

Network Keyboard (NKB5000)

Quick Start Guide



V2.1.1

Foreword

This manual introduces the operations and configuration of the network keyboard. Read carefully before using the device, and keep the manual safe for future reference.

General

This document describes the appearance and functions of the network keyboard (hereinafter referred to as the "keyboard") in details. Read carefully before using the device, and keep the manual safe for future reference.

Safety Instructions

The following categorized signal words with defined meaning might appear in the manual.

Signal Words	Meaning
 DANGER	Indicates a medium or low potential hazard which, if not avoided, could result in slight or moderate injury.
 WARNING	Indicates a potential risk which, if not avoided, may result in property damage, data loss, lower performance, or unpredictable result.
 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 Time
V2.1.1	• The platform mode supports ICC platform. • Add USB check and log backup. Added the function of counting the number of times the joystick is used. • Optimized the decoding service live view, and related operation and maintenance functions.	November 2025
V2.1.0	• Delete audio adjustment. • Add USB check and log backup. • Add global settings.	July 2021
V2.0.0	• Add audio adjustment, task management, plan tour and channel group configuration to local preview module. • DSS-PRO, and DSS-Express support video wall and live view. • Add safety baseline V1.4 needs. • Lock the screen with one button.	October 2019

Version	Revision Content	Release Time
V1.1.0	Updated 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, 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 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



- Electrical Hazard

Preventive measures: Make sure the power is off when you put your hand into the device.

- Stability Hazard

Possible result: The rack might fall down and cause serious personal injury.

Preventive measures (including but not limited to):

- ◇ Before extending the rack to the installation position, read the installation instructions.
- ◇ When the Device is installed on the slide rail, do not place any load on it.
- ◇ Do not retract the slide rail while the Device is installed on it.



- 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.
- Use the standard power adapter or cabinet power supply. We will assume no responsibility for any injuries or damages caused by the use of a nonstandard power adapter.



- The device must be installed in a location that only professionals can access. Non-professionals are not allowed to enter the installation area.
- When installing the device, make sure that the power plug can be easily reached to cut off the power.

- 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.
- Put the device in a well-ventilated place, and do not block its ventilation.
- Install the device on a stable surface to prevent it from falling.
- Please follow the electrical requirements to power the device.
 - ◇ Following are the requirements for selecting a power adapter.
 - The power supply must conform to the requirements of IEC 60950-1 and IEC 62368-1 standards.
 - The voltage must meet the SELV (Safety Extra Low Voltage) requirements and not exceed ES-1 standards.
 - When the power of the device does not exceed 100 W, the power supply must meet LPS requirements and be no higher than PS2.
 - ◇ We recommend using the power adapter provided with the device.
 - ◇ When selecting the power adapter, the power supply requirements (such as rated voltage) 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.
- Cut all network and cable connections before cutting off the power.
- 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.

Operation Requirements



-   The Device or remote control contains button batteries. Do not swallow the batteries due to the risk of chemical burns.

Possible result: The swallowed button battery can cause serious internal burns and death within 2 hours.

Preventive measures (including but not limited to):

- ◇ Keep new and used batteries out of reach of children.
- ◇ If the battery compartment is not securely closed, stop using the product immediately and keep out of reach of children.
- ◇ Seek immediate medical attention if a battery is believed to be swallowed or inserted inside any part of the body.
- Battery Pack Precautions

Preventive measures (including but not limited to):

- ◇ Do not transport, store or use the batteries in high altitudes with low pressure and environments with extremely high and low temperatures.
- ◇ Do not dispose the batteries in fire or a hot oven, or mechanically crush or cut the batteries to avoid an explosion.
- ◇ Do not leave the batteries in environments with extremely high temperatures to avoid explosions and leakage of flammable liquid or gas.

- ◇ Do not subject the batteries to extremely low air pressure to avoid explosions and the leakage of flammable liquid or gas.



- Operating the device in a domestic environment may cause radio interference.
- Place the device in a location that children cannot easily access.
-  High Current

Preventative measure: Ground the screw of the device to protective ground before you power it on.

-  Do not use multiple devices together to avoid generating high current.

Preventative measure: Ground the device to protective ground before you power it on.



- Make sure that 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.
- The rated current of the device is 2 A and the rated power is 24 W. 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 disassemble the device without professional instruction.
- Put the device in a well-ventilated place, and do not block its ventilation.
- Do not place an open flame on the device, such as a lit candle.

Maintenance Requirements



- Replacing unwanted batteries with the wrong type of new batteries might result in explosion.
Preventive measures (including but not limited to):
 - ◇ 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.
- Power off the device before maintenance.



Do not expose the battery to extremely hot environments, such as direct sunlight and fire. Improper use of the battery might result in a fire or explosion.

Table of Contents

Foreword.....	I
Important Safeguards and Warnings.....	III
1 Introduction.....	1
1.1 Overview.....	1
1.2 Key Module.....	2
1.3 Panel Introduction.....	4
1.3.1 Rear Panel.....	4
1.3.2 Side Panel.....	5
2 Start and Shutdown.....	6
2.1 Start.....	6
2.2 Shutdown.....	6
2.3 Locking Screen.....	6
3 Quick Configuration.....	7
3.1 Initialization.....	7
3.2 Login.....	7
3.3 Main Page.....	7
3.4 Settings.....	8
3.5 Network Settings.....	9
3.5.1 Wired Network.....	9
3.5.2 WLAN.....	11
3.6 Adding Devices.....	12
3.6.1 Manually Adding a Device.....	13
3.6.2 Auto Search.....	17
4 System Configurations.....	18
4.1 Preview.....	18
4.1.1 Icons of Preview Page.....	18
4.1.2 Channel Grouping.....	19
4.1.3 Video on Wall.....	20
4.1.4 PTZ Control.....	22
4.1.5 Scheme Management.....	22
4.1.6 Configuring Tour.....	24
4.1.7 Snapshot.....	25
4.1.8 Recording.....	25
4.1.9 Snapshot and Recording Settings.....	26
4.1.10 Playing back Videos.....	28
4.2 Playback.....	30
4.3 Video Wall.....	31

4.3.1 Adding Video Wall through Matrix Webpage.....	32
4.3.2 Adding Video Wall through Decoder Webpage.....	34
4.3.3 Adding a Device.....	36
4.3.4 Video on Wall.....	36
4.3.5 Video Wall Icon Description.....	38
4.3.6 PTZ Control.....	39
4.3.7 Adding a Task.....	39
4.3.8 Configuring Video Wall.....	39
4.4 Platform.....	40
4.4.1 Adding Devices and Video Wall.....	41
4.4.2 Video on Wall.....	44
4.4.3 Icons of Platform Page.....	47
4.4.4 PTZ Control.....	47
4.4.5 Adding a Task.....	47
4.5 PTZ Control.....	47
4.5.1 Call.....	49
4.5.2 Settings.....	49
4.5.3 SD Menu.....	50
4.5.4 Auxiliary Function.....	52
4.6 Settings.....	52
4.6.1 Device Management.....	52
4.6.2 General Settings.....	53
4.6.3 Account Management.....	59
4.6.4 System.....	61
4.7 Extension.....	66
Appendix 1 Security Recommendation.....	69

1 Introduction

1.1 Overview

The network keyboard can add video wall, display videos on the video wall, and perform PTZ control.

Figure 1-1 Appearance



Table 1-1 Icon description

No.	Icon	Function
1	Power	Working power indicator. Green light turns on when working power of network keyboard is normal.
	Network	Network indicator. Green light turns on when the keyboard is connected to network normally.
	Alarm	Alarm indicator. 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 light of PTZ camera.
	🚧	Shortcut key to control wiper of PTZ camera.

No.	Icon	Function
3	—	Touch screen, showing keyboard screen menu.
4	≡	Navigation bar.
	⌂	Home page.
	↶	Return.
5	Fn	Function key. It is line scanning by default.
	Preset	Configure presets for PTZ control.
	Tour	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 video wall mode.

