displayed on wall. For example, current number is 123, click , and No. 122 channel will be displayed on the wall.
- Click , and channel with the next number will be displayed on wall. For example, current

number is 123, click , and No. 124 channel will be displayed on the wall.

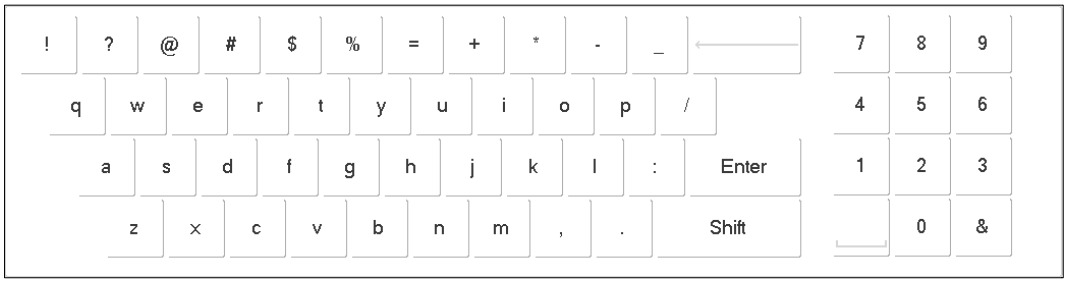
Channel group does not support and at present.

## Quick Search for Added Device (Optional)

In the input box after , enter keywords of the added device to search for it.

Click the pop-up keypad. See Figure 4-6. Press Shift key to switch the input method.

Figure 4-6 Keypad




## Maximize and Restore Window

Click to maximize and restore the window.

## Single, 4, 9, 16 and Custom Split

Click , , , , or respectively, representing single, 4, 9, 16 or custom split.

## Clearing Video Source

Step 1 Select a window.

- Click to select the focused window.
- Click again and the icon turns into to select all windows within present operating screen.

Step 2 Click .

## Smart Stream Mode

- Main stream goes on wall in case of single split.
- Sub-stream goes on wall in case of 9-split and 16-split.

- In case of 4-split, with HDMI1 and HDMI2 preview mode, main stream goes on wall. In other preview modes, sub-stream goes on wall.

## 4.1.4 PTZ Control

Please refer to "4.5 PTZ Control" for details.

## 4.1.5 Scheme Management

If you need to view one video channel frequently, save it as a scheme task for convenient calling. Maximum 16 tasks can be configured.

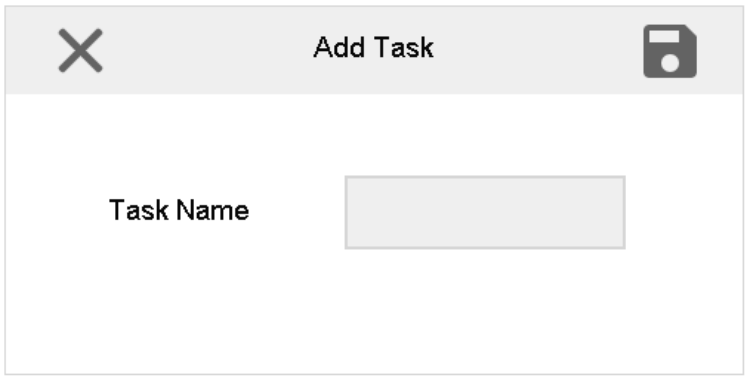
### 4.1.5.1 Adding Task

Step 1 On the **Preview** interface, select video according to actual needs. For example, play the videos of channel 1 and channel 2.

Step 2 Click on the **Preview** interface.

The **Add Task** interface is displayed. See Figure 4-7.

Figure 4-7 Add Task



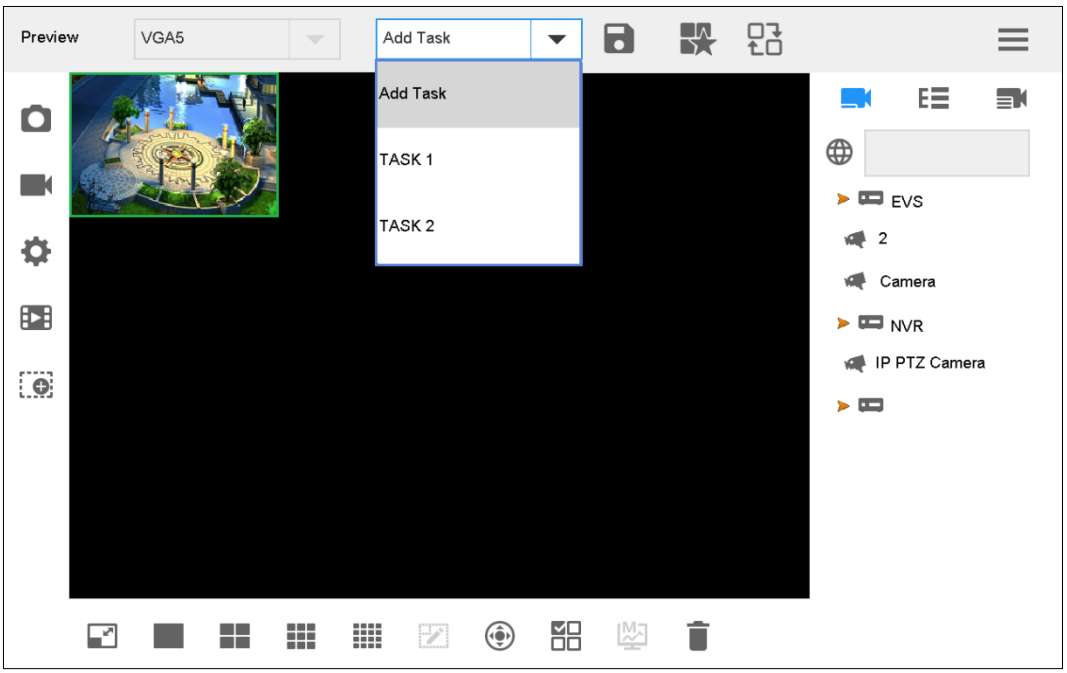

Step 3 Enter task name.

Step 4 Click to save the task.

### 4.1.5.2 Viewing Task

Select task name from **Add Task** drop-down list. See Figure 4-8. You can view the task.

Figure 4-8 View task

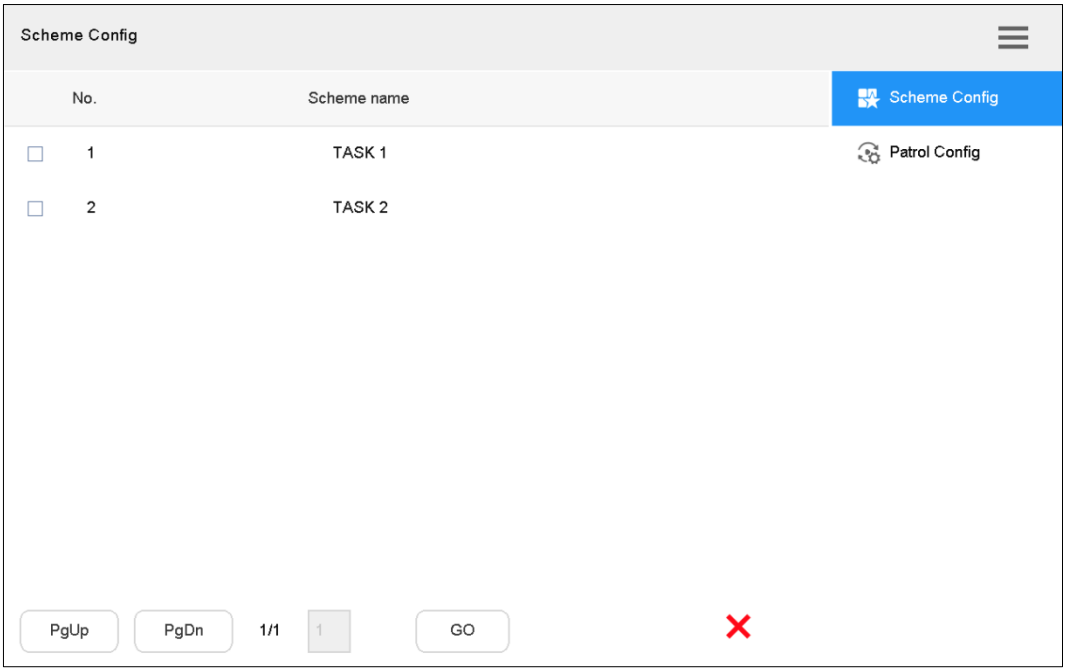



### 4.1.5.3 Deleting the Scheme

Step 1 Click  .

The **Scheme Config** interface is displayed. See Figure 4-9.

Figure 4-9 Scheme Config




Step 2 Select the scheme that you want to delete, and then click  to delete it.

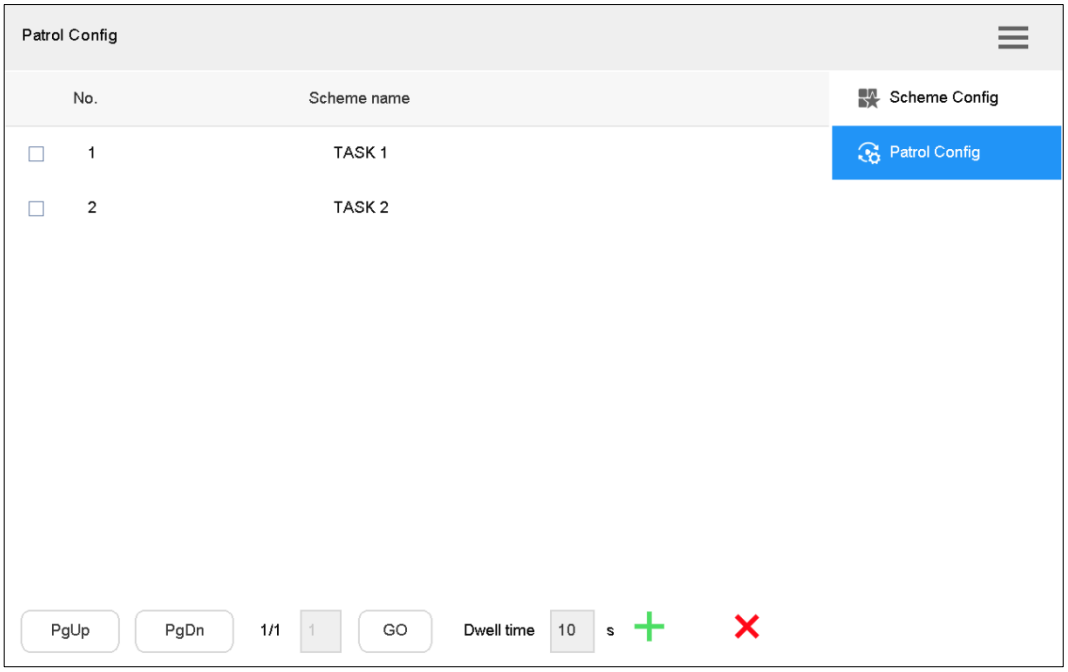
## 4.1.6 Patrol Config

Carry out patrol according to the sequence of adding scheme to the patrol.

Step 1 On the **Scheme Config** interface, click **Patrol Config**.

The **Patrol Config** interface is displayed. See Figure 4-10.

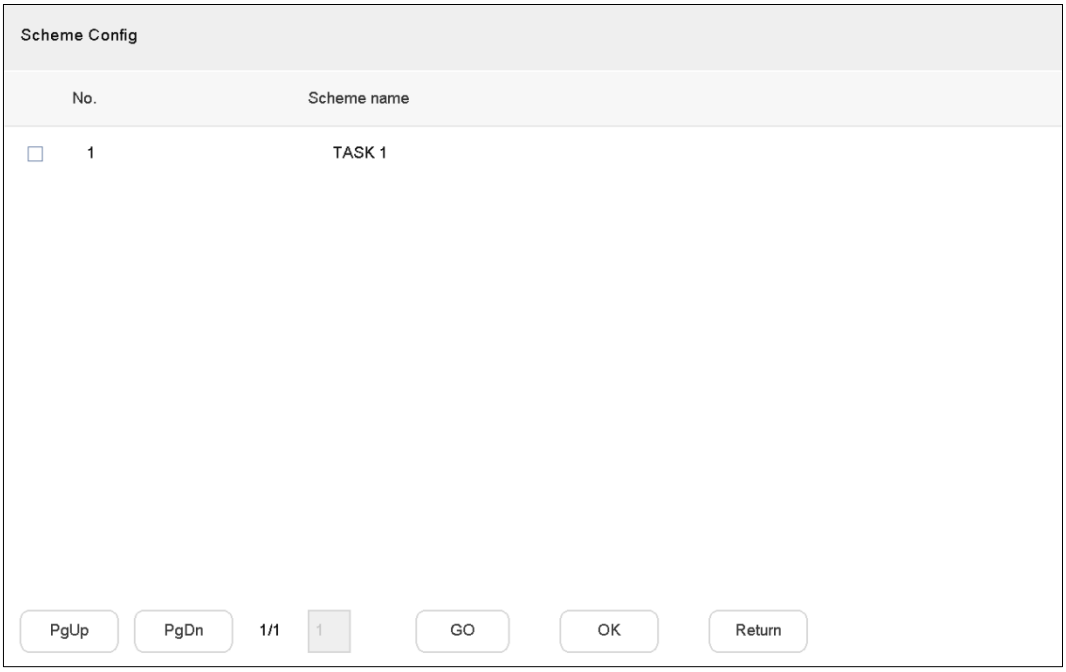
Figure 4-10 Patrol Config




Step 2 Click +.

The **Scheme Config** interface is displayed. See Figure 4-11.

Figure 4-11 Scheme Config




Step 3 Select the scheme, and click **OK**.

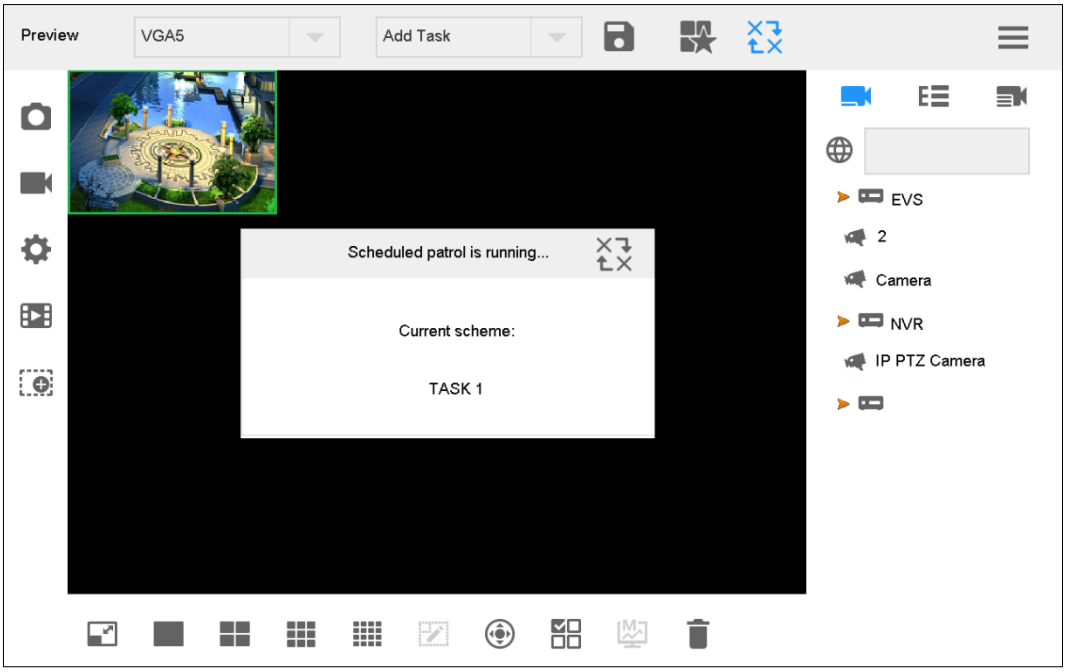
- Scheme can only be added one by one.
- If less than 2 schemes are added, patrol is not available.

Step 4 Click **Return** to configure **Patrol Time**.

**Relevant Operations**

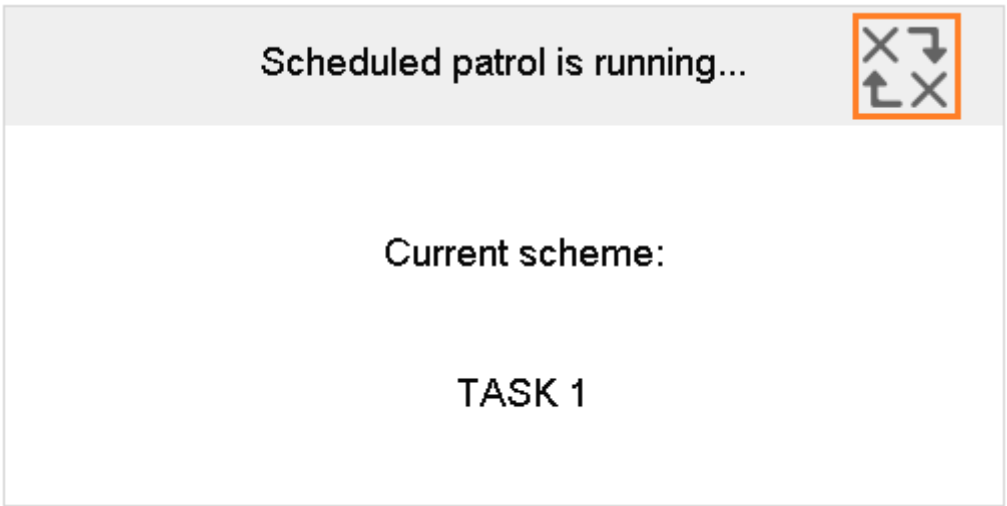
- On the **Preview** interface, click  to enable patrol. See Figure 4-12.

Figure 4-12 Patrol




- Click  to stop the patrol. See Figure 4-13.

Figure 4-13 Stop patrol




## 4.1.7 Snapshot

Step 1 Insert the USB flash drive into network keyboard.

Step 2 On the **Preview** interface, click .

The **Snap & Record** interface is displayed.

Step 3 Set the snapshot storage path. For details, refer to "4.1.9 Snapshot and Recording Settings."

Step 4 On the **Preview** interface, click .

You can take a snapshot with joystick buttons.

## 4.1.8 Recording

Step 1 Insert the USB flash drive into network keyboard.

Step 2 On the **Preview** interface, click .

The **Snap & Record** interface is displayed.

Step 3 Set the recording storage path. For details, refer to "4.1.9 Snapshot and Recording Settings."

Step 4 On the **Preview** interface, click .

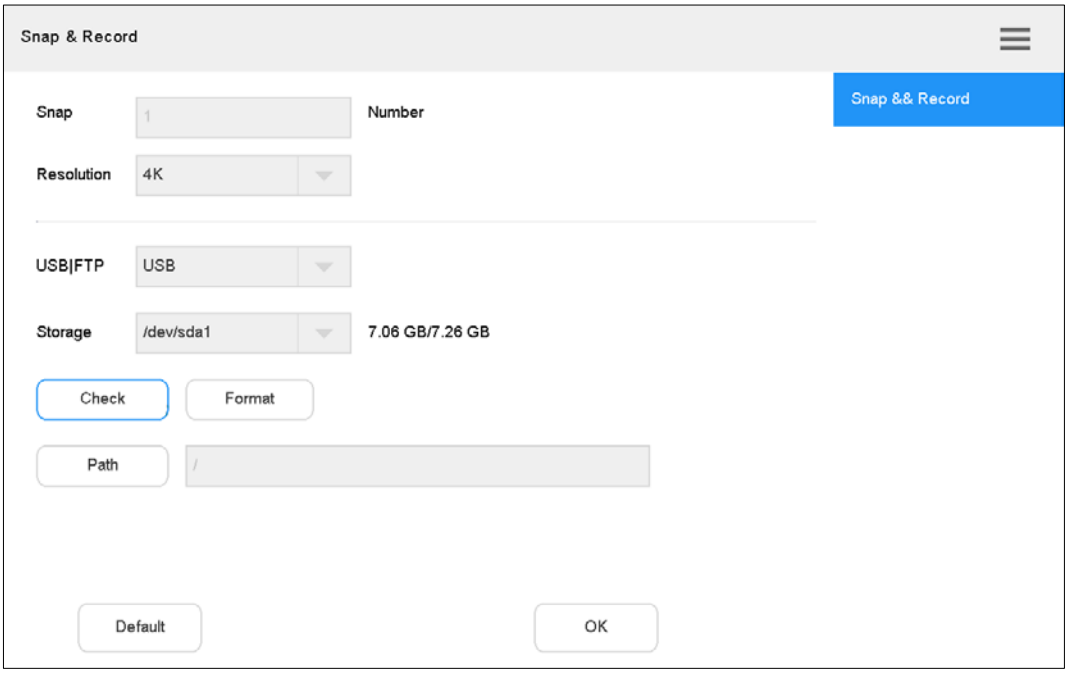
## 4.1.9 Snapshot and Recording Settings

### Store in USD Flash Drive

Step 1 On the **Preview** interface, click .