After the key module is connected to network keyboard through USB or Bluetooth successfully, green indicator at the upper-right corner will glow for 10 seconds and then turn off.

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

Figure 1-2 Key module



Table 1-2 Key description

Key	Example	Description
F1	Number 1 to 16 + F1	Call No. 1 to 16 plans quickly. It applies to preview and video wall functions.  View the plan numbers on the Plan Management page.

Key	Example	Description
F2	Number 1 to 16 + F2	Call No. 1 to 16 MAC plans quickly.  View the MAC plan numbers on the MAC page.
F3	Press F3	Reserved.
F4	Press F4	
Mode	Operation mode switch. It is operation mode at present.	
0-9	Number 0-9	—
Screen	123 + Screen	Select screen.
Window	3 + Window	Focus on the third window of the present screen.
Split	4 + Split	Divide the 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 to the current window for automatic tour of videos in the channel.
 (Camera)	567 + 	Drag No. 567 camera to the present window.  0 + camera means turning off the 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		
 (Switch) Previous channel	KEY_ previous channel	The present focus window channel reduces by 1. The icon is similar to squares.
 (Next channel)	KEY_ next channel	The present focus window channel adds by 1. The icon is similar to squares.
	2+ 	Play back videos of No. 2 channel.

1.3 Panel Introduction

1.3.1 Rear Panel

Figure 1-3 Rear panel

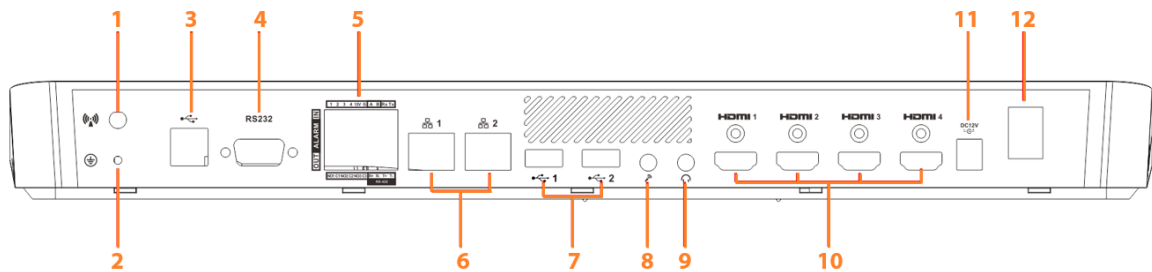


Table 1-3 Description of rear panel

No.	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	See the following table.
6	Network port	Connect the network.
7	USB3.0	Connect mouse and USB.
8	Microphone	Reserved function.
9	Earphone	
10	HDMI1–HDMI4	Connect devices with HDMI port, such as screen.
11	Power port	Connect power cord to supply power.
12	Power button	Turn on and off the power supply.

Figure 1-4 Alarm input and output port

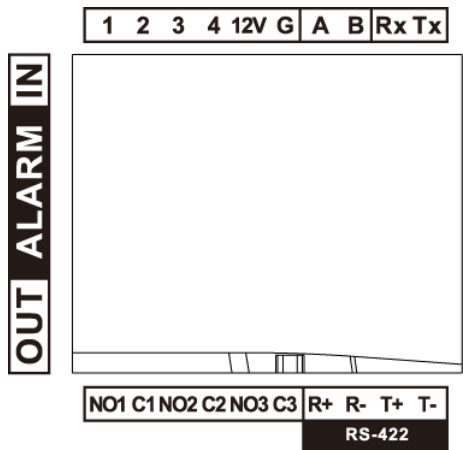


Table 1-4 Alarm input and output port description

Name	Description
1-4	Alarm input ports.  Reserved function.
12V	12 VDC 4 A power.
G	Grounding.
A, B	Connect PTZ through RS-485.
Rx, Tx	RS-232 receiving and sending ports.  Reserved function.
NO1 C1, NO2 C2, NO3 C3	3 groups of alarm output ports.  Reserved function.
R+, R-, T+, T-	RS-422 ports.  Reserved function.

1.3.2 Side Panel

There are 3 reserved volume keys on the side panel. The function is reserved.

2 Start and Shutdown

2.1 Start

Connect the power, press the power button, and then start the keyboard. The system displays the login page after it starts successfully.

The keyboard can be operated with touch screen and external mouse.

2.2 Shutdown

Procedure

Step 1 Shut down the keyboard.

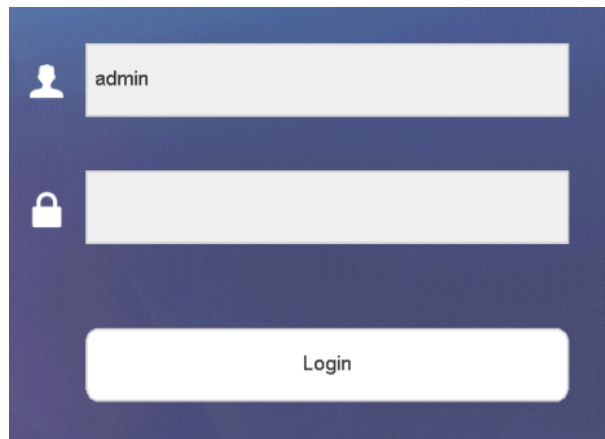
- Method 1: Tap  at the upper-right corner of main page, and then select **Shutdown** to exit the system.
- Method 2: Press the power button on the rear panel.

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

2.3 Locking Screen

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

Figure 2-1 Login



3 Quick Configuration

3.1 Initialization

Background Information

Initialize the device for first-time use.



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



All configurations will be cleared after initialization. Please be advised.

Procedure

- Step 1 Start the device.
- Step 2 Read the agreement, and then select **I have read and agree to all terms**.
- Step 3 Tap **Next**.
- Step 4 Enter password and confirm password.

The password must consist of more than 8 characters combining numbers and letters.
- Step 5 Tap **OK**.
The initialization succeeds.
- Step 6 Tap **OK**.
The login page is displayed.

3.2 Login

After the device starts, the login page is displayed.

Procedure

- Step 1 Enter the password set during initialization.
- Step 2 Tap **Login**.
After successful login, the main page is displayed.

Change admin password timely after login.

3.3 Main Page

The main page includes preview, TV wall (video wall), playback, platform, settings and extension.

Figure 3-1 Main page

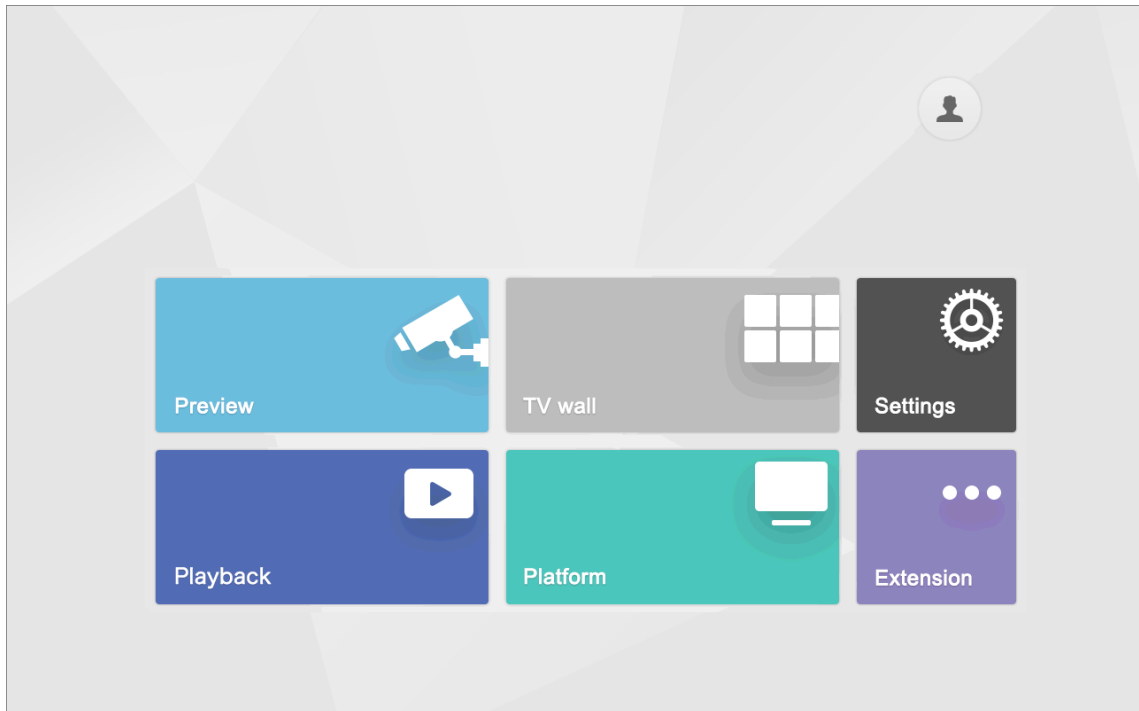


Table 3-1 Main page description

Name	Description
Preview	Decode and view local encoding devices and corresponding operations.
TV wall	Control the locally added decoder, matrix, and video wall.
Playback	Play back videos in local added recording device.
Platform	After connecting to the platform, the network keyboard can control devices on the platform.
Settings	There are 4 modules, including device, general, account and system.
Extension	Control devices that are physically connected to the network keyboard. Currently, it only supports controlling PTZ camera with RS-485 port.

3.4 Settings

On the main page, tap **Settings**.

Figure 3-2 Settings

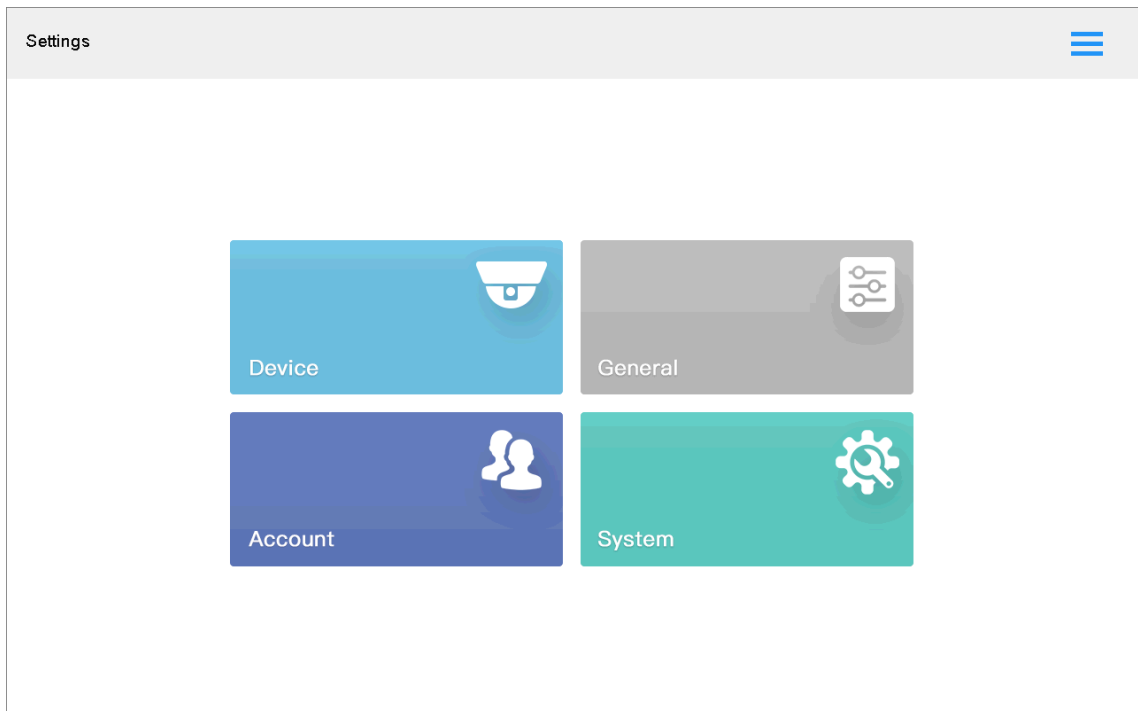


Table 3-2 Settings description

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 and account information.
System	View program version and upgrade.



Tap  at the upper-right corner, and a navigation bar appears in the page. With navigation bar, you can quickly return to pages including preview, device, settings, playback, extension, and home.

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.

Prerequisites

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

Procedure

Step 1 On the **Settings** page, tap **General**.

Figure 3-3 Network

The screenshot shows the 'Network' settings interface. It includes fields for 'Net Mode' (Multi-address), 'Default Card' (Ethernet1), 'TCP Port' (37777), 'IP Version' (IPv4), 'Ethernet Card' (Ethernet1), 'IP' (192.168.1.100), 'Subnet Mask' (255.255.0.0), 'Gateway' (192.168.1.1), 'Preferred DNS' (8.8.8.8), and 'Alternate DNS' (8.8.4.4). At the bottom, there are 'Default', 'Save', and 'Cancel' buttons.

Step 2 Set the parameters.

Table 3-3 Wired network parameter description

Parameter	Description
Net Mode	- Multi-address: 2 Ethernet cards operate simultaneously with distinct IP addresses. Network status shows disconnected if either network card losses connection. - Fault tolerance: 2 Ethernet cards share a single IP address. Only one Ethernet card remains active during normal operation. If the active Ethernet card fails, the other Ethernet card automatically activates to ensure smooth network. Network status shows disconnected only when both network cards fail. Both Ethernet cards must be in the same LAN. - Load balance: 2 Ethernet cards share one IP address and operate simultaneously to distributed traffic dynamically. The throughput is balanced across network cards. same. If one breaks down, the other one still works normally. Network status shows disconnected only when both network cards fail. Both Ethernet cards must be in the same LAN.
Default Card	When Net Mode is set to Multi-address , and multiple Ethernet cards are bound, you can set one Ethernet card as the default working Ethernet card.
TCP Port	Keep the default value.
IP Version	

Parameter	Description
Ethernet Card	Select Ethernet card.
IP	Enter numbers to modify IP address, set corresponding subnet mask and gateway. The 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 Tap **Save**.

3.5.2 WLAN

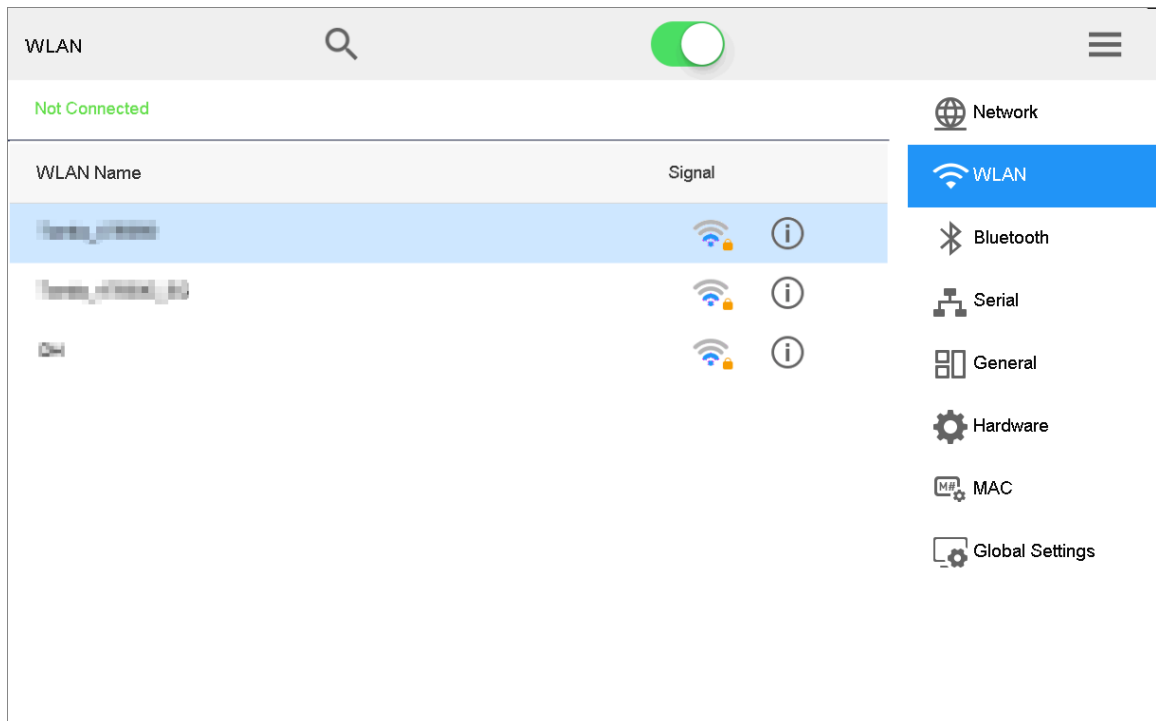
On the **General** page, tap **WLAN**.