The **Snap & Record** interface is displayed. See Figure 4-14.

Figure 4-14 Snap & Record



Step 2 Insert USB flash drive into network keyboard.

Step 3 Click **Check**.

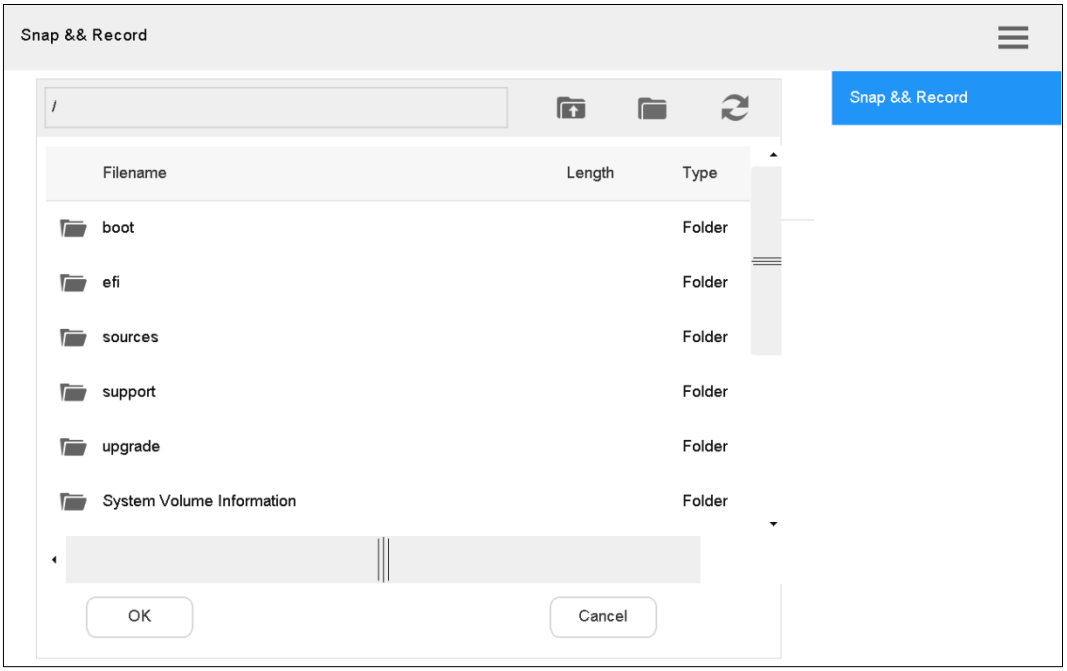
The system displays general storage disk name and device capacity.

Step 4 Set the parameters. See Table 4-2.

Table 4-2 Snap & record parameter (USB flash drive)

| Parameter | Description |
|---|---|
| Snap | It supports only 1 snapshot at present. |
| Resolution | Select resolution.<br>● When video resolution is > the set resolution, snapshot image adopts the set resolution.<br>● When video resolution is < the set resolution, snapshot image adopts actual video resolution. |
| USB\|FTP | USB is enabled for storage by default. |
| Format | Click this button to format USB flash drive. |
| Path | Click this button to select snapshot storage path. See Figure 4-15.<br>● Click  to return to the upper level of folder.<br>● Click  to create a folder.<br>● Click  to refresh the interface. |

Figure 4-15 Snap storage



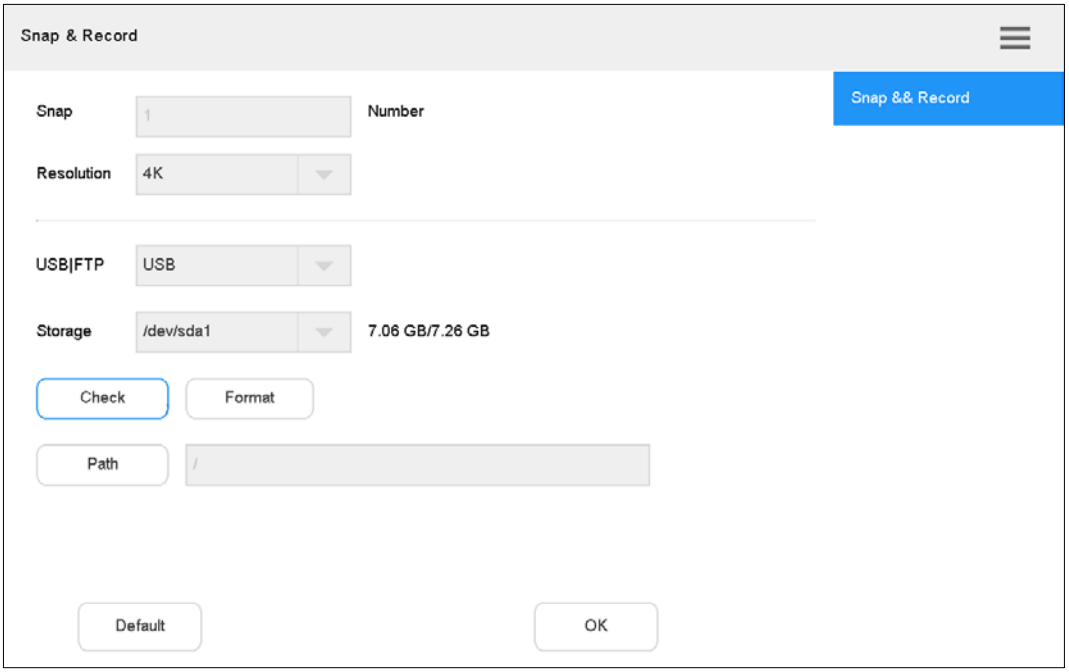

Step 5 Click **OK**.

## Store in FTP

Step 1 On the **Preview** interface, click  .

The **Snap & Record** interface is displayed. See Figure 4-16.

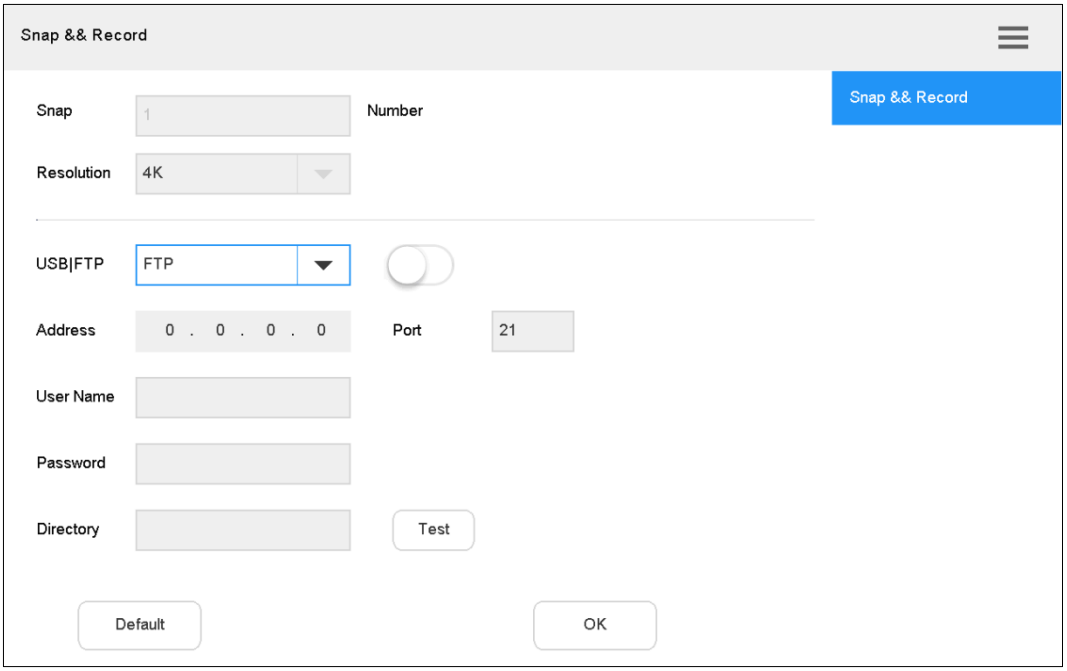
Figure 4-16 Snap & Record




Step 2 In the **USB|FTP** drop-down list, select **FTP**.

The **FTP** interface is displayed. See Figure 4-17.

Figure 4-17 FTP




Step 3 Click to enable FTP storage.

Step 4 Configure parameters. For details, see Table 4-3.

Table 4-3 Snap & record parameter (FTP)

| Parameter | Description |
|---|---|
| Snap | It supports only 1 snapshot at present. |

| Parameter | Description |
|---|---|
| Resolution | Select resolution.<br>● When video resolution is > the set resolution, snapshot image adopts the set resolution.<br>● When video resolution is < the set resolution, snapshot image adopts actual video resolution. |
| USB\|FTP | Select FTP. |
| Address | Set FTP address. |
| User Name | ● FTP user name. |
| Password | ● FTP login password. |
| Directory | ● Set directory name. |
| Test | ● Click this button to test whether FTP is available. |

Step 5 Click **OK**.

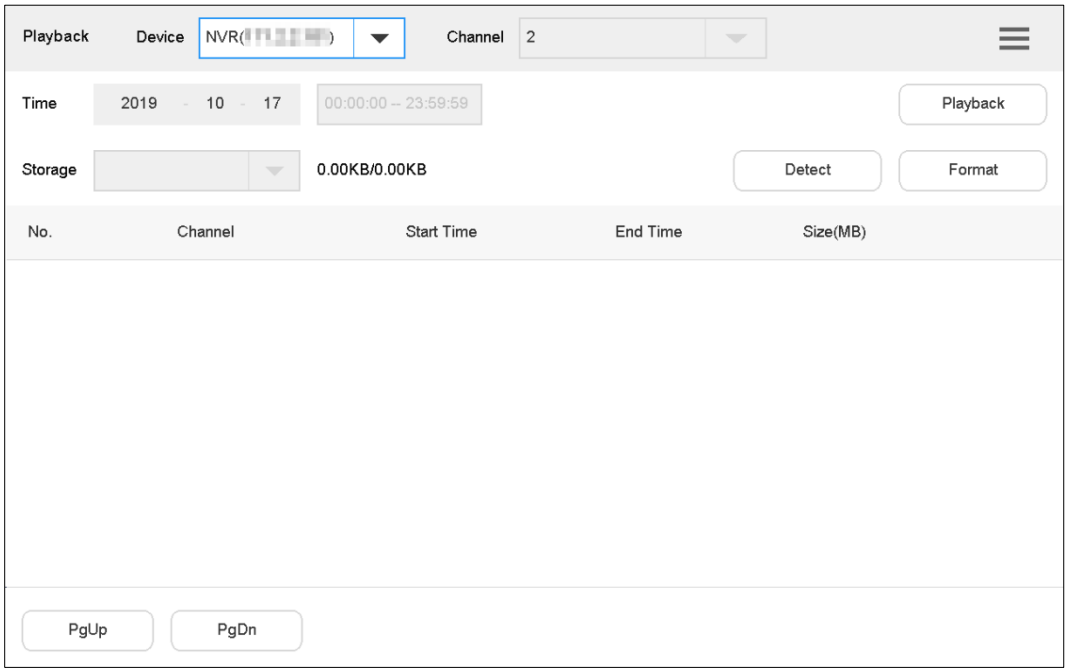
## 4.1.10 Playback of Recorded Videos

This function is supported by NVR devices that have recorded videos, rather than IVSS device.

Step 1 On the **Preview** interface, click  .

The **Playback** interface is displayed. See Figure 4-18.

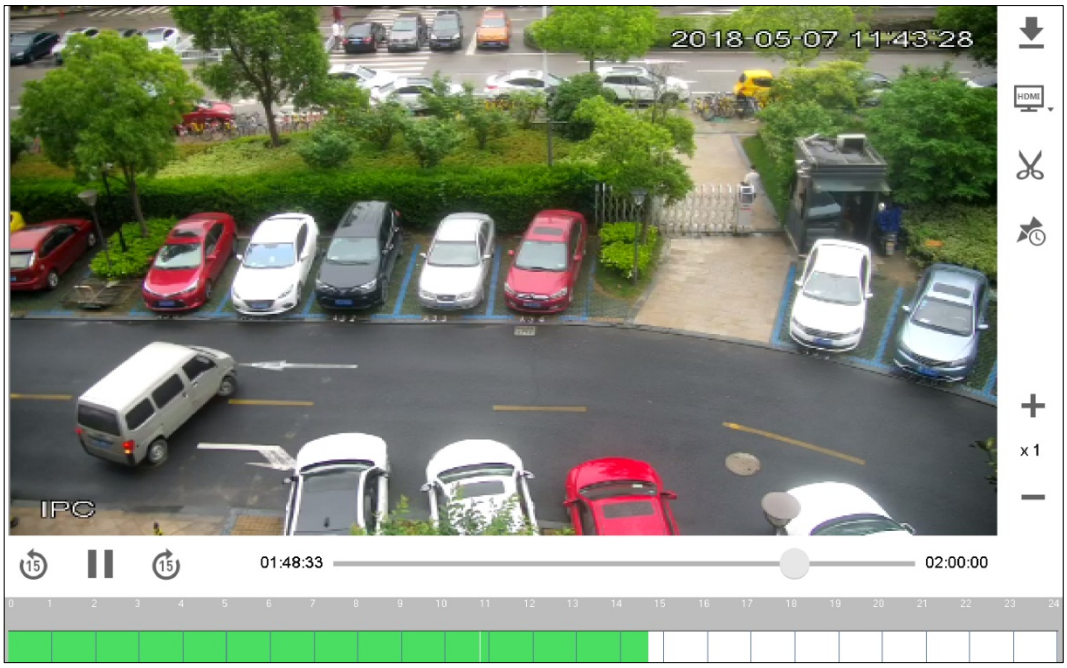
Figure 4-18 Playback




Step 2 Select playback device and channel, configure time and click **Playback**.

The system starts to play back recorded videos. See Figure 4-19.

Figure 4-19 Playback of recorded video



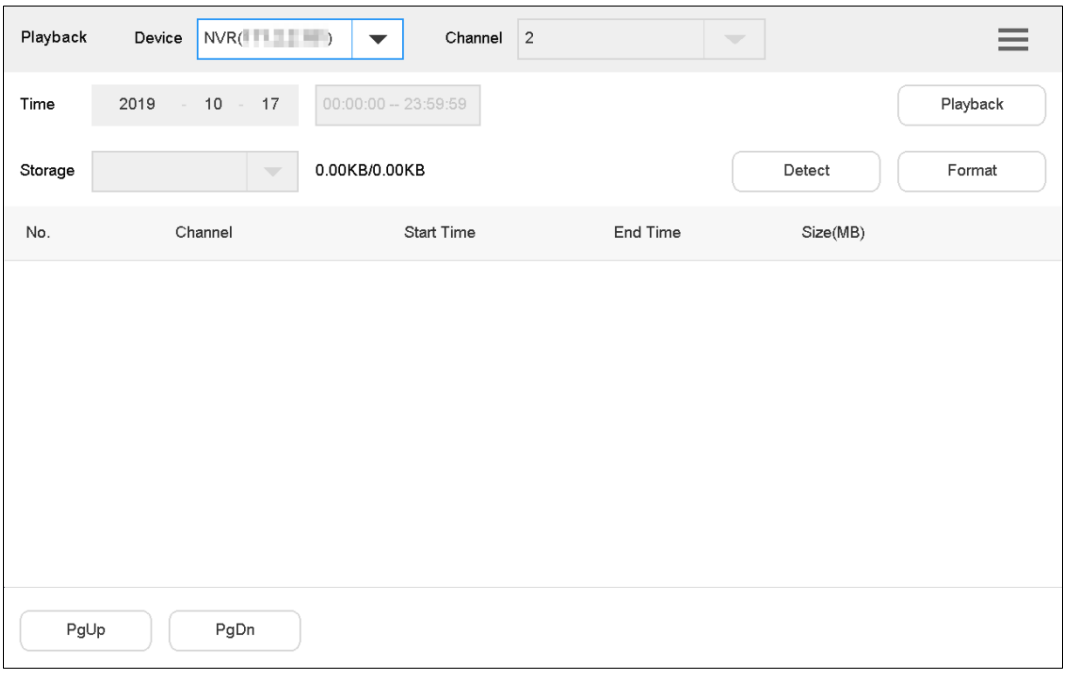

# 4.2 Playback

Play back the recorded videos.

Step 1 On the main interface, click **Playback**.

The **Playback** interface is displayed. See Figure 4-20.

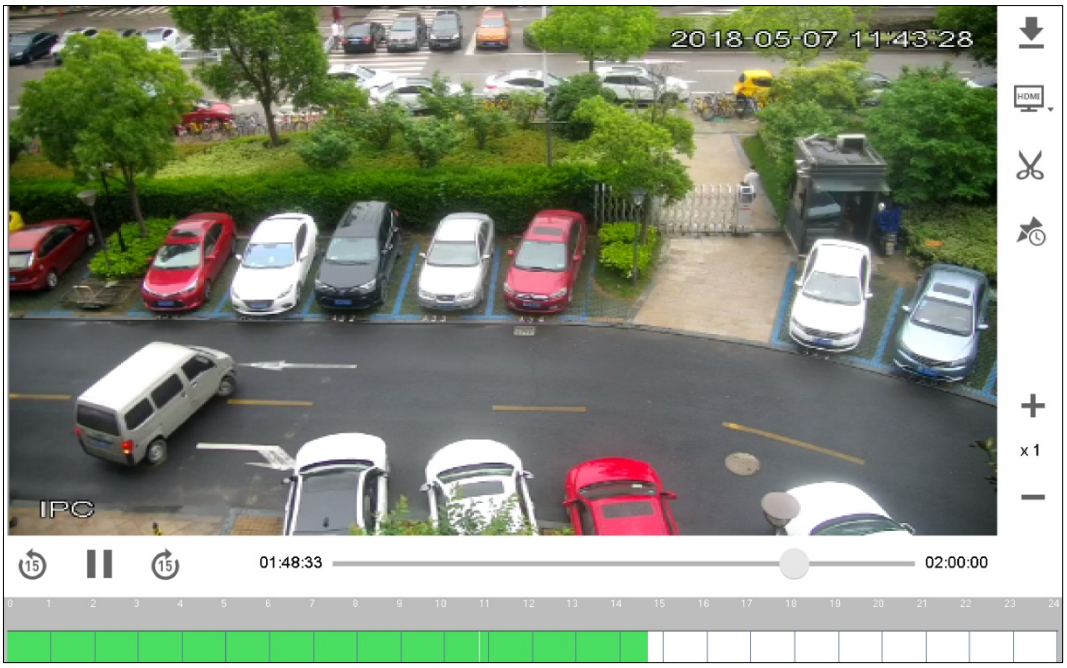
Figure 4-20 Playback (2)




Step 2 Select playback device and channel, configure time and click **Playback**.

The system starts to play back recorded videos. See Figure 4-21.

Figure 4-21 Playback of recorded video




During playback, you can control the playback speed, download the video and display the video on the TV wall. For details, see Table 4-4.

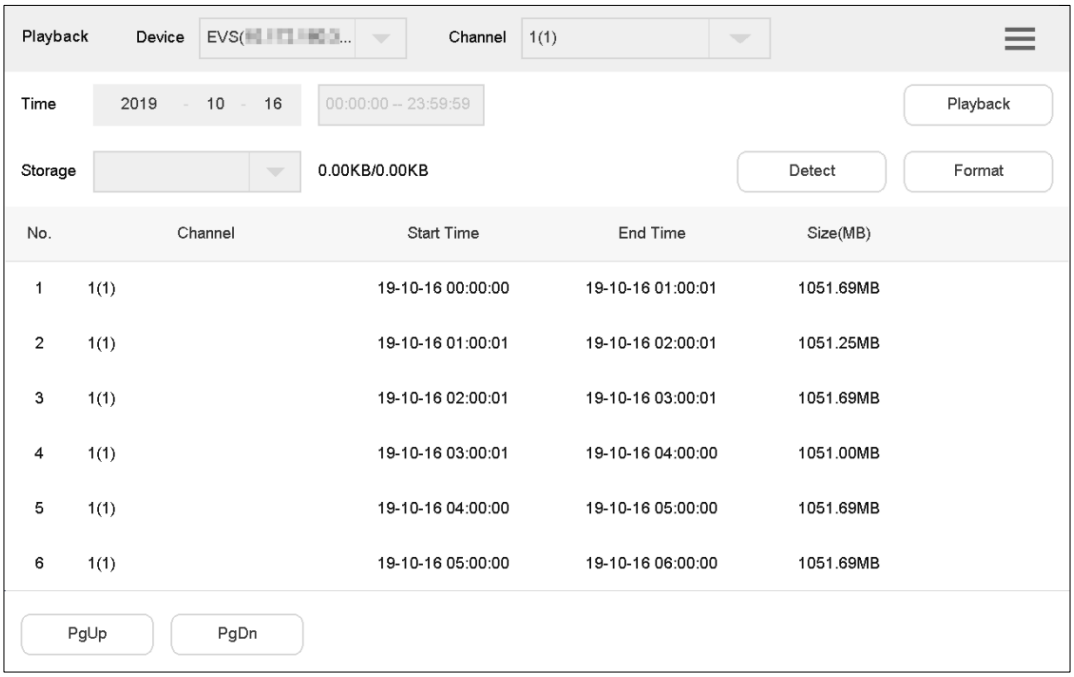
Table 4-4 Playback icon description

| Icon | Description | Icon | Description |
|---|---|---|---|
| | Download the video to USB flash drive. | | With HDMI port, display the video on TV wall and then view the video. |
| | Clip the video and save it to USB flash drive. The playback is paused during clipping. | | Configure the play time. |
| | During playback, click this icon to start fast forward mode, such as ×2 and ×4. | | During playback, click this icon to slow down the play, such as ×1/2 and ×1/4 . |
| , | Play/pause<br>During playback, click this icon to play or pause. | , | Go back to previous 15s/Fast forward 15s and then play. |
| | Click green area at the bottom to adjust play period. | – | – |

Step 3 Click on the network keyboard panel.

The system returns to **Playback** main interface. See Figure 4-22.

Figure 4-22 Playback (3)




- Click **Detect** to search external USB flash drive.
- Click **Format** to format the storage device, and all files in the storage device will be cleared. Please be careful.

# 4.3 TV Wall

In platform TV wall mode, it does not support calling with F1 number.

Control decoder, matrix and TV wall.

Devices can be added only through web client. For details, refer to "4.3.1 Adding TV Wall through Matrix Web Interface" and "4.3.2 Adding TV Wall through Decoder Web Interface."

There are two ways to add TV wall on the web interface:

- Matrix web interface (support multiple TV walls).
- Decoder web interface (only one TV wall).

The display control baseline version (VMP and NVD) supports multiple TV walls.

TV walls can be added in TV wall configuration of keyboard. For details, see "4.3.8 Configuring TV Wall."

## 4.3.1 Adding TV Wall through Matrix Web Interface

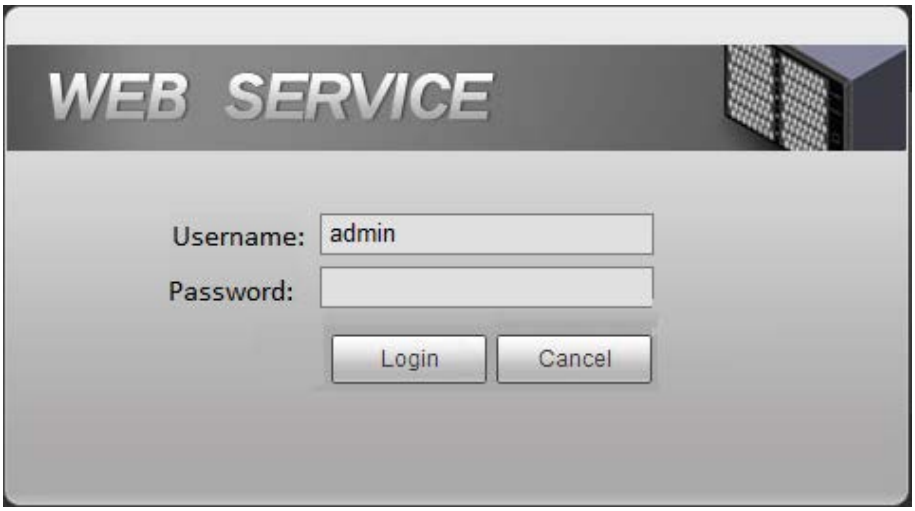
This part takes matrix web interface as an example.

- This part is operated at matrix web interface.

- For more specific configurations, refer to matrix user's manual.
- This part also applies to TV wall device.

Step 1 Enter IP address of matrix in address bar of the browser, and then press Enter.
Matrix login interface is displayed. See Figure 4-23.

Figure 4-23 Matrix login interface




Step 2 Enter username and password.

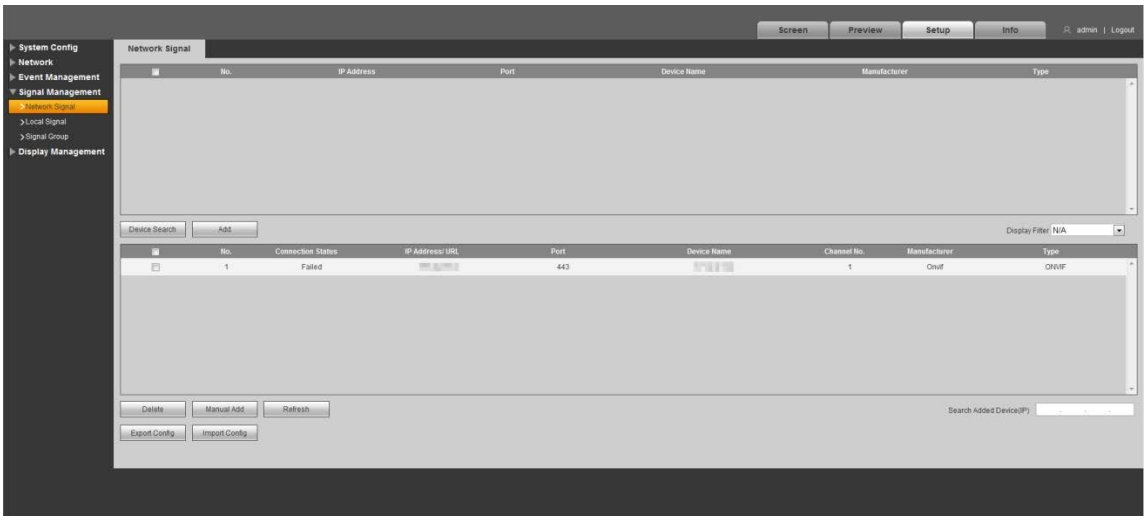
Step 3 Click **Login** to enter web interface.

### 4.3.1.1 Adding Network Signal

Search or add network signals manually.

Step 1 Select Setup > Signal Management > Network Signal.
The **Network Signal** interface is displayed. See Figure 4-24.

Figure 4-24 Network signal




Step 2 Add network signals.

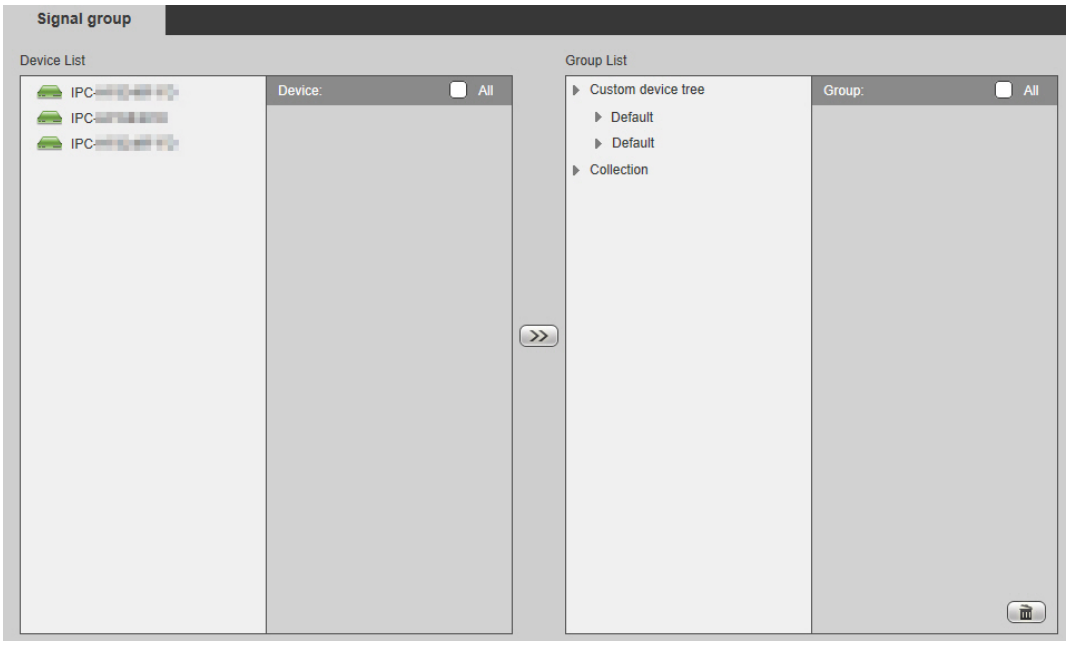
- Click **Device Search** to show search results, select the needed device and then click **Add**.
- Click **Add** to set parameters in the pop-up dialog box.

### 4.3.1.2 Signal Group

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

The **Signal Group** interface is displayed. See Figure 4-25. Devices in the device list can be added to group list.

Figure 4-25 Signal group




### 4.3.1.3 Adding Video Wall

Step 1 Select **Setup > Display Management > Video Wall Setup**.

The **Video Wall Setup** interface is displayed. See Figure 4-26.

Figure 4-26 Video wall setup


Step 2 Click Add Video Wall to add.

## 4.3.2 Adding TV Wall through Decoder Web Interface

This part takes decoder web interface as an example.

- This part is operated on the decoder web interface.
- For more specific configurations, refer to decoder user's manual.

Step 1 Enter IP address of decoder in address bar of the browser, and press Enter to enter decoder login interface. See Figure 4-27.

Figure 4-27 Login interface of decoder


Step 2 Enter username and password.

Step 3 Click **Login** to enter web interface.

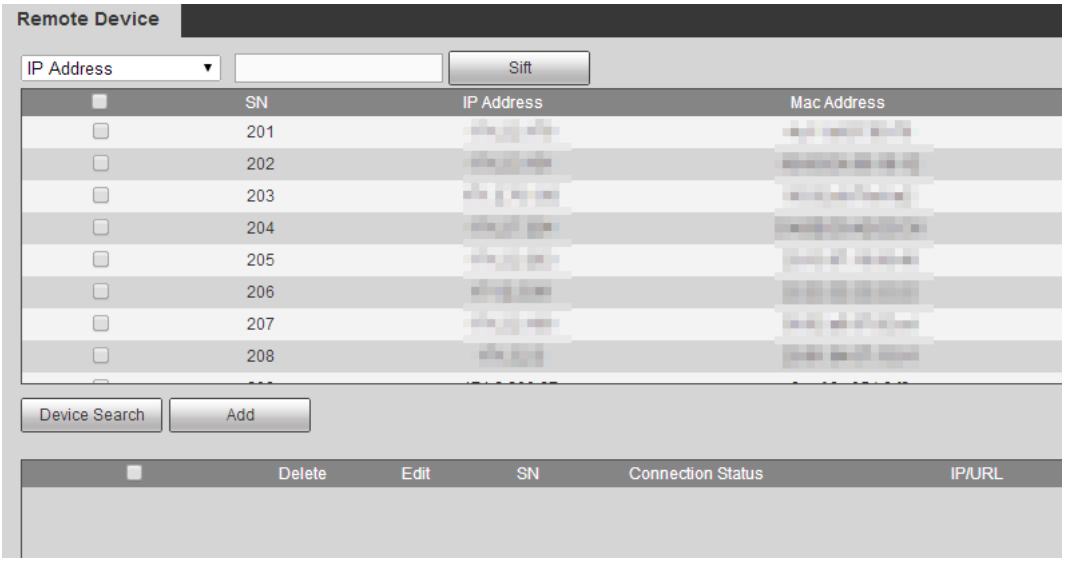
### 4.3.2.1 Adding Remote Device

Search or add network signals manually.

Step 1 Select Settings > Remote Device.

The **Remote Device** interface is displayed. See Figure 4-28.

Figure 4-28 Remote device




Step 2 Add a remote device.

- Click **Device Search** to show search results, select the needed device and click **Add**.
- Click **Add** to set parameters in the pop-up dialog box.

### 4.3.2.2 Editing Decoder TV Wall

Click the merged screen to edit TV wall.

## 4.3.3 Adding Device

Add TV wall, matrix and decoder device at the network keyboard. Refer to "3.6 Adding Device" for details.

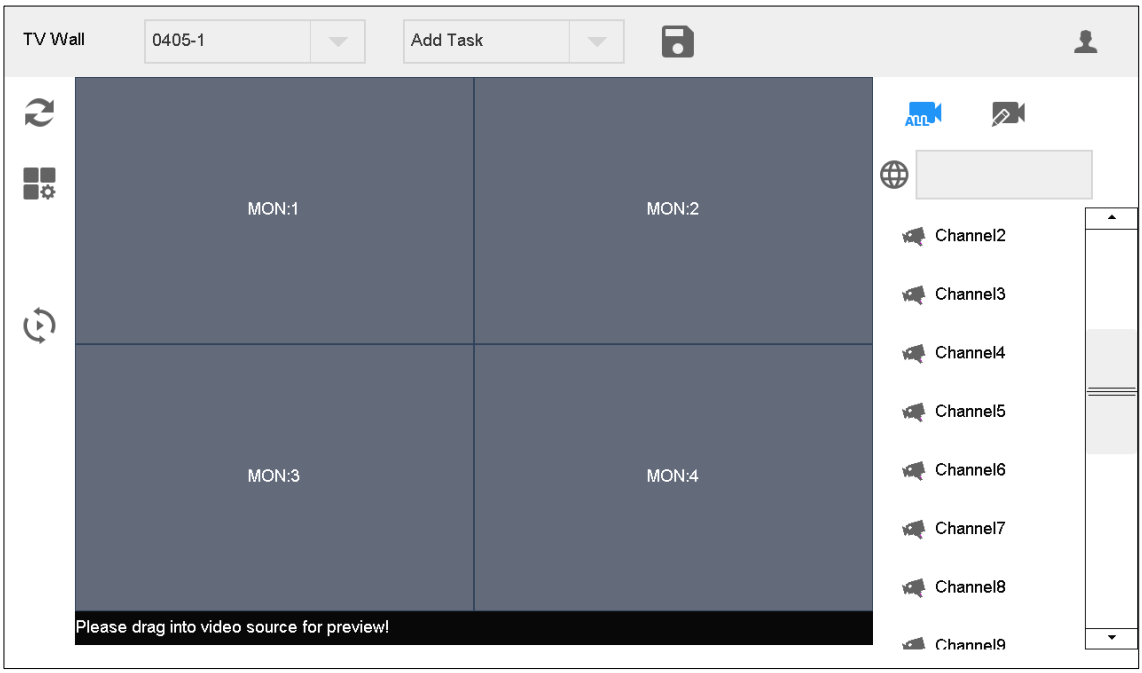
## 4.3.4 Video on Wall

Step 1 On the main interface, click **TV Wall.**

The **TV Wall** interface is displayed.

Step 2 In the pull-down list, select a TV wall. See Figure 4-29.

Figure 4-29 TV wall (screen)




Step 3 Click one screen in Figure 4-29, such as MON:1.

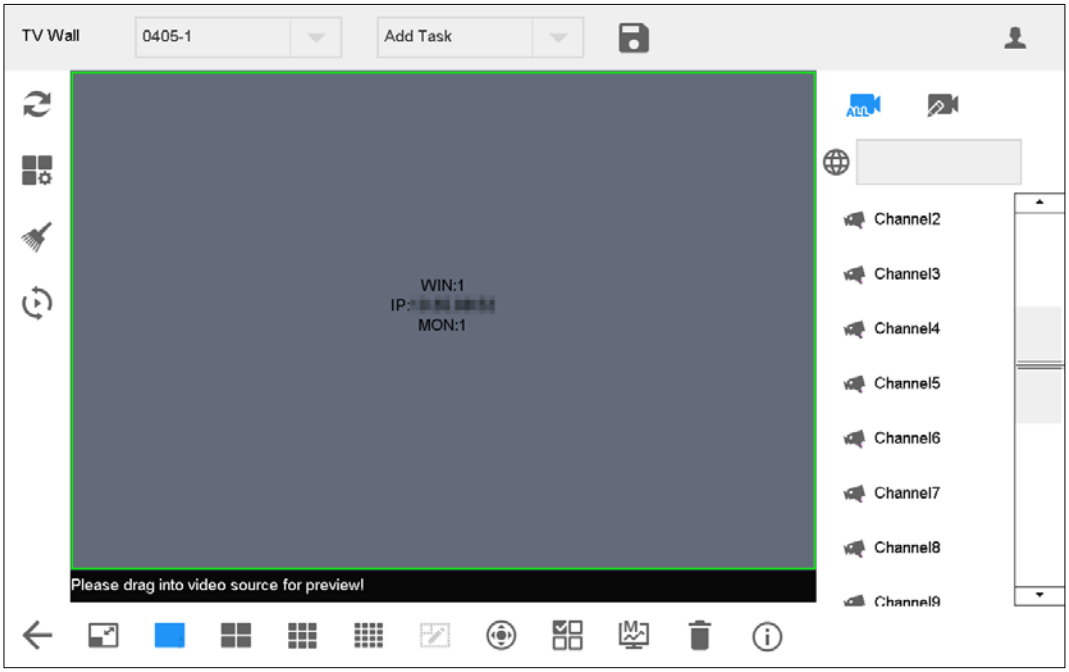
Step 4 Split the screen.

Click , enter the line and column numbers, and customize the splicing. Maximum splicing is 20×20.

Step 5 Drag video source on the right onto TV wall.

The system displays relevant information. See Figure 4-30.

Figure 4-30 TV wall (screen information)




### Switching Main and Sub-stream

Click  to switch main and sub-stream. M represents main stream, while S represents sub-stream.

Please switch the stream, and then drag the video onto the TV wall.

### Clearing Screen

Click  to clear screen.

## 4.3.5 TV Wall Icon Description

Refer to Table 4-5 for icon description.

Table 4-5 Icons of TV wall interface

| Icon | Description | Icon | Description |
|---|---|---|---|
|  | Refresh |  | Configure TV wall |
|  | Clear screen |  | Return |
|  | Maximize and restore the window |  | Single split |

| Icon | Description | Icon | Description |
|---|---|---|---|
| | 4-split | | 9-split |
| | 16-split | | Custom split |
| | PTZ | | Select one window or all windows on the screen.<br>This button is used with deletion button. |
| | Switch main and sub-stream. M represents main stream, while S represents sub-stream. | | Delete |
| | Detailed information about channel. | | Display the video on the wall quickly.<br>Refer to "4.1.3 Video on Wall" for details. |
| | Display all input channels. | | Display signal group.<br>Refer to "4.3.1.2 Signal Group" for new signal group. |
| | Start or stop the scheme patrol.<br>Please configure patrol task on the decoder. This is just a switch. | – | – |

## 4.3.6 PTZ Control

Please refer to "4.5 PTZ Control."

## 4.3.7 Adding Tasks

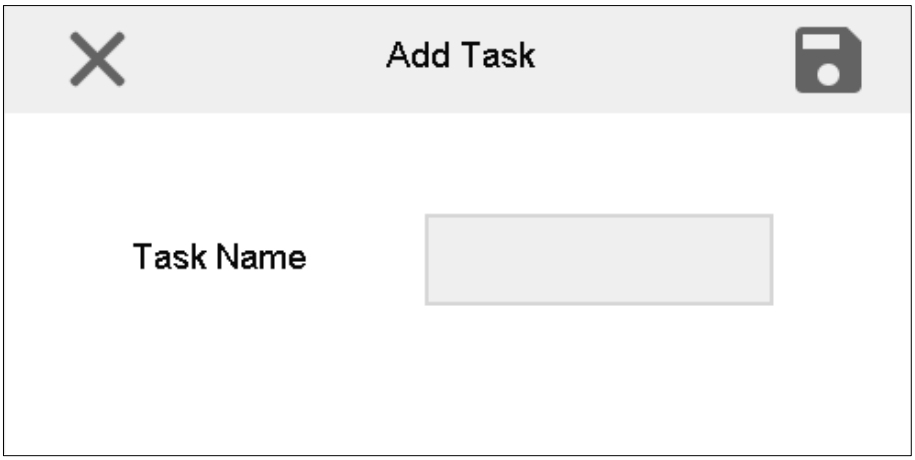
Frequently-used operations can be saved as tasks, in order to call them quickly. Maximum 16 tasks can be created.

Step 1 On the **TV Wall** interface, carry out a series of operations according to actual needs. For example, split the screen into 16 parts.

Step 2 Click .

The **Add Task** dialog box will pop out. See Figure 4-31.