Automatic Search for WLAN

Tap  to enable the WLAN function.

The system will search WLAN automatically and display results. Tap  to refresh the search results (only 2.4 GHz Wi-Fi is supported).

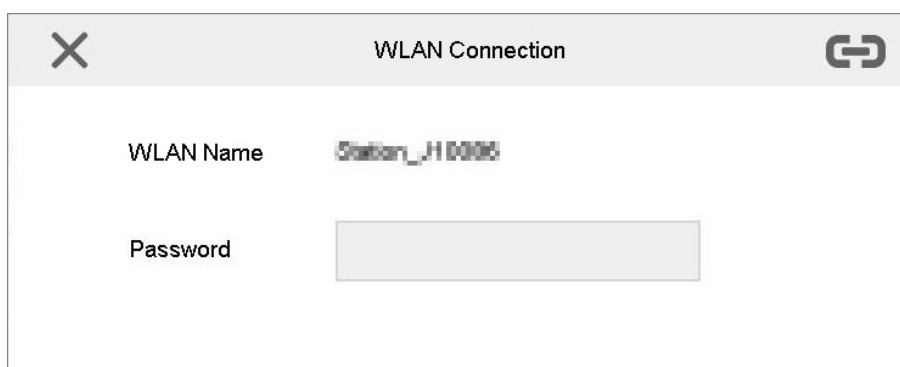
Figure 3-4 Automatic search for Wi-Fi



WLAN Connection

1. Double-tap WLAN name or signal strength.

Figure 3-5 WLAN connection



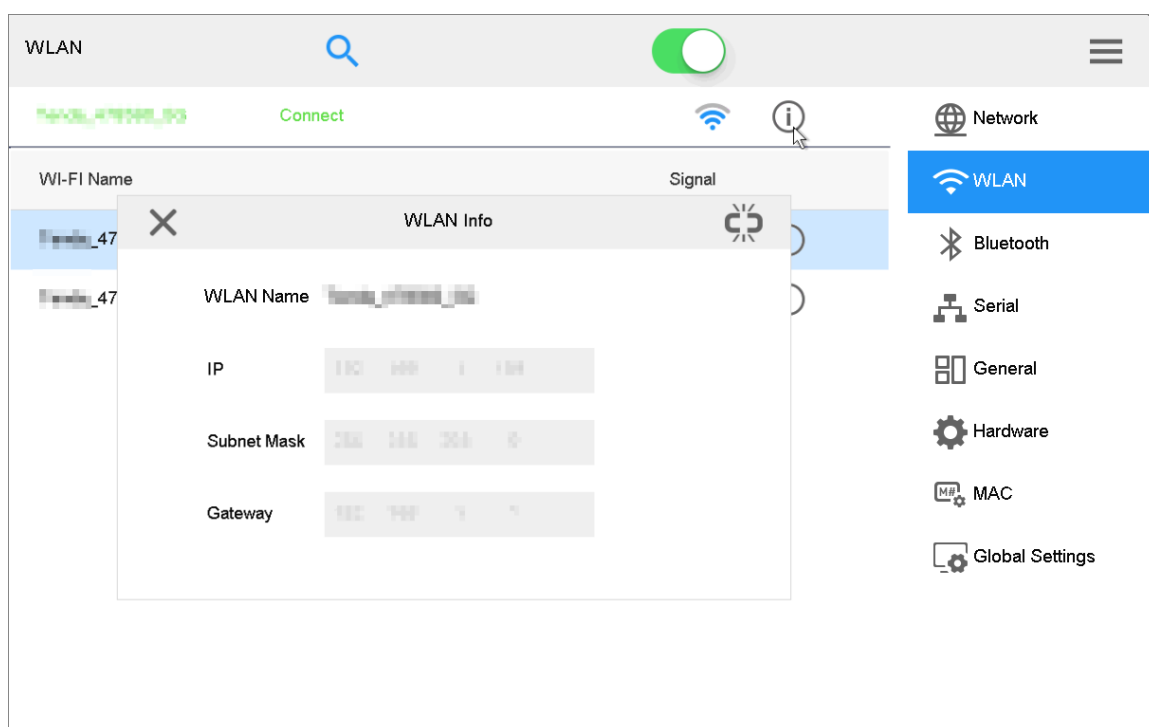
2. Enter correct password, and then tap .

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

WLAN Disconnection

Tap  on the right of connected WLAN, and then tap **Disconnect** in the pop-up dialog box. Tap  to disconnect the WLAN.

Figure 3-6 Disconnect



3.6 Adding Devices

It includes manual adding and auto search.

On the **Settings** page, tap **Device**. The **Device** page is displayed.

Figure 3-7 Device

Device							
No.	Dev Name	IP	Port	Type	State	Detail	Device
☐	1 123456	192.168.1.100	37777	NVR			Input Channel
☐	2 NVD	192.168.1.101	37777	NVD			
☐	3 2G00710PAN00033	192.168.1.102	37777	IPC			
☐	5 XVR	192.168.1.103	37777	DVR			
☐	6 2J0274FYAK00001	192.168.1.104	37777	IPC			
☐	7 NVR	192.168.1.105	37777	NVR			
☐	8 2L06150FAC00001	192.168.1.106	37777	IPC			

PgUp PgDn 1/1 1 GO Delete

3.6.1 Manually Adding a Device

Procedure

- Step 1 On the **Device** page, tap .
- Step 2 Select **Protocol**.

Figure 3-8 Manual adding (private)

Manual Add

Protocol Private

Start IP 0 . 0 . 0 . 0

End IP 0 . 0 . 0 . 0

Port 37777

admin

Channel 16

Figure 3-9 Manual adding (ONVIF)

The screenshot shows a 'Manual Add' dialog box with the following fields and controls:

- Protocol:** A dropdown menu set to 'Onvif'.
- Start IP:** A text field containing '0 . 0 . 0 . 0'.
- End IP:** A text field containing '0 . 0 . 0 . 0'.
- Port:** A text field containing '80'.
- User:** A text field with a user icon, containing 'admin'.
- Password:** A text field with a lock icon, currently empty.
- Channel:** A text field containing '16', followed by a toggle switch that is currently turned on.
- Encryption:** A checkbox that is currently unchecked.

Step 3 Set the parameters.

Table 3-4 Parameter description

Parameter	Description
Protocol	Select protocol type. It supports Private and Onvif.  With ONVIF protocol, PTZ control only supports rotation and zoom functions in the fixed speed mode, rather than other auxiliary PTZ functions.
Start IP	- Enter start IP and end IP when one IP segment is added. - Enter start IP when one IP is added.
End IP	
Port	Enter port number. Generally, you can leave it as default.
	Enter user name and password for logging in to the device webpage.
	
Channel	Enter the number of channels.  means that the function is enabled, while  means that it is disabled. - For example, the total number of device channels is 48. - When it is enabled, you can set the channel quantity to be displayed, for example, channel 1–channel 16. - When it is disabled, it displays the total channels obtained from the device.