Figure 4-31 Add task



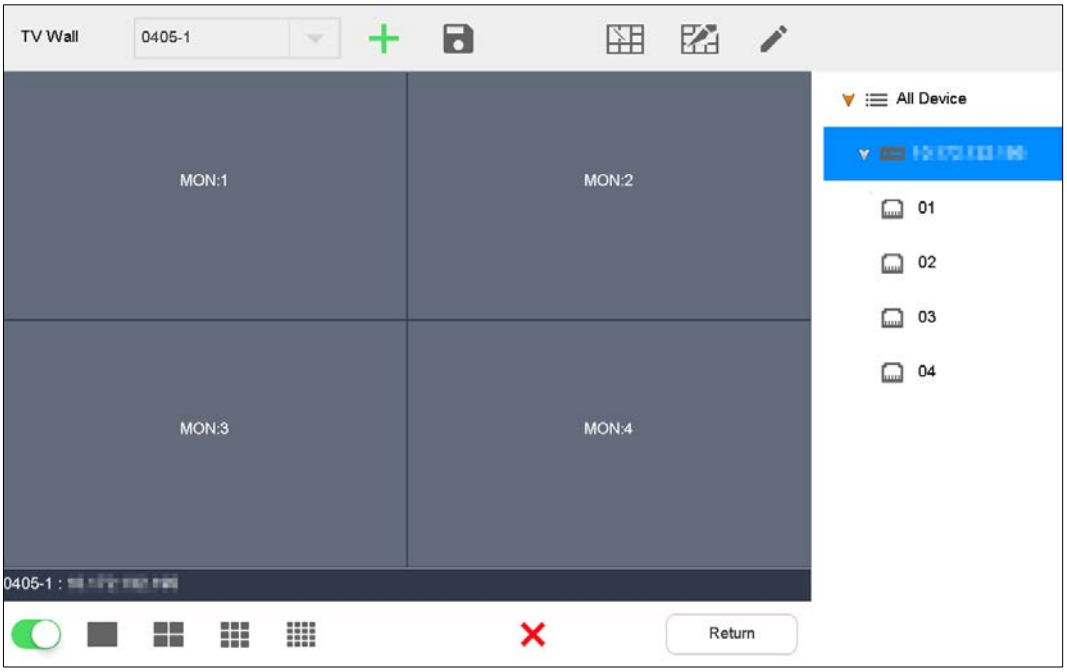

Step 3 Enter task name.

Step 4 Click .

## 4.3.8 Configuring TV Wall

On the **TV Wall** interface, click to enter **TV Wall** interface. See Figure 4-32.

Figure 4-32 Configure TV wall




### Enable TV Wall

Click to enable TV Wall. Then, **TV Wall** pull-down list in Figure 4-29 will display this TV wall.

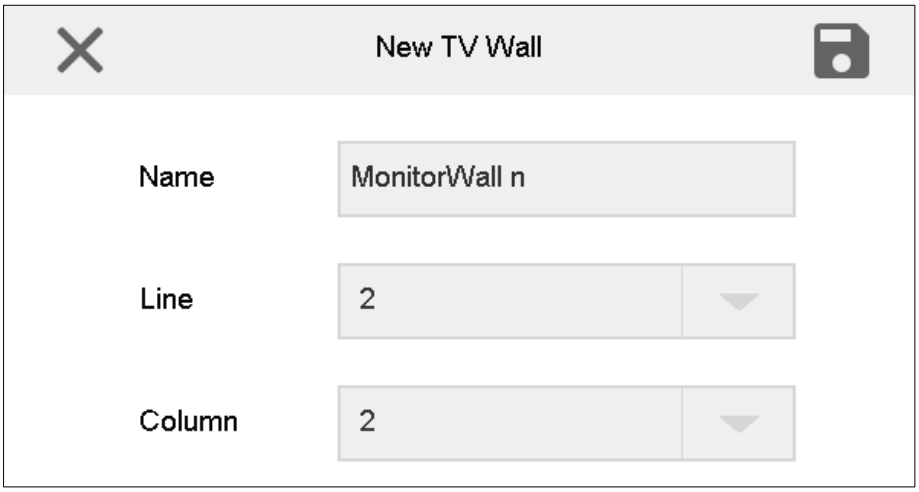
If decoding channel of this TV wall is bound to other TV walls, other TV walls will be disabled.

## New TV Wall

Step 1 Click  .

The **New TV Wall** dialog box pops up. See Figure 4-33.

Figure 4-33 New TV wall




Step 2 Enter the name, select line and column, and then click  .

Step 3 Drag decoding channels on the right into the screen to bind them.

Step 4 (Optional) Select two or more screens, and then click  to merge them into one screen.

Step 5 Click  .

## Delete TV Wall

Click  to delete TV wall.

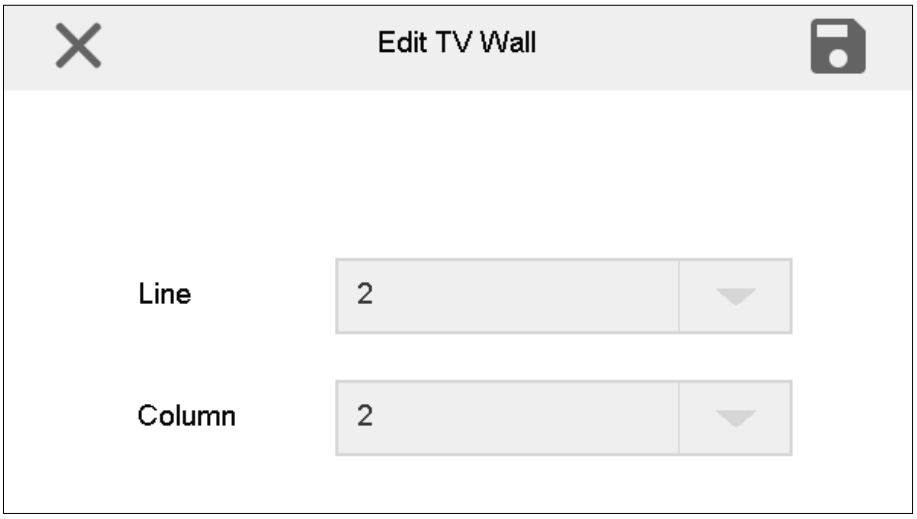
## Cancel Merged Screen

Select a merged screen and then click  .

## Edit TV Wall

Click  and the **Edit TV Wall** dialog box is displayed. See Figure 4-34.

Figure 4-34 Edit TV wall




### Return to TV Wall Interface

Click **Return** to return to TV wall interface.

### Exit TV Wall Interface

Click  to exit TV wall interface.

# 4.4 Platform

The network keyboard can connect to a platform, and thus control the devices that are added to the platform. At present, the supported platforms include DSS, DSS-PRO, and DSS-Express.

- DSS platform does not support platform channel preview at present.
- Key module is not supported in platform preview mode.

## 4.4.1 Adding Devices and Video Wall

### 4.4.1.1 Adding Devices to Platform

You can add an encoder, decoder, TV wall and matrix device. Take adding a decoder for example.

This section is about operations on the DSS-PRO client. For the detailed operations of downloading and initialization of the DSS PRO client, see the DSS PRO User's Manual.

Step 1 Log in to the DSS Client. On the **Home** page, click , and then in the **Basic Config** section, select **Device**.

Step 2 Click  .

Step 3 Click **Add**.

Step 4 Enter device login information, and then click **Add**.

Select a mode to add the device.

- **IP Address**: We recommend selecting this option when you know the IP address of the device.

  Only **Encoder** devices support IPv6. If you want to add devices to the platform through IPv6 addresses, you must first configure an IPv6 address for the platform. Contact technical support for help.

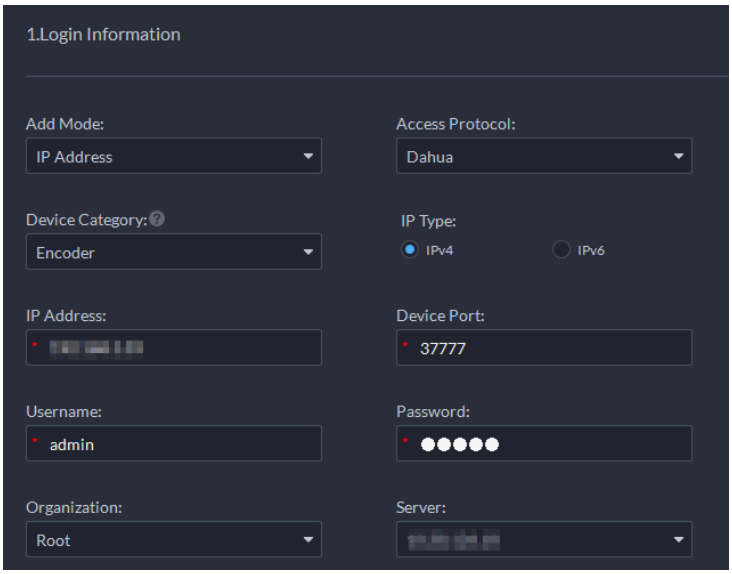
- **IP segment**: Add multiple devices in the same segment. We recommend selecting this option when the login username and password of the multiple devices in the same segment are the same.
- **Domain Name**: We recommend selecting this option when the IP address of the device changes frequently and a domain name is configured for the device.
- **Auto Registration**: We recommend this method when the IP address of a device might change. The ID of auto register has to be in accordance with the registered ID configured on the device you want to add. The port number must be the same on the platform and on the device. The auto register port is 9500 on the platform by default. To change the auto register port number, open the configuration tool to change the port number of ARS service.

  - After a device is added through auto registration, hover the mouse over its IP address on the device list, and then you can see its local IP address and the IP address it uses to connect to the platform.
  - Sleep function is supported for IPCs that use 4G mobile network to communicate and are solar-powered only when they are added to the platform through automatic registration.

- **P2P**: Add devices under a P2P account to the platform. The platform must be able to access the P2P server. There is no need to apply for the dynamic domain name of the device, perform port mapping or deploy a transit server when using it.
- **RTSP Address**: We recommend this method when adding third-party devices.
  - ◇ **Device Category** only supports **Encoder** and the **Access Protocol** only supports **RTSP**.
  - ◇ Only live view and playback of central recordings are supported if devices are added through this way.

  - ◇ The parameters vary with the selected protocols.
  - ◇ When you set **Device Category** to **Video Wall Control**, and you are using the **Dual NIC Mode**, **WAN Mode**, or both modes, you need to select the network in which the device works according to the actual situation.

Figure 4-35 Add a device




Step 5 Enter the information, and then click **OK**.

To add more devices, click **Continue to add**.

### 4.4.1.2 Adding Video Wall

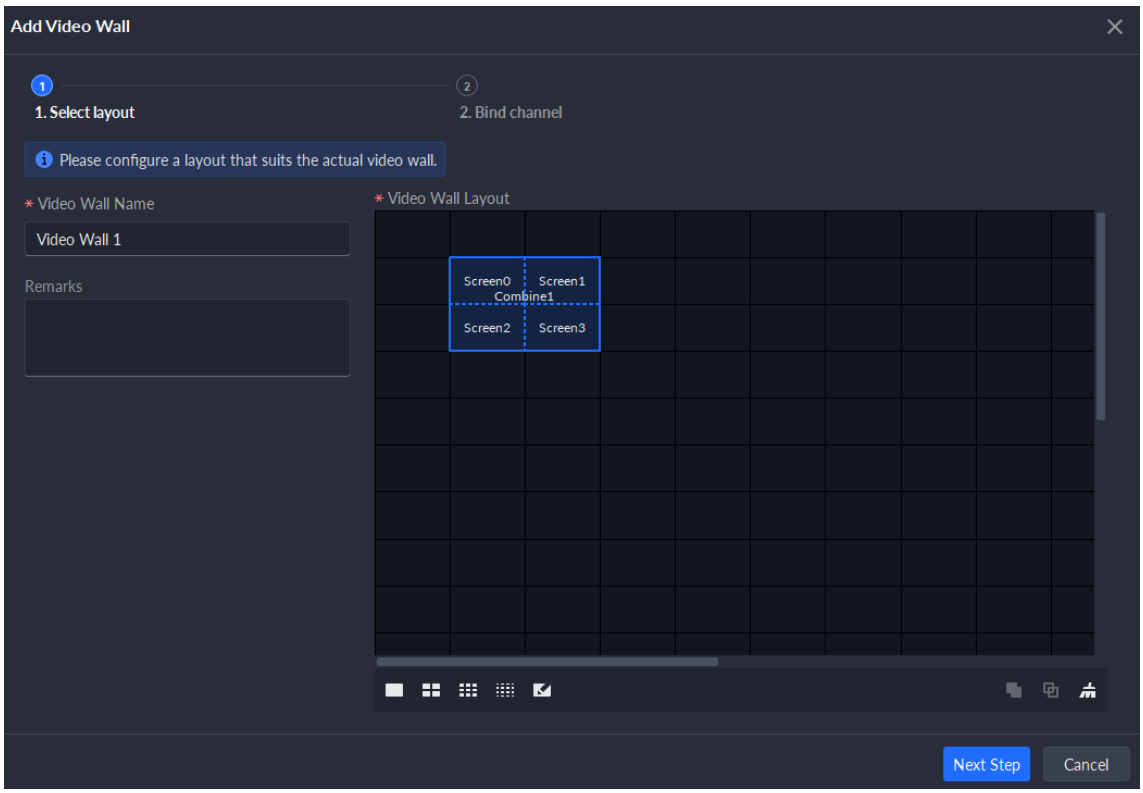
Add a video wall layout on the platform.

Step 1 Log in to the DSS Client, and on the **Home** page, select **Monitoring Center** > **Video Wall**.

Step 2 From the **Video Wall** drop-down list, select **Add Video Wall**.

Step 3 Enter video wall name, and then select a window splicing mode.

Figure 4-36 Add a video wall




- The video wall name cannot consist of special characters including < > % & = " ' and /.

- Select a splicing mode from among 1 × 1, 2 × 2, 3 × 3, 4 × 4 or set a custom mode by clicking .
- A multi-screen splicing mode is a combined screen by default. You can perform video roaming on it. For example, with a 2×2 combined screen, if you close 3 of them, the other one will be spread out on the combined screen. To cancel combination, click the combined screen, and then click .
- To create a combined screen, press and hold Ctrl, select multiple screens, and then click .
- To clear the created screen, click .

Step 4 Click **Next Step**.

Step 5 Select the encoders which need to be bound in the device tree, and drag it to the corresponding screen, and then click **Finish**.

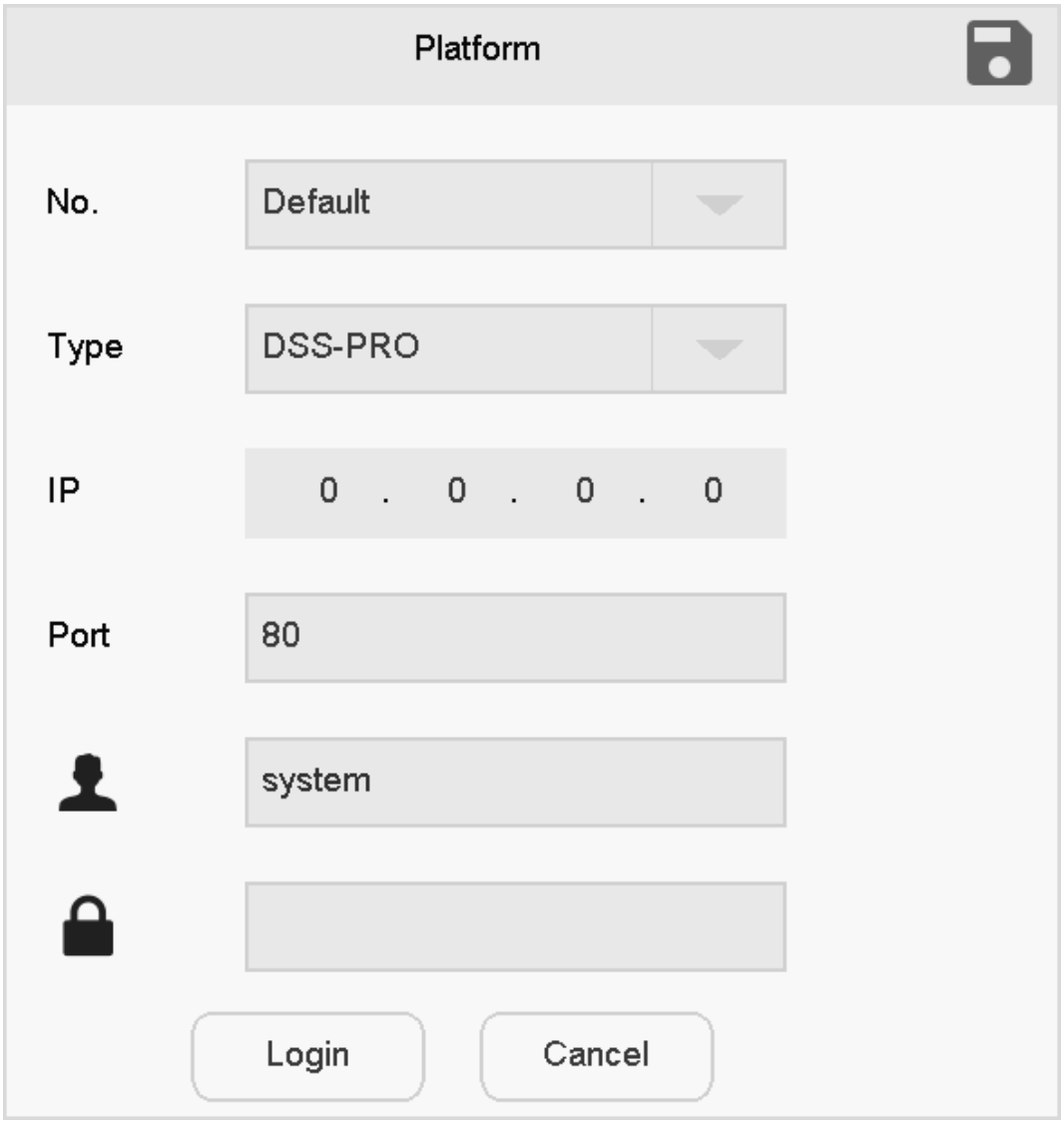
- You can set whether to show ID in the screen, Show Screen ID means that the screen ID is disabled; click the icon and it becomes Show Screen ID, which means that screen ID is enabled.
- Each screen in a combined screen must be bound with a decoding channel.

## 4.4.2 Video on Wall

Step 1 On the main interface, click **Platform**.

The connection interface of keyboard operation platform is displayed. See Figure 4-43.

Figure 4-37 Connect keyboard operation platform




Step 2 Set parameters. Refer to Table 4-6.

Table 4-6 Platform parameter description

| Parameter | Description |
|---|---|
| No. | Customize platform number. |
| Type | Select platform type, including DSS (the old version before DSS-PRO), DSS-PRO, and DSS- Express. |
| IP | Enter IP address of platform. |
| Port | Set port number.<br>● Regarding DSS platform, default port number is 9000.<br>● Regarding DSS-PRO and DSS-Express platform, default port number is HTTP 80. For details about how to enable the http service, see the DSS Pro or DSS Express user's manual.<br>You need to configure HTTP allowlist on the DSS client. For details, see the DSS PRO or DSS Express user's manual. |
| Username | Enter username to log in to the platform. |
| Password | Enter password to log in to the platform. |

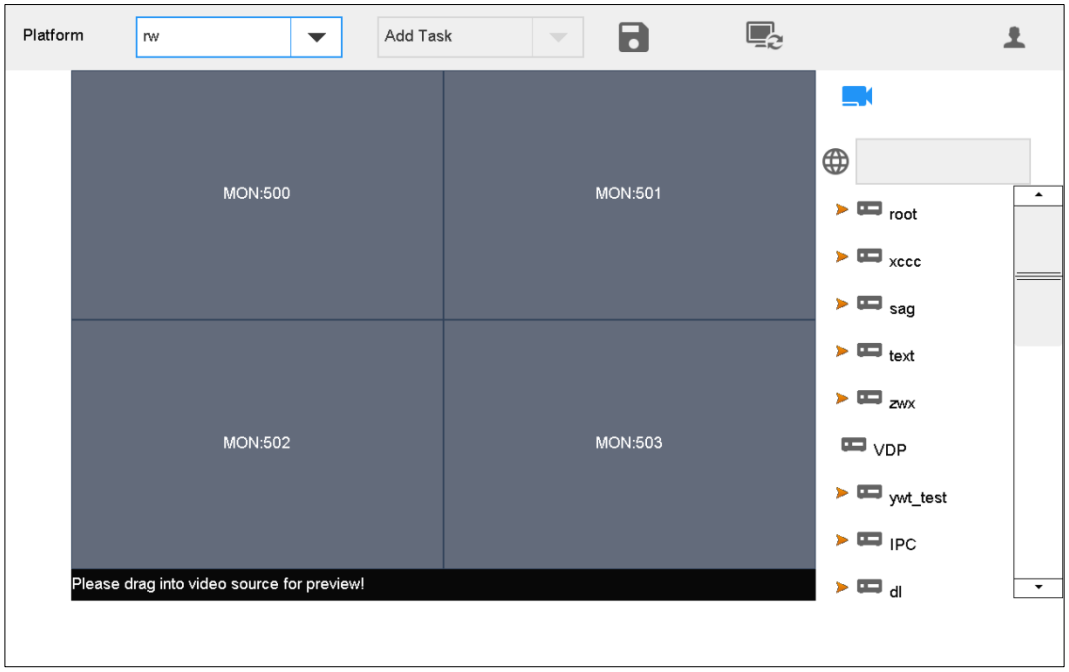
Step 3 Click **Login**.

The **Login** interface is displayed.

Click to save the present information.

Step 4 Select platform. See Figure 4-44.

Figure 4-38 Platform (1)



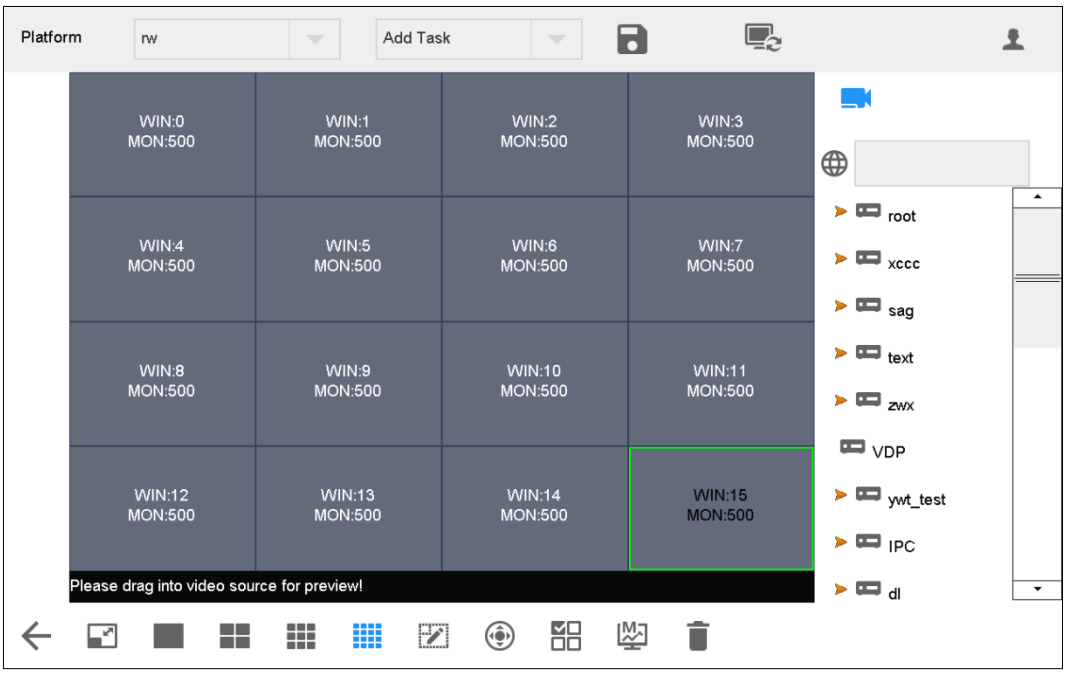

Step 5 Click one screen in Figure 4-44, such as MON:500. Enter display screen information interface.

Step 6 Split the screen. For example, click to get 16-split screen.

Click , enter the line and column numbers, and customize the splicing. Maximum splicing is 20×20.

Step 7 Drag video source on the right onto large screen. See Figure 4-45.

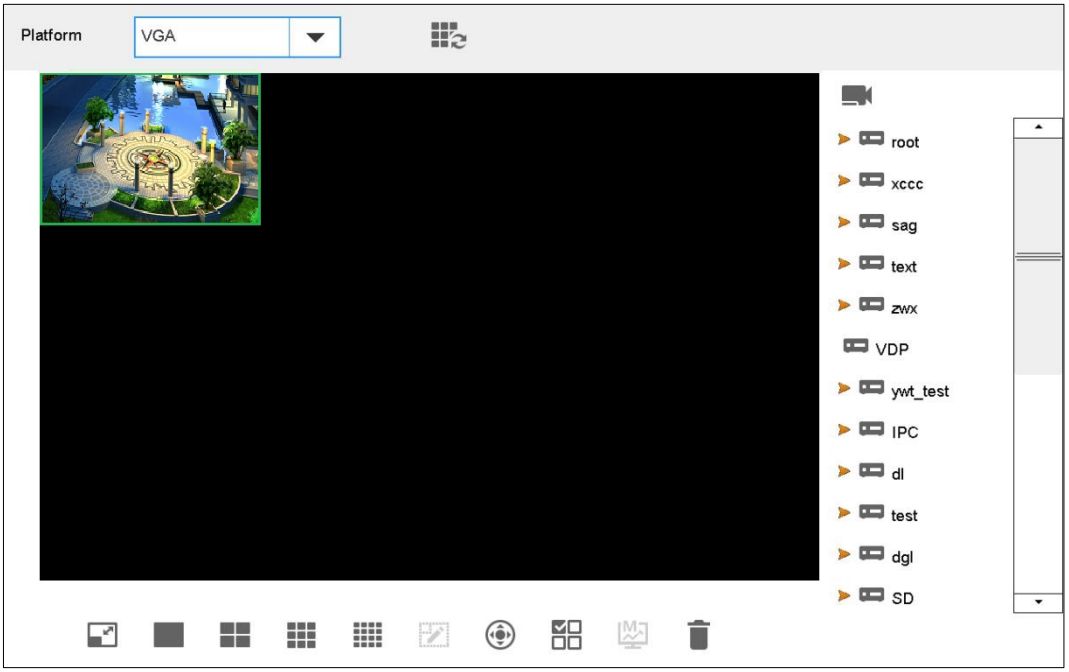
Figure 4-39 Platform (2)




Step 8 Click  .

The live view interface is displayed. See Figure 4-46.

Figure 4-40 Live view




## Switching Main Stream and Sub-stream

Click  to switch main and sub-stream. M represents main stream, while S represents sub-stream.

⚠

Please switch the stream, and then drag the video onto the TV wall.

### Clearing Screen

Click  to clear screen.

For other operations of TV wall, please refer to "4.1.3 Video on Wall."

DSS-PRO, and DSS- Express platforms do not have this icon. The layout is cleared after each split.

## 4.4.3 Icons of Platform Interface

Refer to Table 4-7 for icon description.

Table 4-7 Icons of platform interface

| Icon | Description | Icon | Description |
|---|---|---|---|
|  | Refresh |  | Clear screen. |
|  | Return |  | Maximize and restore the window. |
|  | Single split |  | 4-split |
|  | 9-split |  | 16-split |
|  | Custom split. |  | PTZ |
|  | Select one window or all windows on the screen.<br>This button is used with deletion button. |  | Switch main and sub-stream. M represents main stream, while S represents sub-stream. |
|  | Delete |  | Detailed information about input channel. |
|  | Switch to live view interface. |  | Switch to TV wall mode. |

## 4.4.4 PTZ Control

Refer to "4.5 PTZ Control."

## 4.4.5 Adding Task

Refer to "4.3.7 Adding Task."

# 4.5 PTZ Control

The camera shall have PTZ function.

Click on the **Platform** interface, and then the PTZ control interface is displayed on the right. See Figure 4-47.

Figure 4-41 PTZ control


Table 4-8 PTZ control parameter description

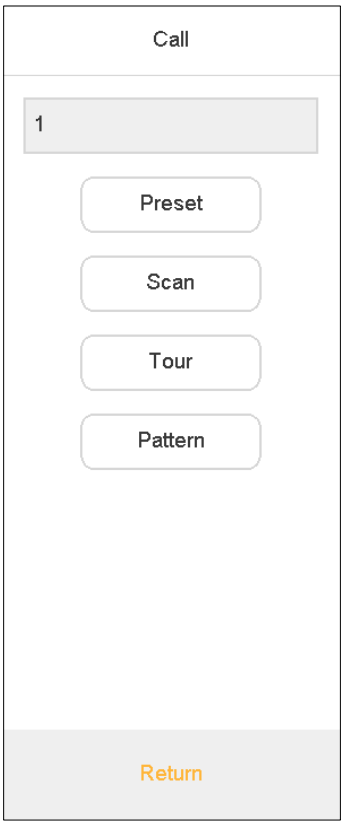
| Parameter | Description |
|---|---|
| Step type | It consists of fixed step and variable step.<br>● By selecting **Fixed**, the step remains unchanged when PTZ turns; it is always the set step value.<br>● By selecting **Variable**, the step changes with the tilt of joystick. The larger tilt angle represents quicker turning speed. |
| 8 direction keys | Control turning direction of SD lens. |
| Zoom | Set the zoom increase/decrease of PTZ lens. |
| Focus | Set the focus increase/decrease of PTZ lens. |
| Iris | Set the iris increase/decrease of PTZ lens. |
| Call | Call the preset point, scan, tour and pattern. |
| Settings | PTZ operation settings, including the preset point, scan, tour and pattern. |
| SD menu | Open and close SD menu. |
| AUX Fn | Lighting and wiper function. |
| Exit | Exit PTZ control. |

Use the joystick to control 8 directions of PTZ.

## 4.5.1 Call

Click **Call**. The **Call** interface is displayed. See Figure 4-48.

Figure 4-42 Call




Enter a number in the input box, such as 1. Click **Preset** to call the preset point 1.

- It will be called successfully after you have set preset point.
- Call methods of scan, tour and pattern are the same as that of preset point. Refer to "4.5.2 Settings" for details.

## 4.5.2 Settings

### 4.5.2.1 Settings of Preset Point

Step 1 Turn the camera to required position with the joystick or direction button.

Step 2 Select **Preset**.

Step 3 Enter a preset point value in **Preset** input box, such as **1**.

Step 4 Click **Settings**. Preset point 1 is set successfully.

### 4.5.2.2 Settings of Tour

Step 1 Select **Tour**.

Step 2 Enter tour route value in **Tour No.** input box.

Step 3 Enter a preset point value in **Preset** input box, and then click **Add Preset** to add a preset point to the tour route.

- Multiple preset points can be added.
- Click **Del Preset** to delete the preset point from this tour route. Repeat the operation to delete multiple preset points from this tour route. Preset points cannot be deleted in some protocols.
- Click **Del Tour** to delete the present tour route.

### 4.5.2.3 Settings of Pattern

Step 1 Select **Pattern**.

Step 2 Enter pattern no. in **Pattern No.** input box.

Step 3 Click **Start Pattern** to carry out operations of zoom, focus, iris or direction.

Step 4 Click **Stop Pattern** to complete the settings of one pattern route.

### 4.5.2.4 Settings of Scan

Step 1 Turn the camera to left margin with the joystick or direction button.

Step 2 Click **Set Left** to determine left margin position.

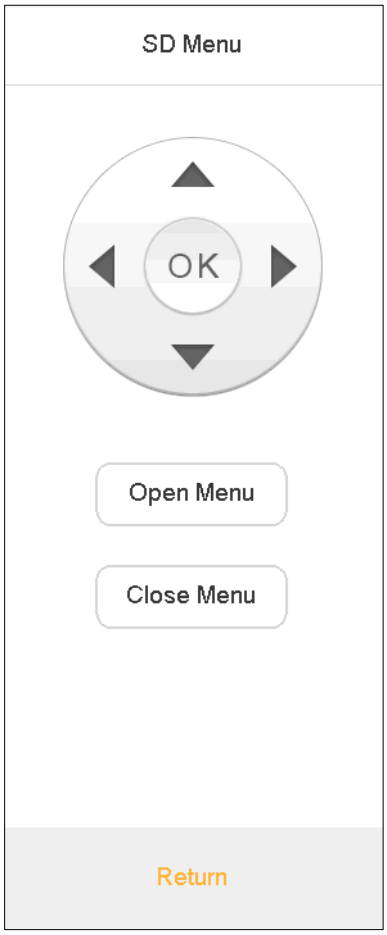
Step 3 Turn the camera to right margin with the joystick or direction button.

Step 4 Click **Set Right** to determine right margin position.

## 4.5.3 SD Menu

Click **SD Menu**. The **SD Menu** interface is displayed. See Figure 4-49.

Figure 4-43 SD menu



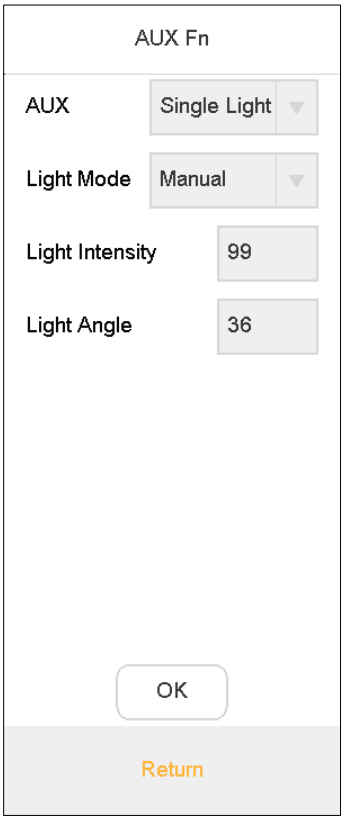

Refer to Table 4-9 for introductions to icons.

Table 4-9 SD menu parameter description

| Parameter | Description |
|---|---|
| Direction key | Select PTZ menu options. |
| OK key | Confirm operations. |
| PTZ menu | • Click Open Menu to open PTZ menu on preview interface. Then, use direction key to select different functions to operate the PTZ.<br>• Click Close Menu to close PTZ menu on preview interface. |

### 4.5.4 Auxiliary Function

Figure 4-44 Auxiliary function




- Auxiliary function includes **Single Light**, **Multi-light** and **Wiper**.
- Light mode includes **Manual**, **SmartIR** and **Zoom Ratio First**.
- Light intensity: Light intensity can be set.
- Light angle: Light angle can be set.

## 4.6 Settings

It consists of four parts, namely, device, general, account and system.

### 4.6.1 Device Management

#### 4.6.1.1 Adding Device

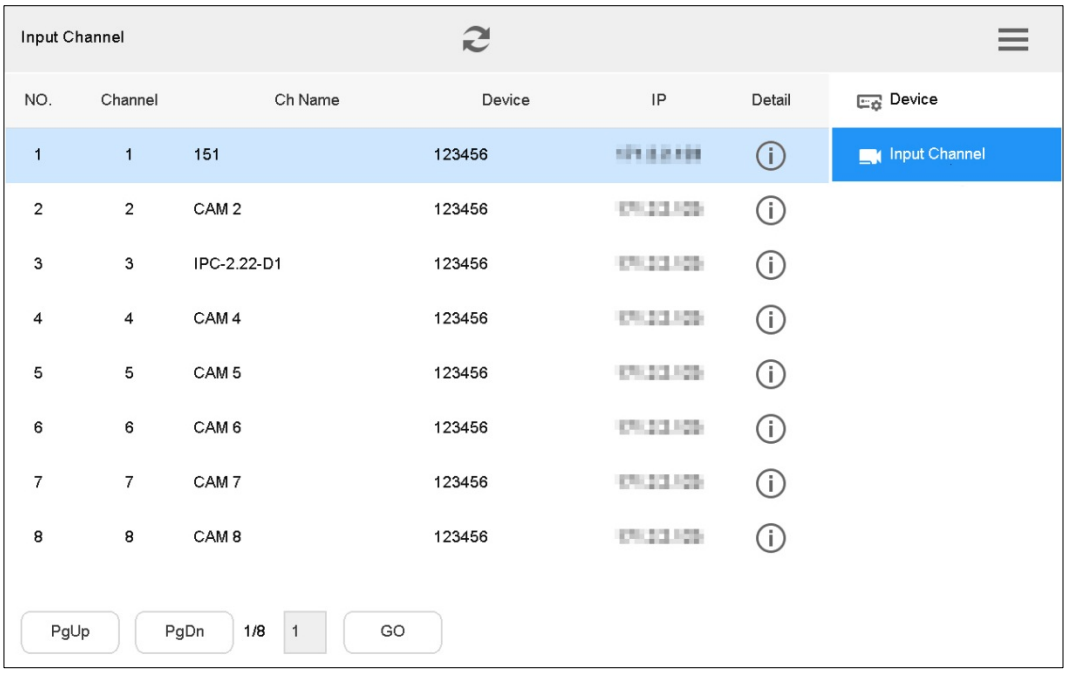
Refer to "3.6 Adding Device."

#### 4.6.1.2 Input Channel

Display input number, channel, channel name, device, IP address and details. Meanwhile, modify input channel number.

On the **Settings** interface, click **Device**, and then click **Input Channel** tab. The **Input Channel** interface is displayed. See Figure 4-51.

Figure 4-45 Input channel




### Modifying Input Channel Number

Click  to modify input channel number and name in the pop-up dialog box.

## 4.6.2 General Settings

### 4.6.2.1 Wired Network

Refer to "3.5.1 Wired Network" for details.

### 4.6.2.2 WLAN

Refer to "3.5.2 WLAN" for details.

### 4.6.2.3 Bluetooth

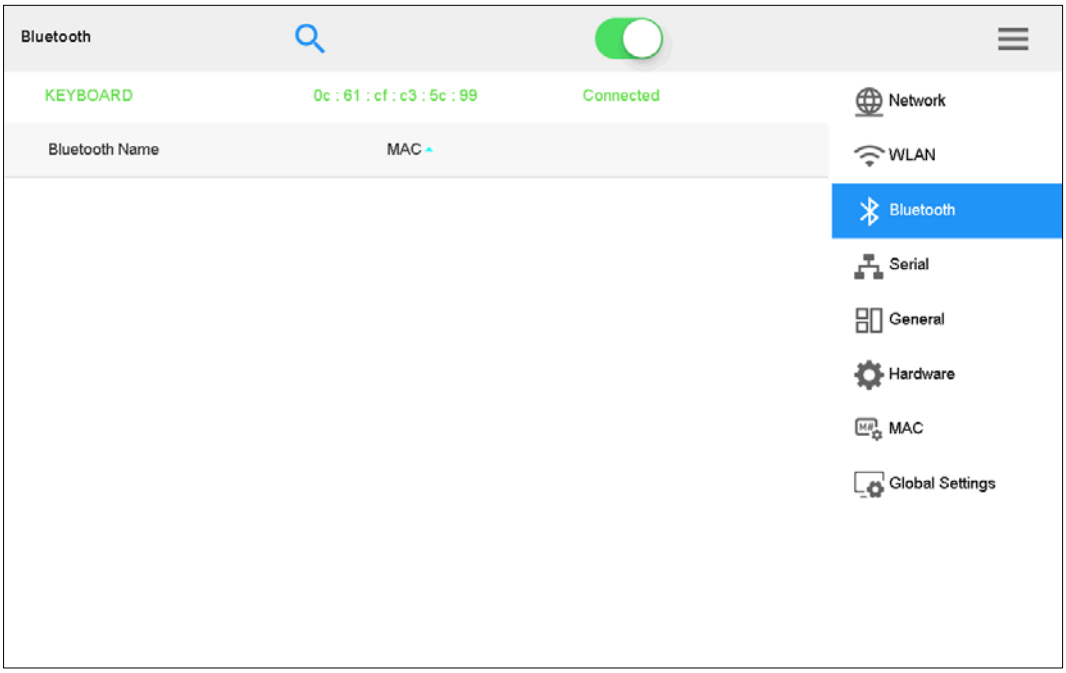
Step 1 On the **General** page, click **Bluetooth** tab.
The **Bluetooth** interface is displayed.

Step 2 Click  to enable Bluetooth.

Step 3 Click  to search nearby Bluetooth device.

Step 4 Double-click the searched device and the system will display **Connecting**.
After several seconds, the system will display **Connected**, so it is connected successfully. See Figure 4-52.

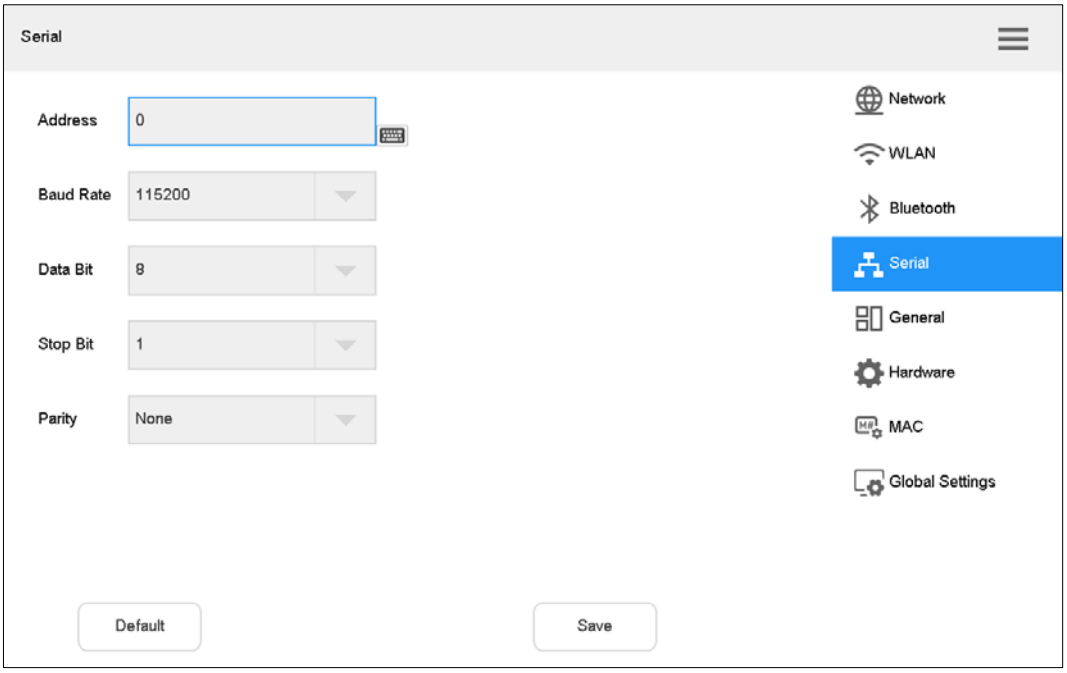
Figure 4-46 Bluetooth




### 4.6.2.4 Serial Port

Step 1 On the **General** interface, click **Serial** tab.
The **Serial** interface is displayed. See Figure 4-53.