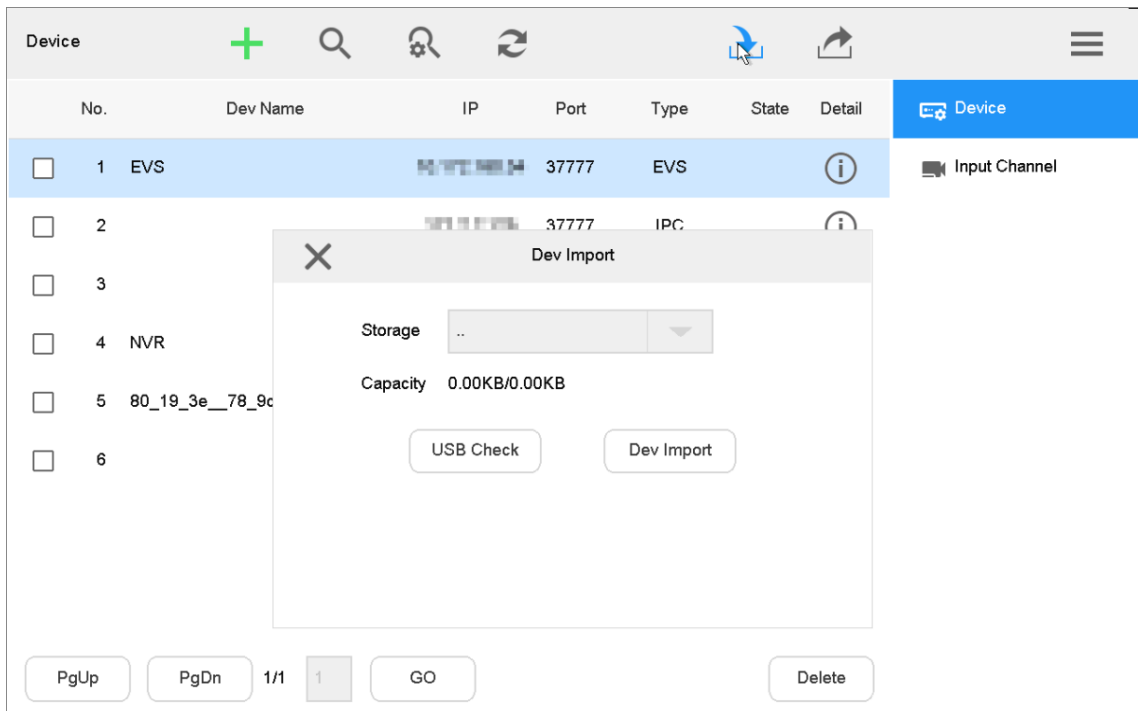
Parameter	Description
Encryption	This function is only available when Protocol is set to Onvif. - When it is encrypted, port number is 443 by default. - When it is not encrypted, port number is 80 by default.  HTTPS must be enabled on the added device.

Step 4 Tap .

Related Operations

- Tap . The **Dev Import** page is displayed.
 - Tap **USB Check** to check USB capacity.
 - Tap **Dev Import** to import device files.

Figure 3-10 Import device files



- Tap . The **Dev Export** page is displayed. Tap **USB Check** to check whether USB flash drive is inserted, and then tap **Dev Export** to export files.
 - Select **Dev Export Encryption** to export encrypted files.
 - If **Dev Export Encryption** is not selected, unencrypted files will be exported.

Figure 3-11 Export device files (encrypted)

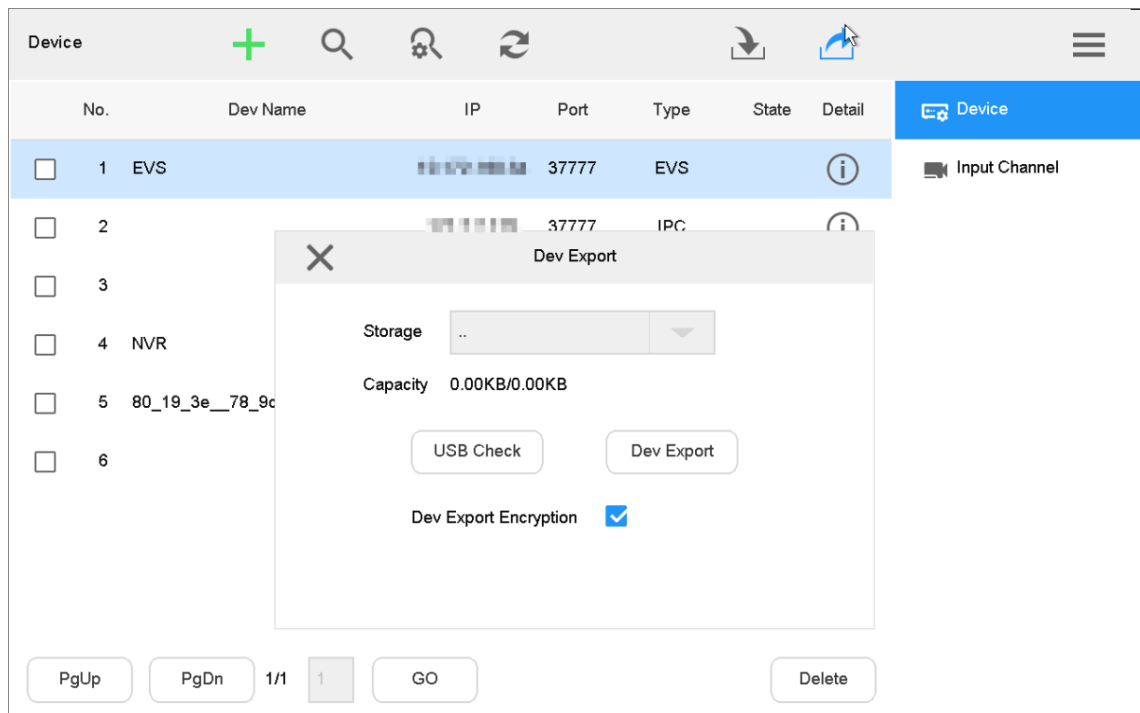
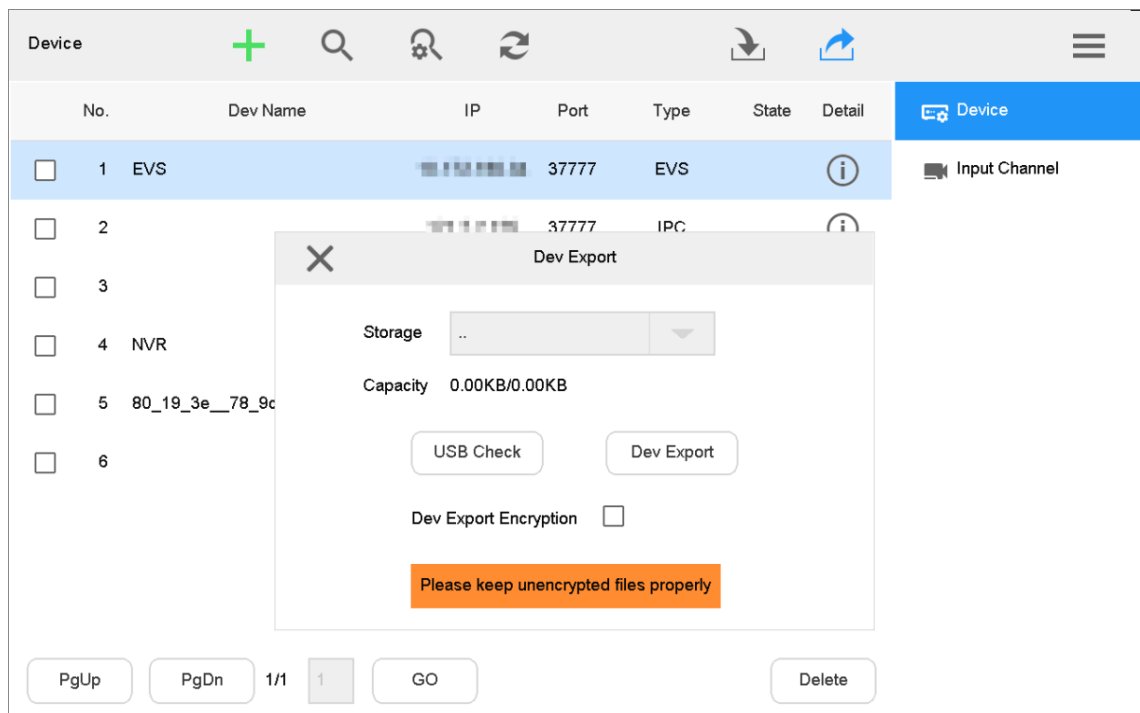