Figure 4-47 Serial




Step 2 Set the parameters. Refer to Table 4-10.

Table 4-10 Serial port parameter description

| Parameter | Description |
|---|---|
| Address | In case of serial port control, identify devices according to the address. Value ranges from 0 to 255. |
| Baud rate | Baud rate ranges from 1200 to 115200. There are 8 levels available. |
| Data bit | Select data bit, including 5, 6, 7 and 8. |
| Stop bit | Select stop bit, including 1 and 2. |
| Parity | Select parity, including none, odd, even, checkmark and null parity. |

Step 3 Click **Save**.

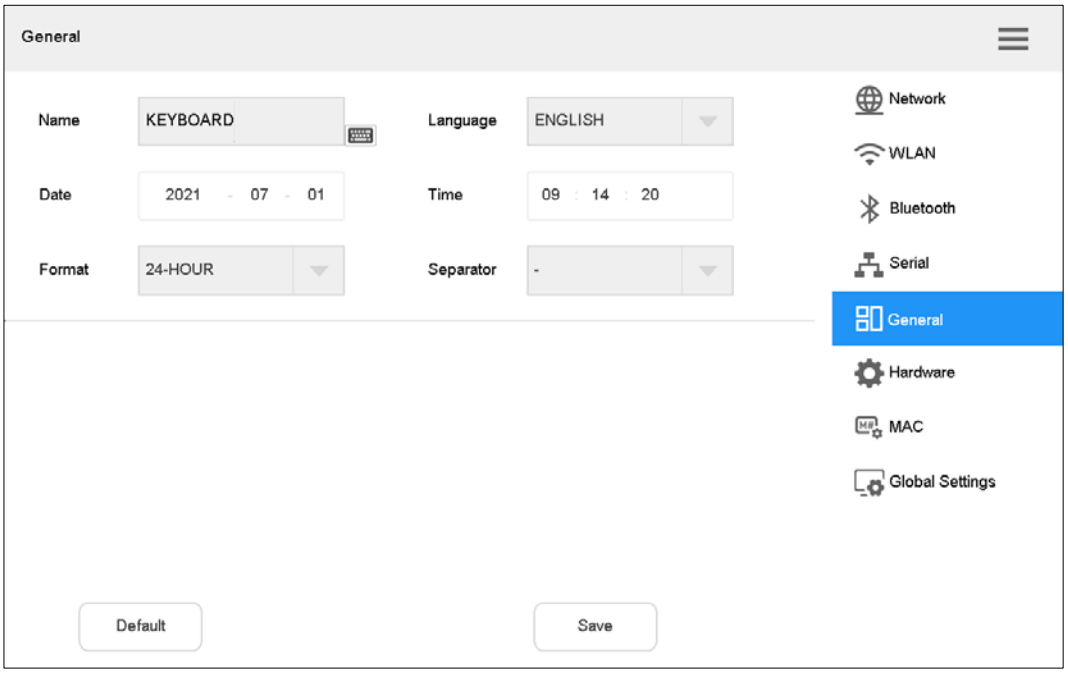
## 4.6.2.5 General

You can set name, date, time and other parameters of network keyboard.

Step 1 On the **Settings** interface, click **General** tab.

The **General** interface is displayed. See Figure 4-54.

Figure 4-48 General




Step 2 Set the parameters. Refer to Table 4-11.

Table 4-11 General parameter description

| Parameter | Description |
|---|---|
| Name | Set network keyboard name. |
| Language | Select language. |
| Date | Set date. |
| Time | Set time. |
| Format | Set time format, including 24-hour and 12-hour. |
| Separator | Set date separator, including ".", "-" and "/". When it takes effect, system time is displayed as "2019.10.17", "2019-10-17" and "2019/10/17". |

Step 3 Click **Save**.

### 4.6.2.6 Hardware

You can set the locking time of network keyboard.

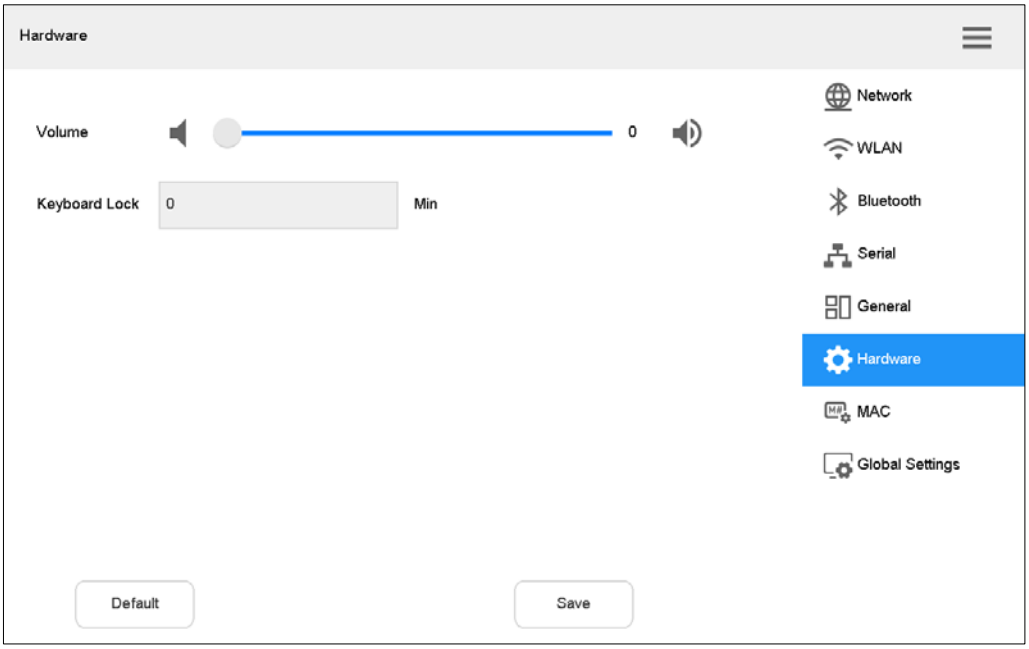
This software does not support volume adjustment.

Step 1 On the **Settings** interface, click **Hardware** tab.

Step 2 Set the **Keyboard lock** time.

After keyboard is locked, log in to the device again to enter it.

Figure 4-49 Hardware




Step 3 Click **Save**.

### 4.6.2.7 MAC

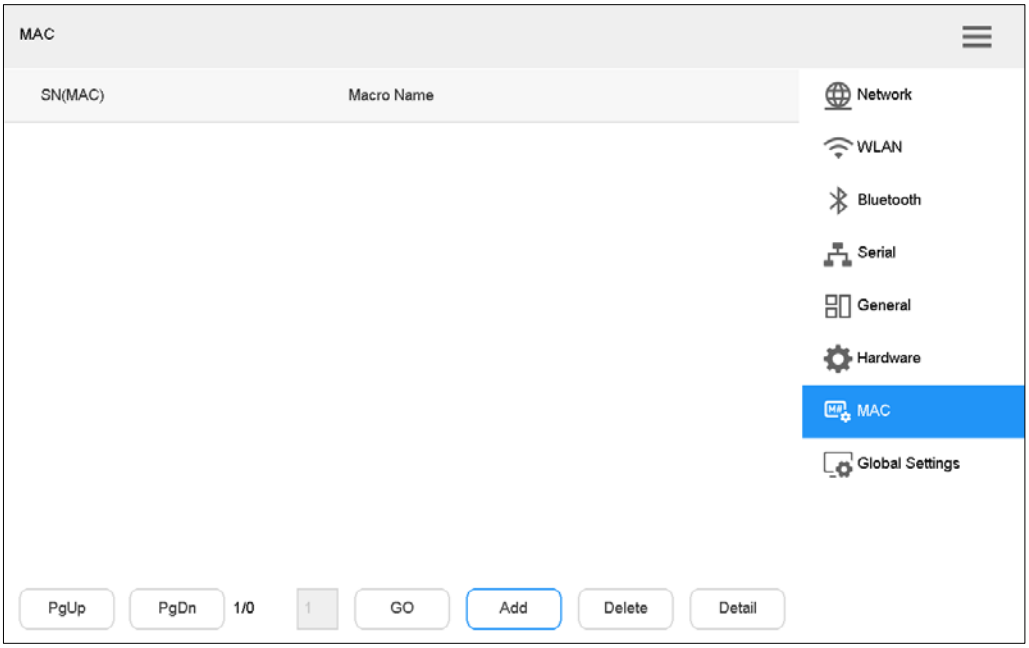
Add MAC through key module, and then execute continuous action groups according to the adding sequence.

On the local preview interface or TV wall interface, press number key + F2 to call MAC.

Before use, ensure that you have configured MAC with corresponding numbers.

Step 1 On the **Settings** interface, click **MAC** tab.

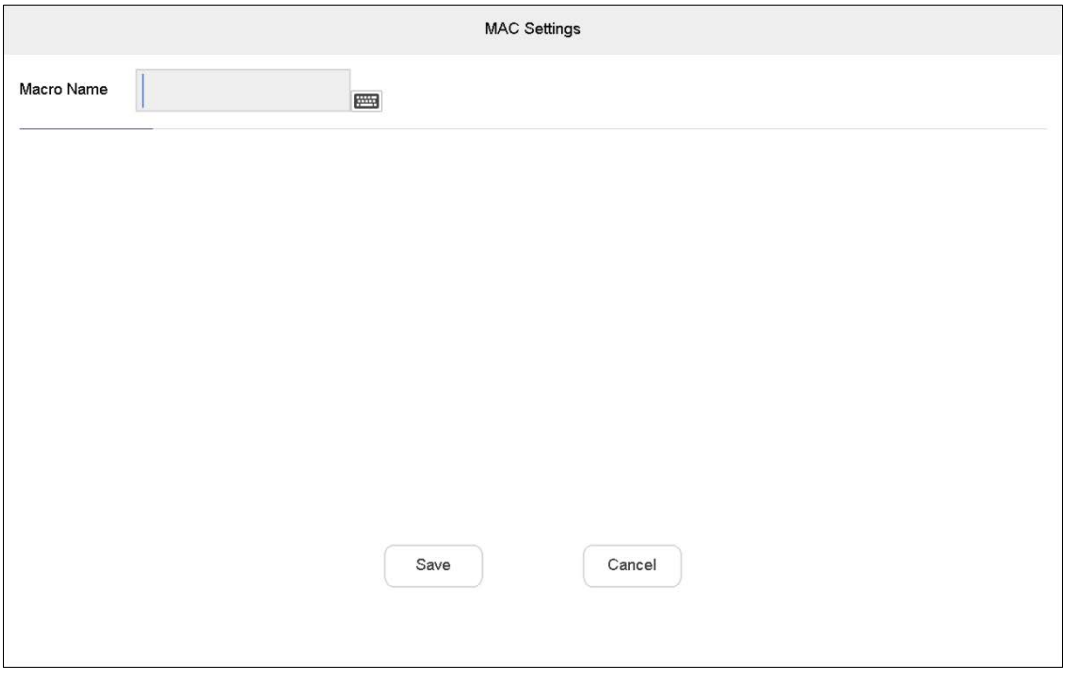
Figure 4-50 MAC




Step 2 Click **Add**.

The **MAC Settings** interface is displayed. See Figure 4-57.

Figure 4-51 MAC Settings (1)

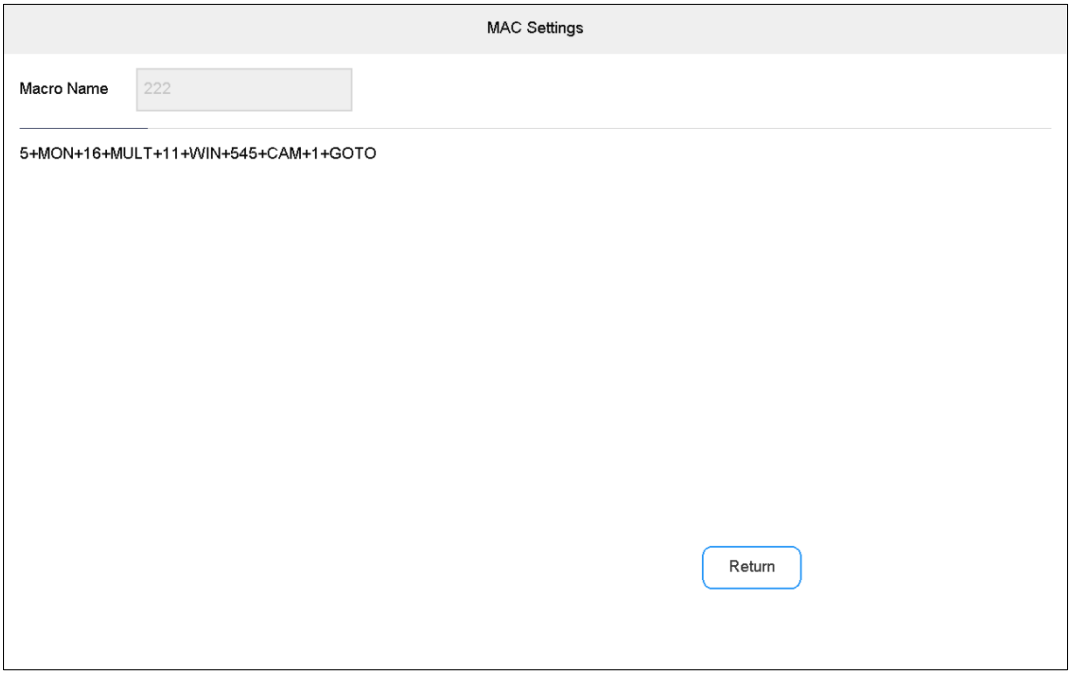



Step 3 Enter **Macro Name**, which can be free combination of no more than 15 letters and numbers.

Step 4 Create MAC with key module.

For example, on the key module, press [5+MON+4+MULT+1+WIN+123+ CAM+1+GOTO]. The corresponding interface is displayed. See Figure 4-58. You can switch and call the presets.

Figure 4-52 MAC Settings (2)




Step 5 Click **Return**.

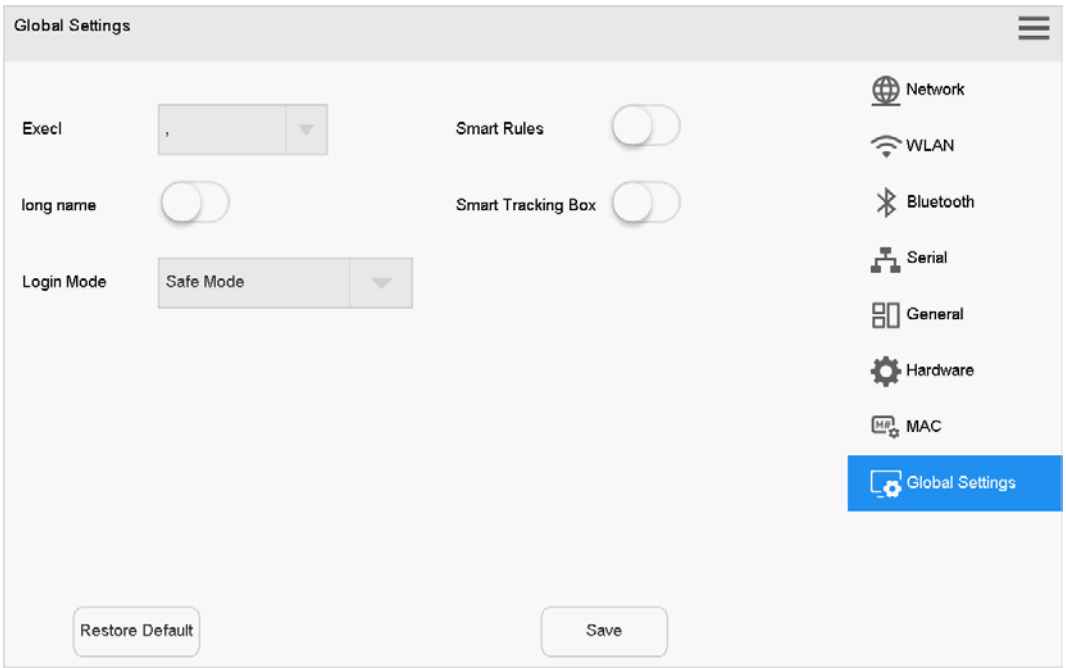
**Relevant Operation**

- Select a MAC, and then click **Delete** to delete the MAC.
- Select a MAC, and then click **Detail** to view detail.

## 4.6.2.8 Global Settings

Step 1 On the **Settings** interface, click **Global Settings** tab.

Figure 4-53 General




Step 2 Set the parameters.

Table 4-12 Global settings parameter description

| Parameter | Description |
|---|---|
| Excel | Excel config file import separator. It is comma by default. Italian config file shall use semicolon. |
| Long name | In the long name mode, channel name can contain 40 characters. This function is used if channel name is too long and cannot be displayed on previous interface completely. |
| Login Mode | • **Safe Mode (Recommended)**: Log in only with secure authentication method.<br>• **Compatibility Mode**: Try to log in with secure or insecure authentication method in turn. It has potential risks and is not recommended to use. |
| Smart Rules | Set smart rules and smart tracking box on the front-end device. Click to enable the two functions, and then you will see tracking box on the decoded images. |
| Smart Tracking Box | |

Step 3 Click **Save**.

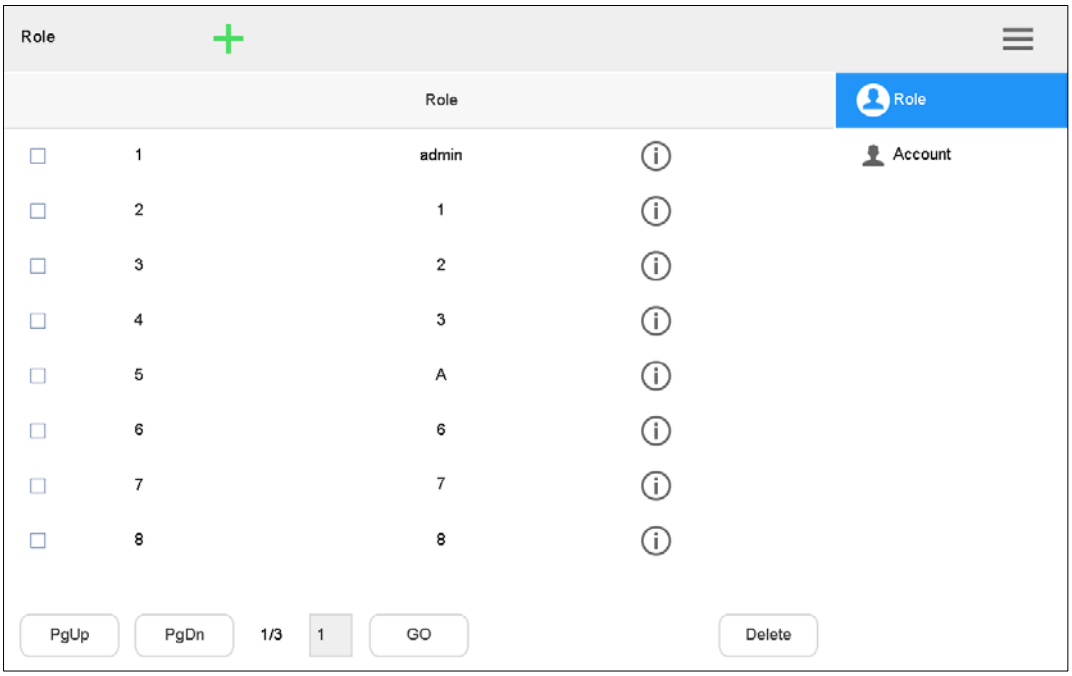
## 4.6.3 Account

### 4.6.3.1 Role

In the whole network, users might have different permissions to access network keyboard. You can classify users with the same permission into one role, and thus maintain and manage user information conveniently. Then, you can add, delete and modify role.

Select **Settings > Account > Role**. The **Role** interface is displayed. See Figure 4-59.