Figure 3-12 Export device files (unencrypted)



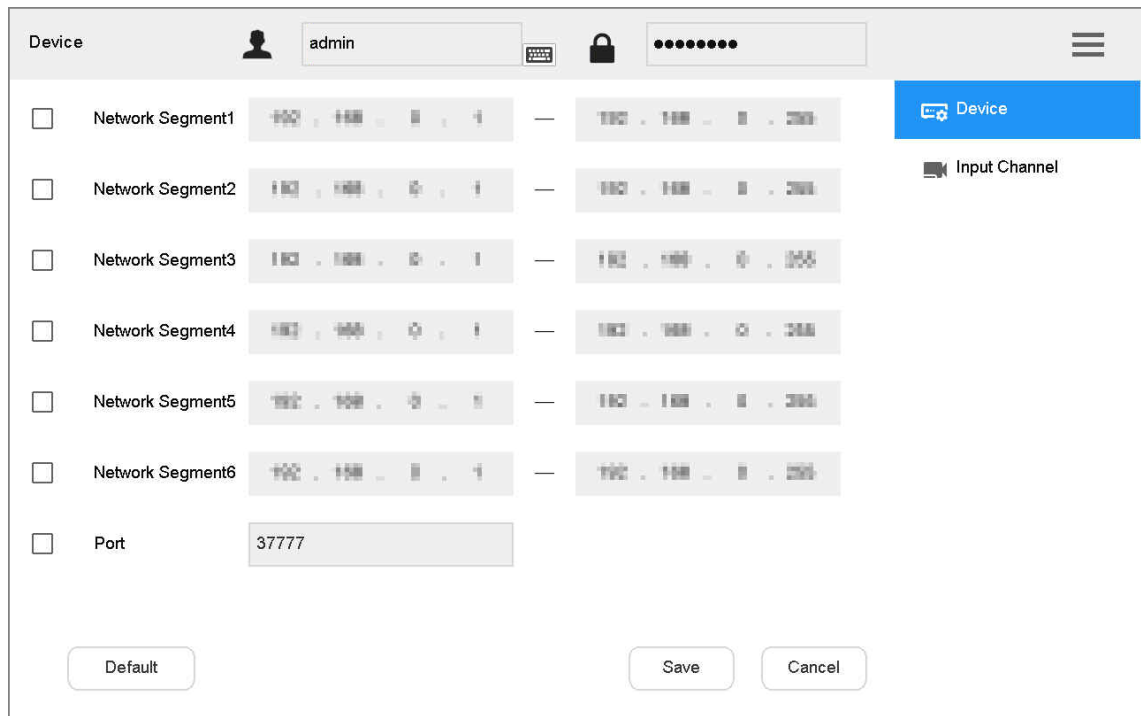
- Tap  to refresh the page.

3.6.2 Auto Search

Procedure

Step 1 On the **Device** page, tap .

Figure 3-13 Auto search settings



The screenshot shows the 'Device' configuration page. At the top, there is a header bar with a user icon, the text 'admin', a keyboard icon, a lock icon, a password field with dots, and a menu icon. Below the header, there is a list of network segments and a port. Each item has a checkbox on the left. The network segments are labeled 'Network Segment1' through 'Network Segment6'. Each segment has two IP address ranges separated by a minus sign. The port is labeled 'Port' and has the value '37777'. On the right side, there is a blue button labeled 'Device' and a grey button labeled 'Input Channel'. At the bottom, there are three buttons: 'Default', 'Save', and 'Cancel'.

Item	IP Range 1	IP Range 2
☐ Network Segment1	192.168.0.1	192.168.0.255
☐ Network Segment2	192.168.0.1	192.168.0.255
☐ Network Segment3	192.168.0.1	192.168.0.255
☐ Network Segment4	192.168.0.1	192.168.0.255
☐ Network Segment5	192.168.0.1	192.168.0.255
☐ Network Segment6	192.168.0.1	192.168.0.255
☐ Port	37777	

Step 2 Enter IP segment, and then select the checkbox.

Step 3 Tap **Save**.



You can tap  to view search results.

Step 4 Select devices, and then tap  to add the devices.

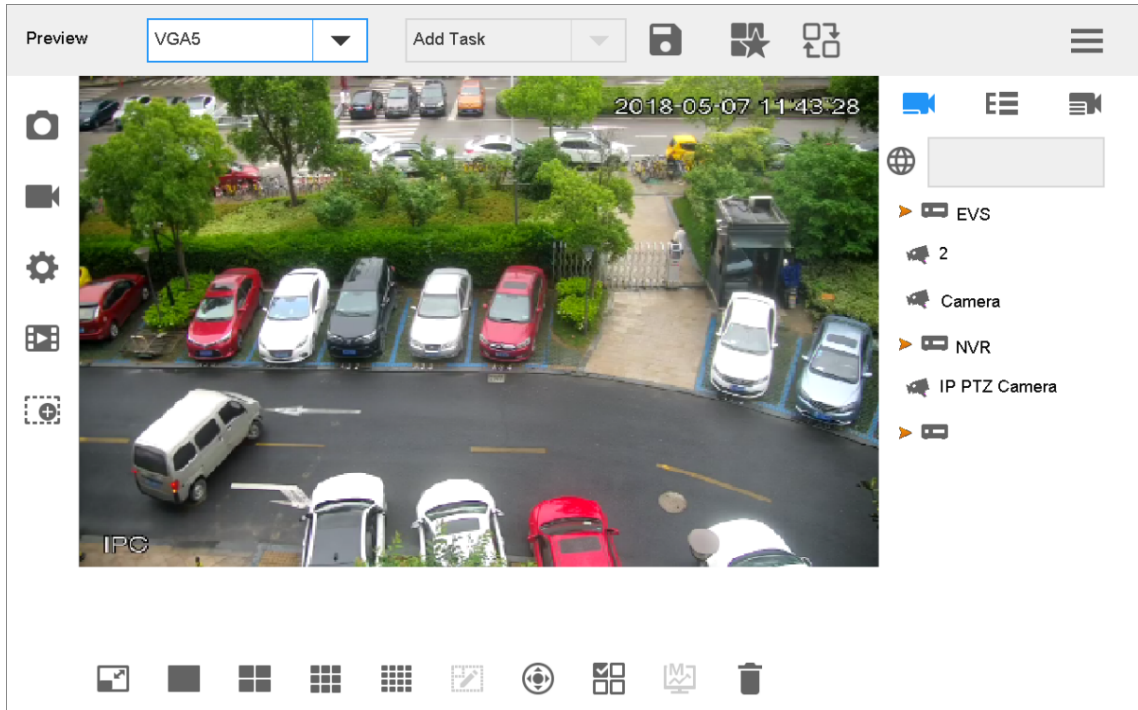
4 System Configurations

4.1 Preview

View local devices, video on wall, PTZ control, snapshots, and recorded videos.

Tap **Preview** on the main page. There are 5 modes, including HDMI1–HDMI4 and VGA5.

Figure 4-1 Preview



4.1.1 Icons of Preview Page

Table 4-1 Preview page icon description

Icon	Description	Icon	Description
	Select a task.		Add a task.
	Plan management.		Enable plan tour.
	Snapshots. The snapshots are saved to USB drive or FTP server.		Manual recording.
	Snapshot and recording settings.		Play back videos.
	Maximize and restore the window.		Single split.
	4 splits.		9 splits.

Icon	Description	Icon	Description
	16 splits.		Custom splits.  Local preview page does not support custom split.
	PTZ.		Select windows on the screen.  This button is used with the deletion button.
	Stream switching.  Switch main and sub streams on the local preview page, with no need of manual switch. This icon is not available in the latest version.		Delete.

4.1.2 Channel Grouping

Procedure

Step 1 On the **Preview** page, tap .

Step 2 Tap .

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

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

Step 4 Tap **Group**.

Figure 4-2 Channel grouping

Channel grouping

Input group
1

Group name
1

Time
10
s

Save

	NO.	Channel	Ch Name	Device	IP
☐	8	4	400W+30fps+MD+IVS 107	NVR	192.168.1.107

PgUp
PgDn
1/0
1
GO

+

X

Return

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

Step 6 Select the channels that you need.



Tap  on the **Channel grouping** page to add more channels.

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

4.1.3 Video on Wall

Procedure

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

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

Step 3 (Optional) Quick video on wall.

- Click , and a dialog box pops up. Enter a number (such as 1) + , and then video of channel 1 will be displayed on the wall quickly.
- Click , and a dialog box pops up. Enter channel group number (such as 123) + , and then videos of channel group 123 will be displayed on the wall quickly.

Figure 4-3 Shortcut keys

7	8	9
4	5	6
1	2	3
	0	
		



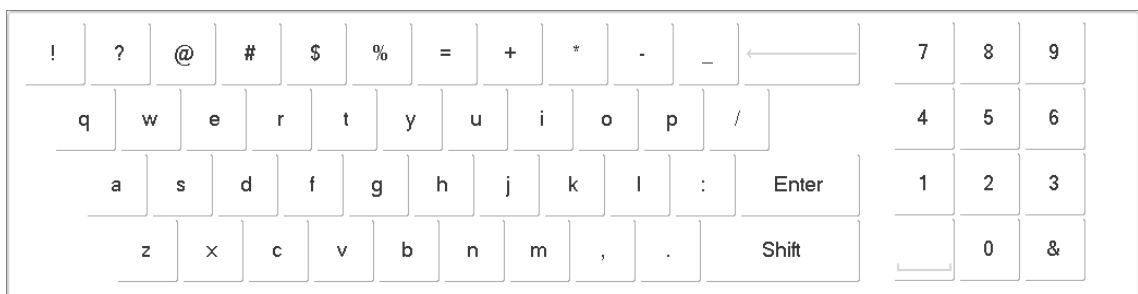
- Refer to "4.6.1.2 Input Channel" to check **NO.** in the input channel.
- Click , and channel with the previous number will be displayed on wall. For example, the current number is 123, click , and No. 122 channel will be displayed on the wall.
- Click , and channel with the next number will be displayed on wall. For example, the current number is 123, click , and No. 124 channel will be displayed on the wall.
- Channel group does not support  and .

Step 4 (Optional) Quick search for added devices.

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

Click the pop-up keypad. Tap the Shift key to switch the input method.

Figure 4-4 Keypad



Related Operations

- Maximize and restore window
Click  to maximize and restore the window.
- Single, 4, 9, 16, and custom split

Click , , ,  or  respectively to switch to single, 4, 9, 16 or custom split.

- Clear video source

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.

2. Click .

4.1.4 PTZ Control

For details, see "4.5 PTZ Control".

4.1.5 Scheme Management

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

4.1.5.1 Adding Task

Procedure

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

Step 2 Tap  on the **Preview** page.

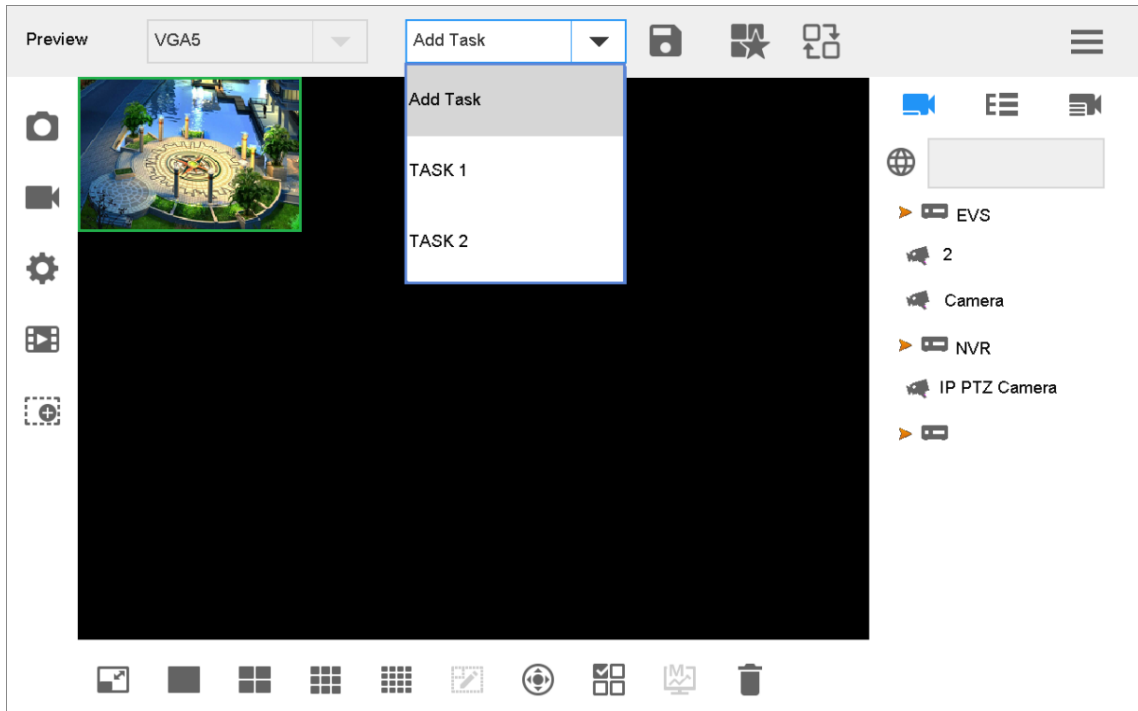
Step 3 Enter task name.

Step 4 Tap  to save the task.

4.1.5.2 Viewing Task

Select a task from the **Add Task** drop-down list, and then you can view the task.