Figure 4-54 Role



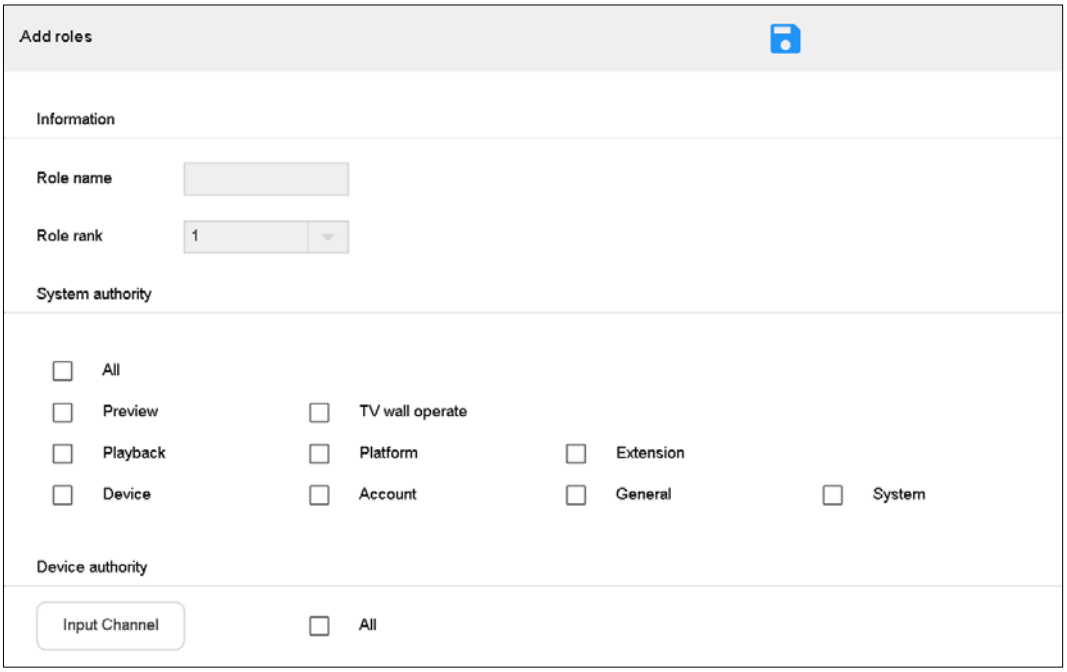
## Adding Roles

Default admin of the system cannot be deleted. Admin has the highest authority by default.

Step 1 Click +.

The **Add roles** interface is displayed. See Figure 4-60.

Figure 4-55 Add roles




Step 2 Set Role name and Role rank.

There are 8 role ranks. The number 1 rank is the highest, only second to default admin. It drops from number 1 to number 8.

Step 3 In **System authority**, select role authority to operate the system.

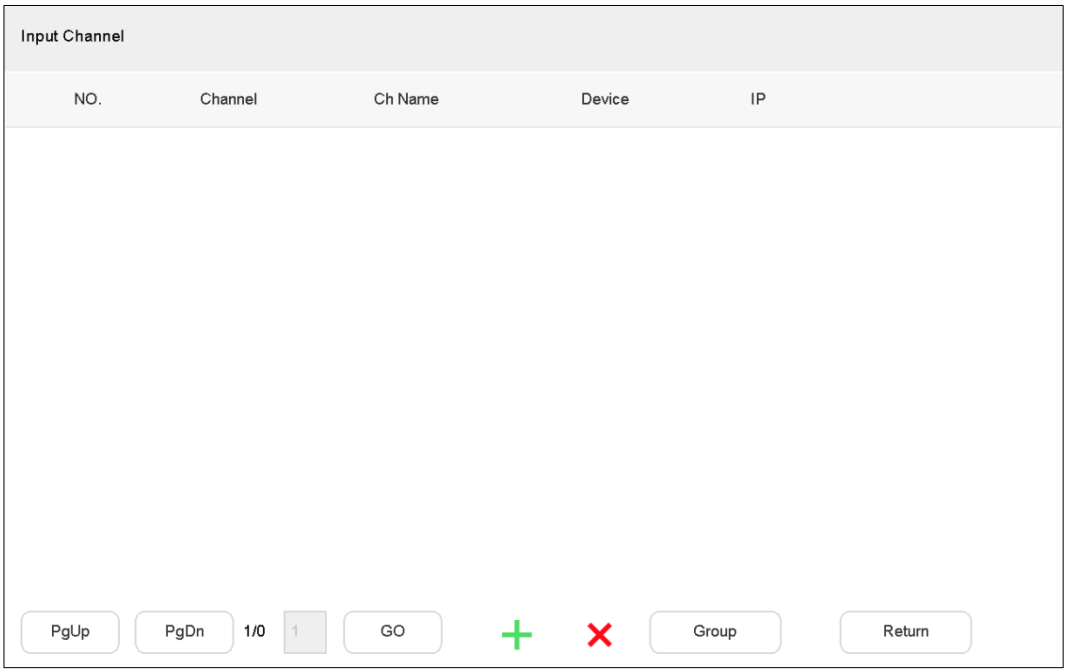
- Tick the check box to enable the authority.
- Tick **All** to select all authorities.

Step 4 Configure operation authority of device input channel.

1) Click **Input Channel**.

The **Input Channel** interface is displayed. See Figure 4-61.

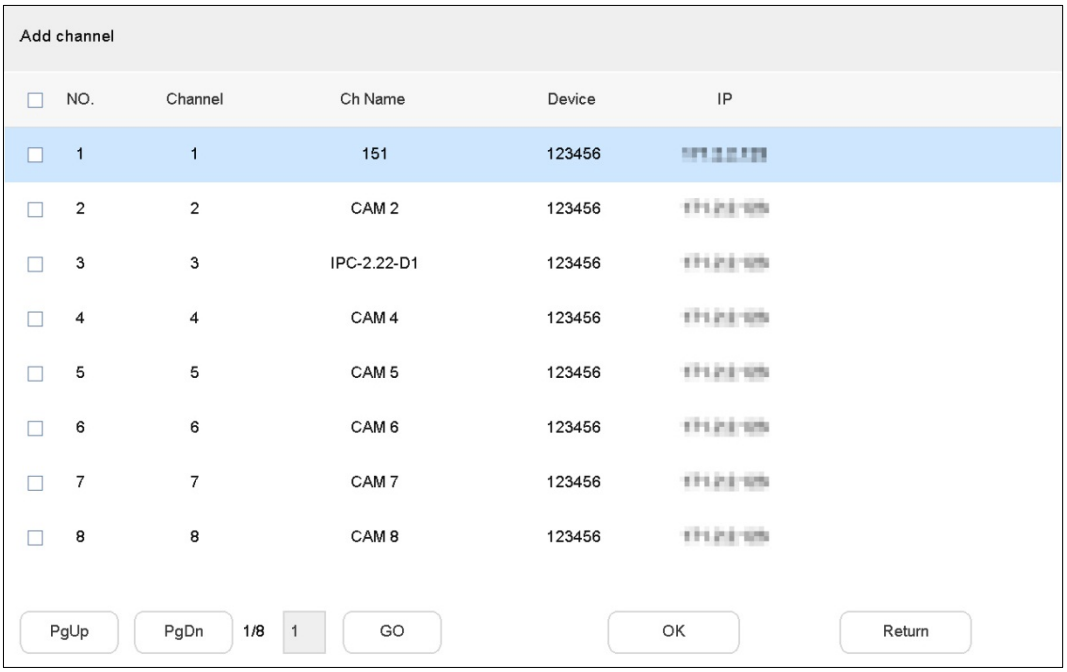
Figure 4-56 Input channel




2) Click  .

The **Add channel** interface is displayed. See Figure 4-62.

Figure 4-57 Add channel




3) Tick the check box of corresponding channel, and click **OK**.

Click **Group** to divide the input channels into groups.

Step 5 Click **Return** to return to **Add roles** interface.

Step 6 Click  to save the settings.

## Deleting Roles

Step 1 Tick the check box of corresponding role.

Step 2 Click **Delete**.

The **Message** dialog box pops up.

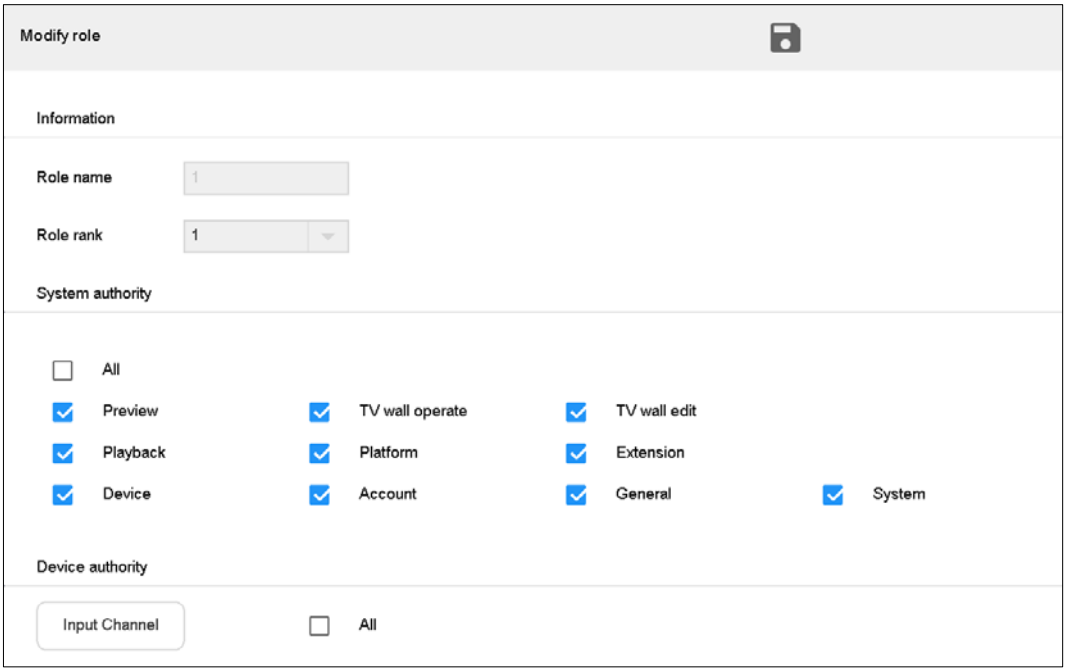
Step 3 Click **OK** to finish.

## Modifying Role

Step 1 Click ⓘ corresponding to the role.

The **Modify role** interface is displayed. See Figure 4-63.

Figure 4-58 Modify role




Step 2 Modify role information according to actual needs.

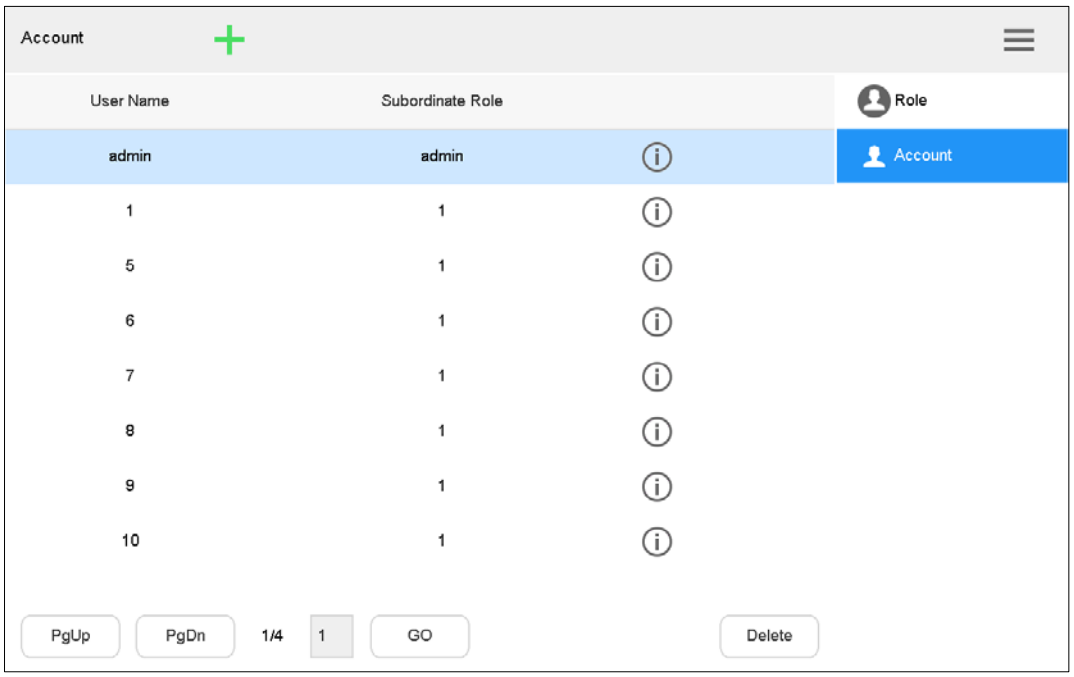
Step 3 Click 💾 to save the settings.

## 4.6.3.2 Account

You can view details about current user, add and delete user, and modify user password.

Select **Settings > Account > Account**. The **Account** interface is displayed. See Figure 4-64.

Figure 4-59 Account



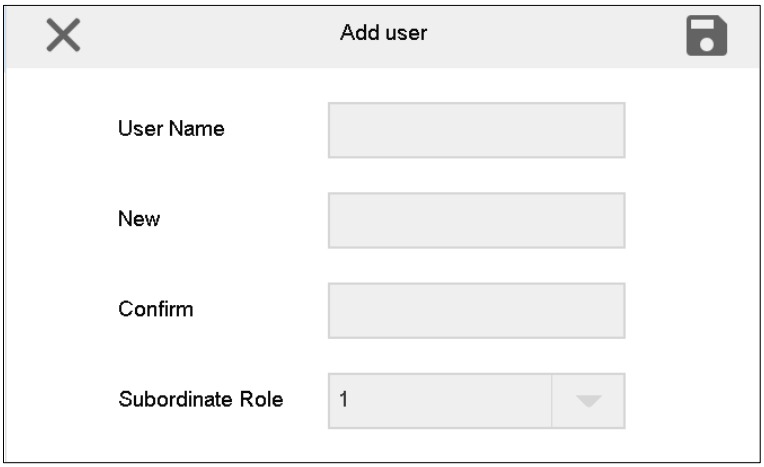

## Adding User

Default admin of the system cannot be deleted. Admin has the highest authority by default. Create a role before adding account.

Step 1 Click .

The **Add user** interface is displayed. See Figure 4-65.

Figure 4-60 Add user




Step 2 Set User Name, enter New and Confirm, and select Subordinate Role.

**New** and **Confirm** shall be the same.

Step 3 Click to save the settings.

### Deleting User

Step 1 Click the user that shall be deleted.

Step 2 Click **Delete**.

The **Message** dialog box pops up.

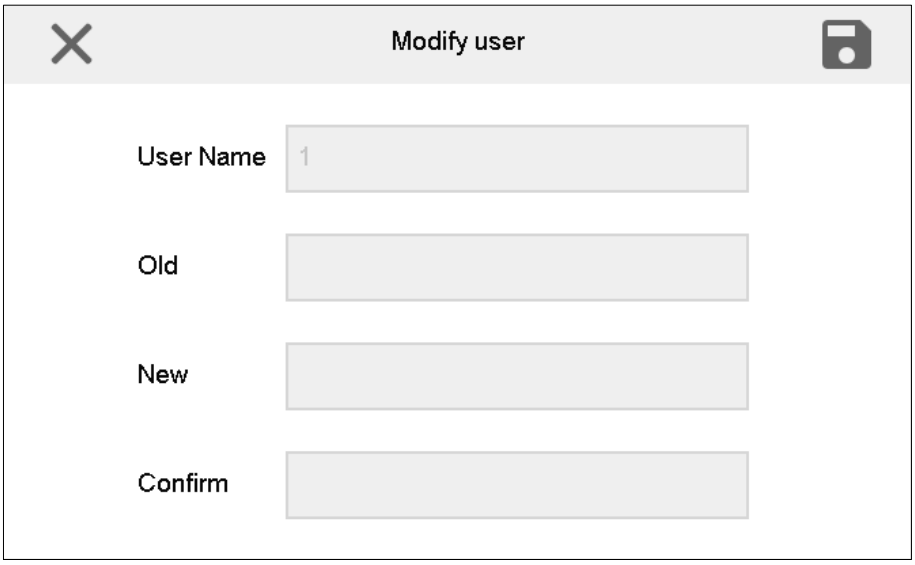
Step 3 Click **OK** to finish.

### Modifying Password

Step 1 Click ⓘ corresponding to the user.

The **Modify user** interface is displayed. See Figure 4-66.

Figure 4-61 Modify user




Step 2 Enter old password, and set a new password.

Step 3 Click 💾 to save the settings.

## 4.6.4 System

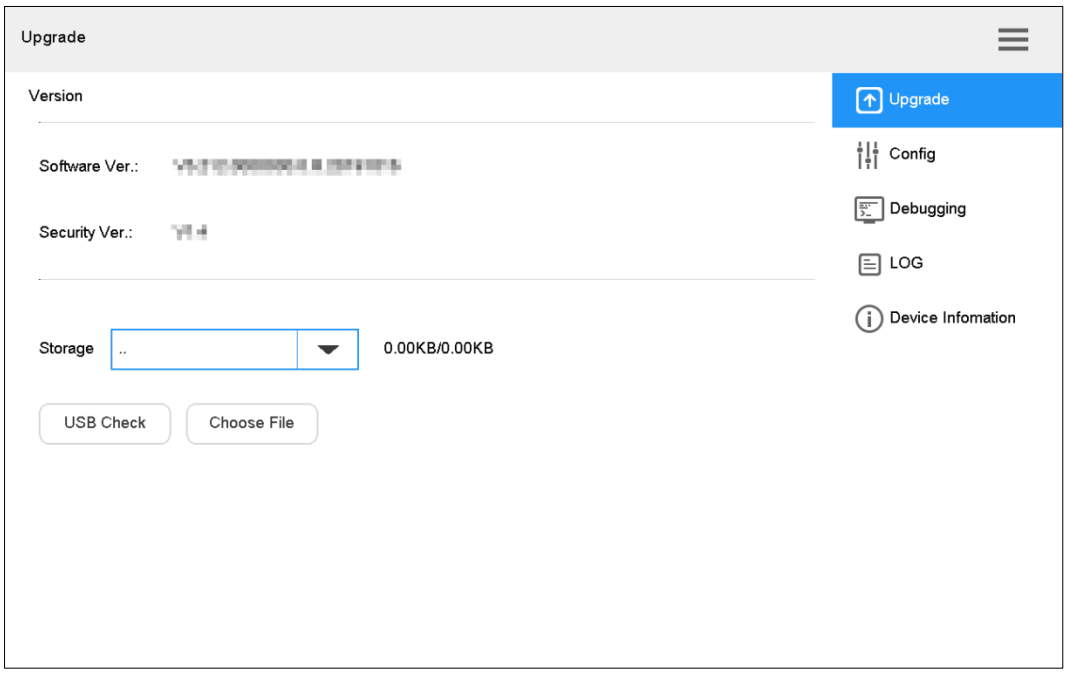
### 4.6.4.1 Version Upgrade

Upgrade the device with flash drive.

Step 1 On the **System** interface, click **Upgrade** tab.

The **Upgrade** interface is displayed. See Figure 4-67.

Figure 4-62 Upgrade




Step 2 Insert flash drive into the network keyboard, and click **USB Check**.

Step 3 Click **Choose File** to upgrade.

The keyboard will restart automatically after upgrade.

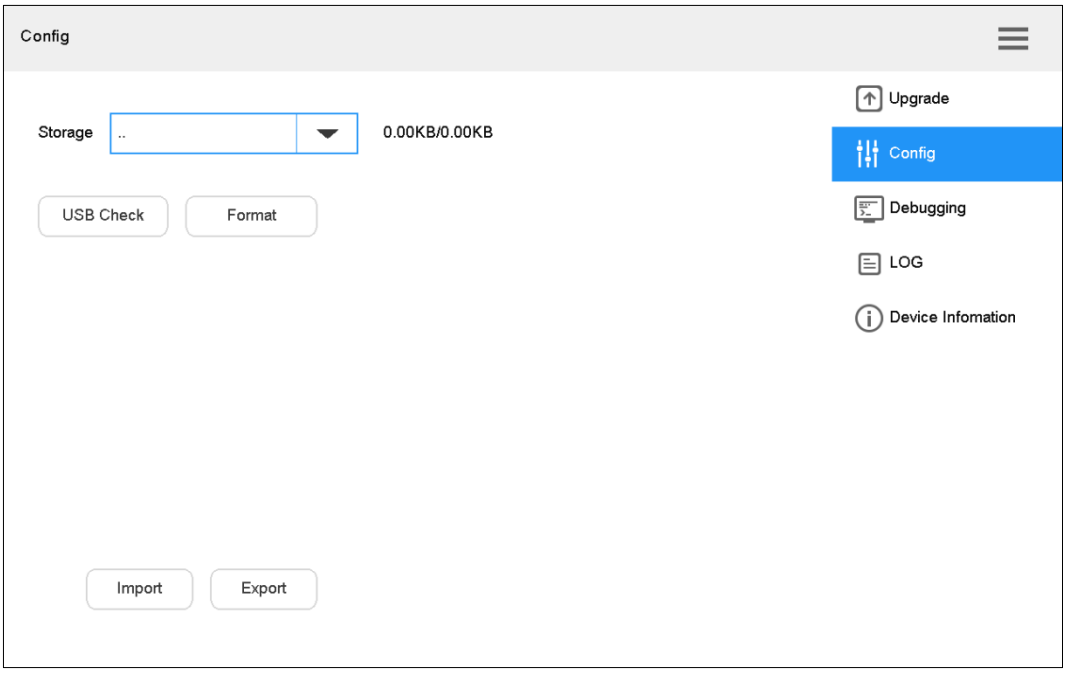
## 4.6.4.2 Configuration

You can import or export system configurations.

Step 1 On the **System** interface, click **Config** tab.

The **Config** interface is displayed. See Figure 4-68.

Figure 4-63 Config



Step 2 Insert flash drive into the network keyboard, and click **USB Check**. Detect all connected USB and capacity.

Step 3 Import or export configurations.

- Import: Import config information in flash drive into the network keyboard.
- Export: Export config information in the present keyboard to flash drive.

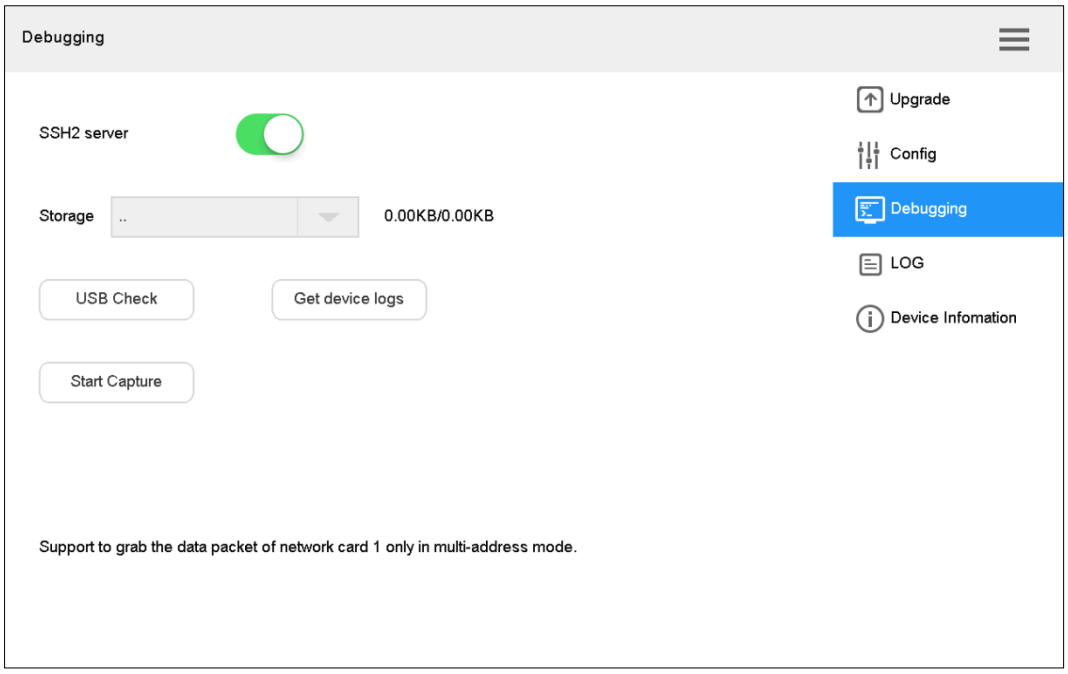
Click **Format** to format the storage device, and all its files will be cleared. Operate cautiously.

### 4.6.4.3 Debugging

In case of network error, you can capture the packet on this interface, download the file to flash drive, and then provide the file to technical support personnel to analyze network status.

Step 1 On the **System** interface, click **Debugging** tab.

Figure 4-64 Debugging




Step 2 Select **SSH2 server** to enable the **SSH2 server** function.

Step 3 Insert flash drive into the network keyboard, and click **USB Check**. Detect all connected USB and capacity.

Step 4 Click **Start Capture** once, and then click **Stop Capture** after a while. The captured data packet will be stored in flash drive.

Step 5 Click Get device logs.

Get device logs and store them in USB flash drive.

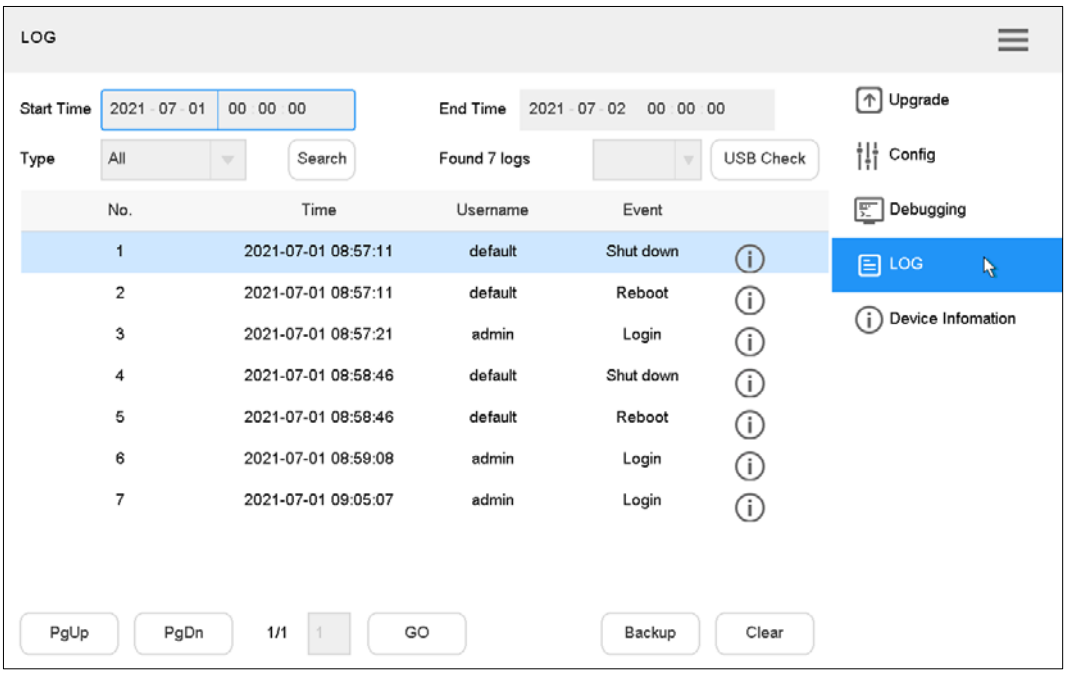
In case of device error, insert the USB flash drive after the device is restarted or restored to normal. Then, click **Get device logs**, and then provide them to developers.

### 4.6.4.4 Log

You can view the device log information on the interface.

Step 1 On the **System** interface, click **LOG** tab.

Figure 4-65 Log

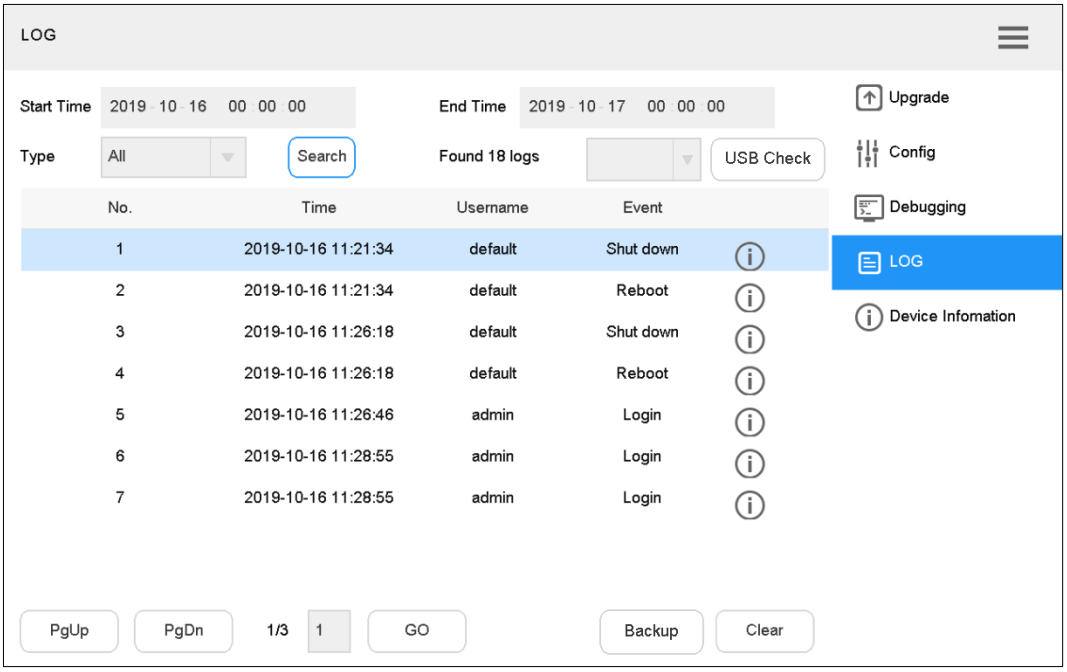



Step 2 Enter Start Time and End Time.

Step 3 Select **Type**.

Step 4 Click **Search**.

Figure 4-66 Search log




**Relevant Operation**

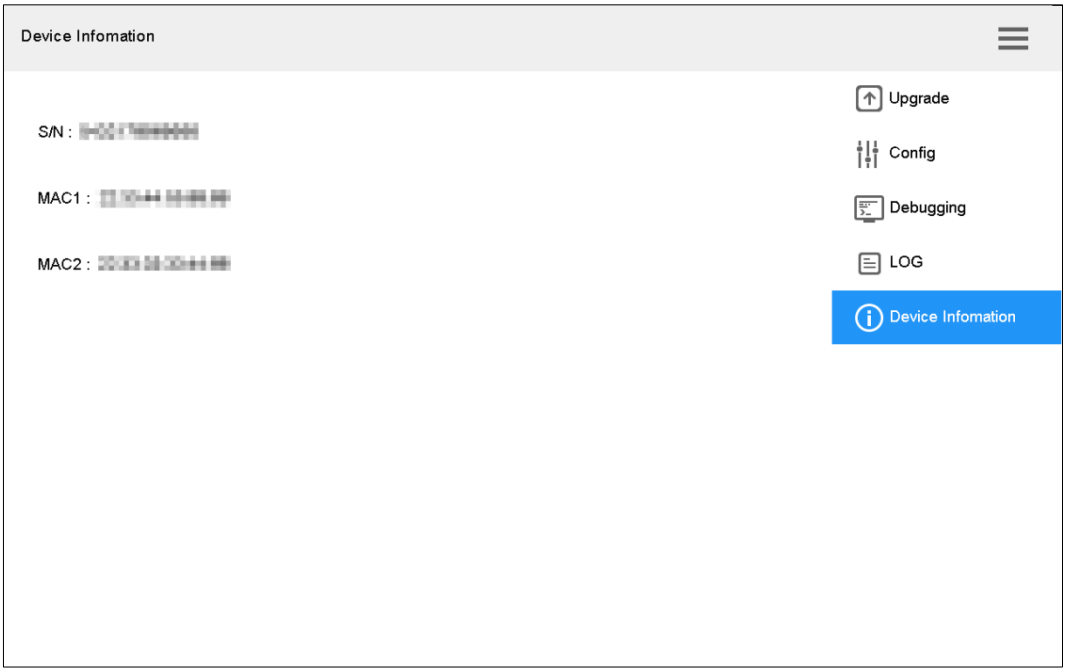
- Click ⓘ to view log details.
- Click **Clear** to clear all the logs. Be careful.
- Click **USB Check** to search for USB connected to the device.
- Click **Backup** to backup logs to the USB.

### 4.6.4.5 Device Information

You can view S/N and MAC address of the network keyboard.

On the **System** interface, click **Device Information** tab. The **Device Information** interface is displayed.

Figure 4-67 Device information



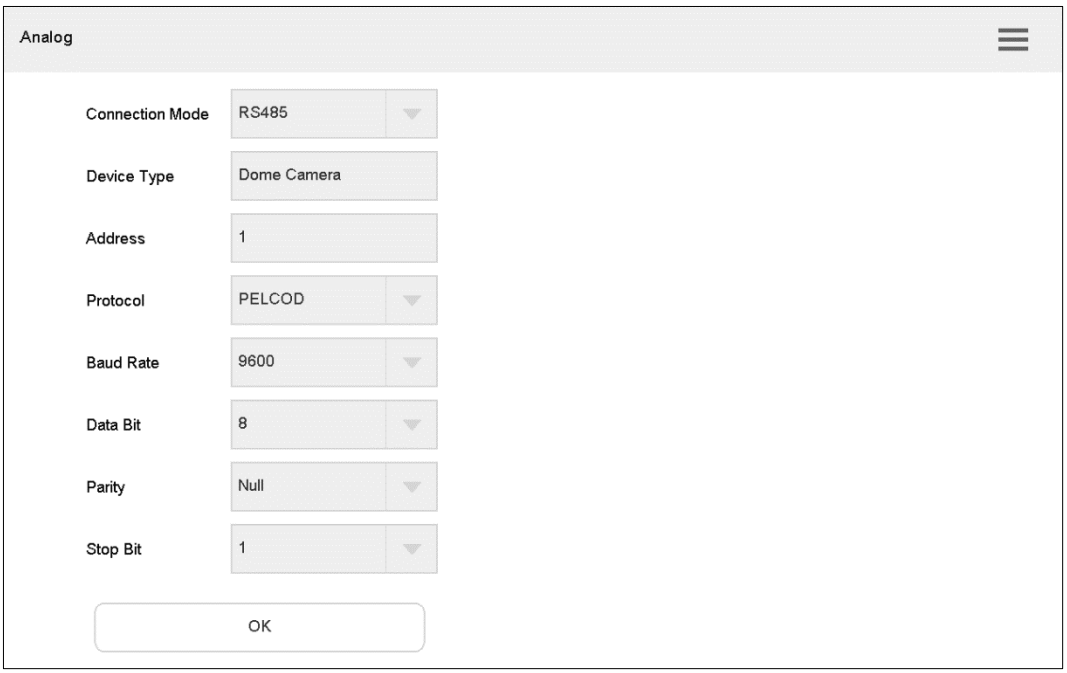

# 4.7 Extension

Control the devices with direct physical connection with network keyboard. At present, it only supports to control speed dome with RS–485 port.

Step 1 On the main interface, click **Extension**.

The **Analog** interface is displayed.

Figure 4-68 Analog (1)



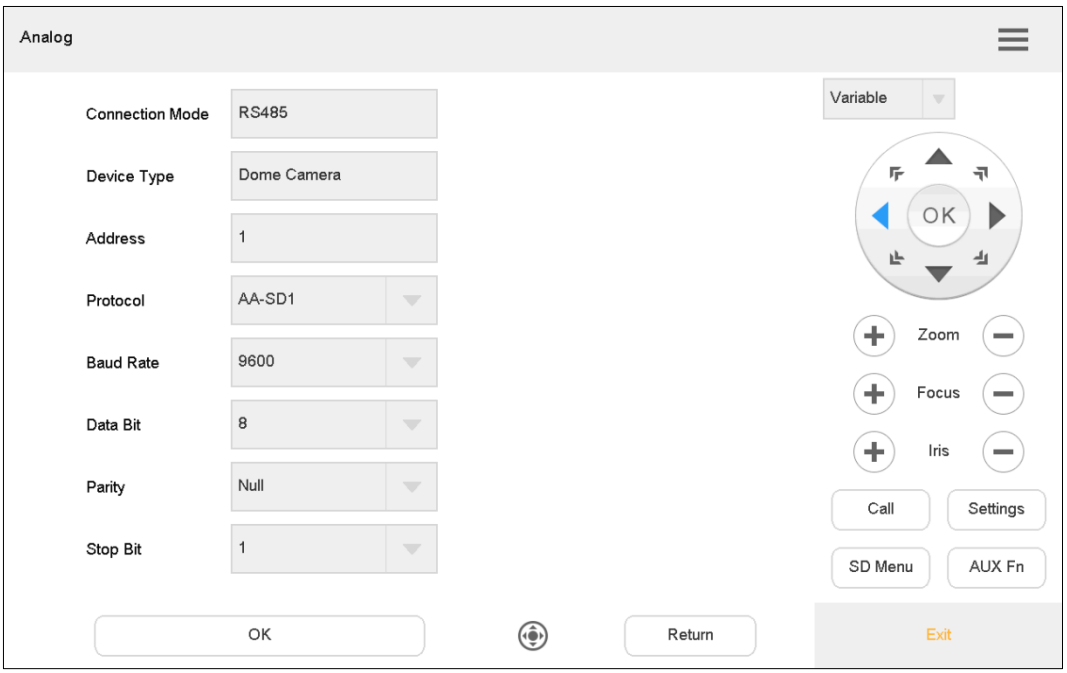

Step 2 Set the parameters. Refer to Table 4-13.

Table 4-13 Analog keyboard parameter description

| Parameter | Description |
|---|---|
| Connection mode | Set the connection mode, which only supports RS–485 at present. |
| Device type | Enter device type. |
| Address | Enter device address. |
| Protocol | Select the protocol, including SD1, PELCOD and PELCOP.<br>AA-SD1 is the same as SD1, AA-PELCOD is the same as PELCOD, and AA-PELCOP is the same as PELCOP. They are frequently-used protocols; with AA- prefix, they are ranked in the front of the list. |
| Baud rate | Select baud rate. |
| Data bit | It includes 5, 6, 7 and 8. |
| Parity | It includes null, odd and even parity. |
| Stop bit | It includes 1, 1.5 and 2. |

Step 3 Click **OK**.

Figure 4-69 Analog (2)



# Appendix 1 Cybersecurity Recommendations

Cybersecurity is more than just a buzzword: it's something that pertains to every device that is connected to the internet. IP video surveillance is not immune to cyber risks, but taking basic steps toward protecting and strengthening networks and networked appliances will make them less susceptible to attacks. Below are some tips and recommendations on how to create a more secured security system.

**Mandatory actions to be taken for basic device network security:**

1. **Use Strong 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; character types include 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 overlapped characters, such as 111, aaa, etc.;

2. **Update Firmware and Client Software in Time**

   - According to the standard procedure in Tech-industry, we recommend to keep your device (such as NVR, DVR, IP camera, etc.) firmware up-to-date to ensure the system is equipped with the latest security patches and fixes. When the device is connected to the public network, it is recommended to enable the "auto-check for updates" function to obtain timely information of firmware updates released by the manufacturer.
   - We suggest that you download and use the latest version of client software.

**"Nice to have" recommendations to improve your device network security:**

1. **Physical Protection**

   We suggest that you perform physical protection to device, especially storage devices. For example, place the device in a special computer room and cabinet, and implement well-done access control permission and key management to prevent unauthorized personnel from carrying out physical contacts such as damaging hardware, unauthorized connection of removable device (such as USB flash disk, serial port), etc.

2. **Change Passwords Regularly**

   We suggest that you change passwords regularly to reduce the risk of being guessed or cracked.

3. **Set and Update Passwords Reset Information Timely**

   The device supports password reset function. Please set up related information for password reset in time, including the end user's mailbox and password protection questions. If the information changes, please modify it in time. When setting password protection questions, it is suggested not to use those that can be easily guessed.

4. **Enable Account Lock**

   The account lock feature is enabled by default, and we recommend you to keep it on to guarantee the account security. If an attacker attempts to log in with the wrong password several times, the corresponding account and the source IP address will be locked.

5. **Change Default HTTP and Other Service Ports**

   We suggest you to change default HTTP and other service ports into any set of numbers between 1024~65535, reducing the risk of outsiders being able to guess which ports you are using.

6. **Enable HTTPS**

   We suggest you to enable HTTPS, so that you visit Web service through a secure communication channel.

7. **MAC Address Binding**

   We recommend you to bind the IP and MAC address of the gateway to the device, thus reducing the risk of ARP spoofing.

8. **Assign Accounts and Privileges Reasonably**

   According to business and management requirements, reasonably add users and assign a minimum set of permissions to them.

9. **Disable Unnecessary Services and Choose Secure Modes**

   If not needed, it is recommended to turn off some services such as SNMP, SMTP, UPnP, etc., to reduce risks.

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

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

10. **Audio and Video Encrypted Transmission**

    If your audio and video data contents are very important or sensitive, we recommend that you use encrypted transmission function, to reduce the risk of audio and video data being stolen during transmission.

    Reminder: encrypted transmission will cause some loss in transmission efficiency.

11. **Secure Auditing**

    - Check online users: we suggest that you check online users regularly to see if the device is logged in without authorization.
    - Check device log: By viewing the logs, you can know the IP addresses that were used to log in to your devices and their key operations.

12. **Network Log**

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

13. **Construct a Safe Network Environment**

    In order to better ensure the safety of device and reduce potential cyber risks, we recommend:

    - Disable the port mapping function of the router to avoid direct access to the intranet devices from external network.
    - The network should be partitioned and isolated according to the actual network needs. If there are no communication requirements between two sub networks, it is suggested to use VLAN, network GAP and other technologies to partition the network, so as to achieve the network isolation effect.
    - Establish the 802.1x access authentication system to reduce the risk of unauthorized access to private networks.
    - Enable IP/MAC address filtering function to limit the range of hosts allowed to access the device.