Figure 4-5 View task

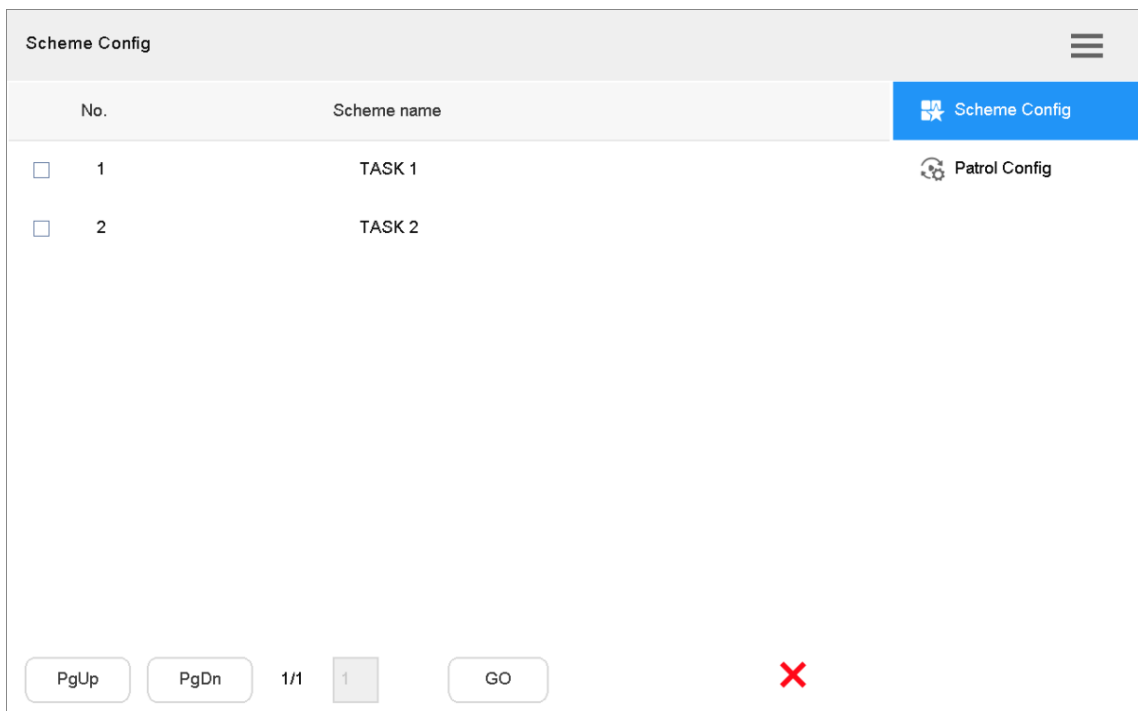


4.1.5.3 Deleting the Scheme

Procedure

Step 1 Tap .

Figure 4-6 Scheme configuration



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

4.1.6 Configuring Tour

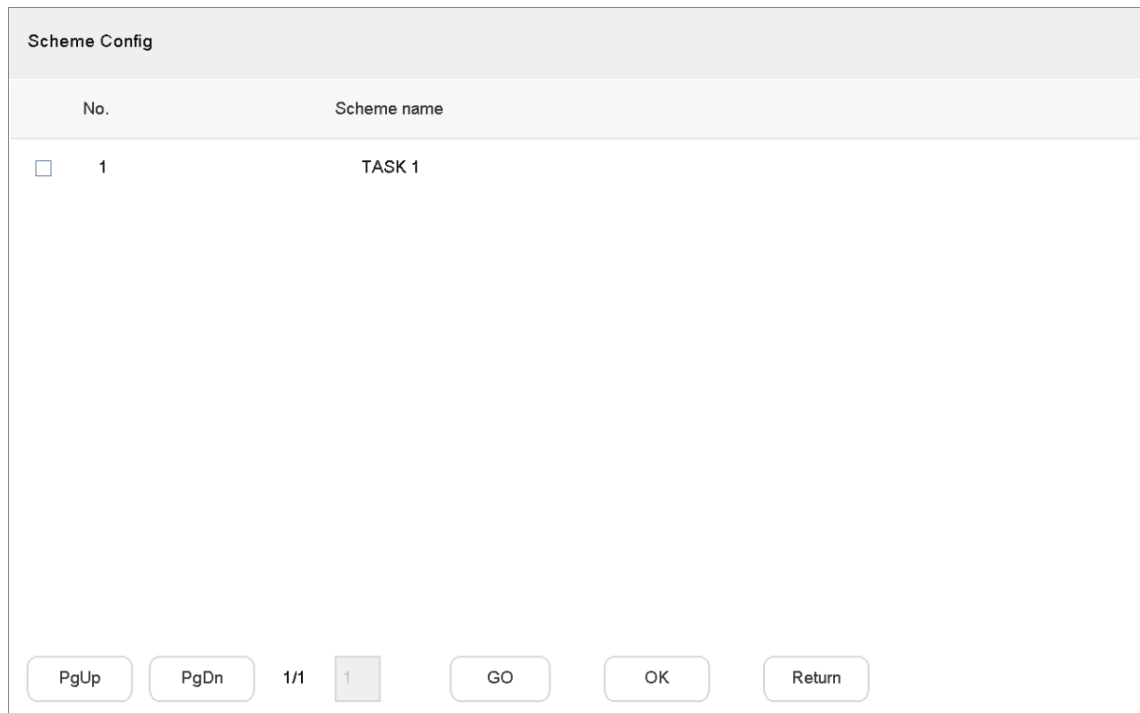
Perform tour according to the sequence of adding scheme to the tour.

Procedure

Step 1 On the **Scheme Config** page, tap **Patrol Config**.

Step 2 Tap .

Figure 4-7 Scheme configuration



No.	Scheme name
☐ 1	TASK 1

PgUp PgDn 1/1 1 GO OK Return

Step 3 Select the scheme, and then tap **OK**.



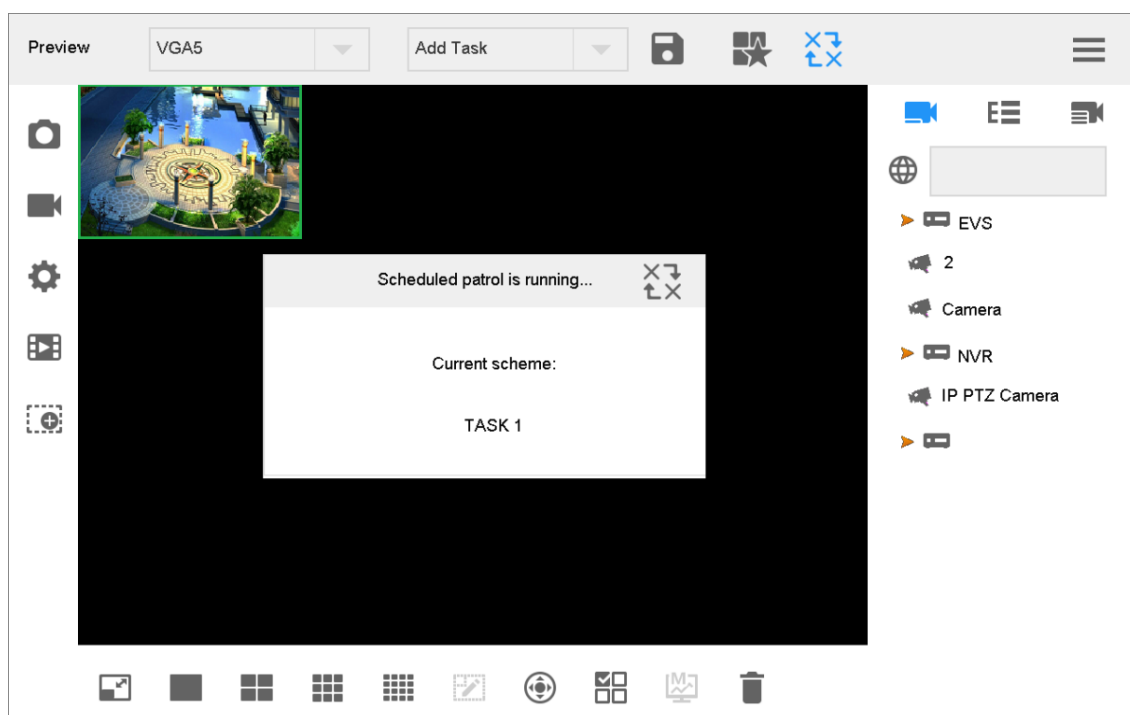
- Schemes can only be added one by one.
- Tour is not available if less than 2 schemes are added.

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

Related Operations

- On the **Preview** page, tap  to enable tour.

Figure 4-8 Tour



- Tap  to stop the tour.

4.1.7 Snapshot

Procedure

- Step 1 Insert the USB flash drive into network keyboard.
We recommend using a USB flash drive with FAT32 format.
- Step 2 On the **Preview** page, tap .
- Step 3 Set the snapshot storage path. For details, see "4.1.9 Snapshot and Recording Settings".
- Step 4 On the **Preview** page, tap .



You can take a snapshot with joystick buttons.

4.1.8 Recording

Procedure

- Step 1 Insert the USB flash drive into network keyboard.
We recommend using a USB flash drive with FAT32 format.
- Step 2 On the **Preview** page, tap .
- Step 3 Set the recording storage path. For details, see "4.1.9 Snapshot and Recording Settings".
- Step 4 On the **Preview** page, tap .

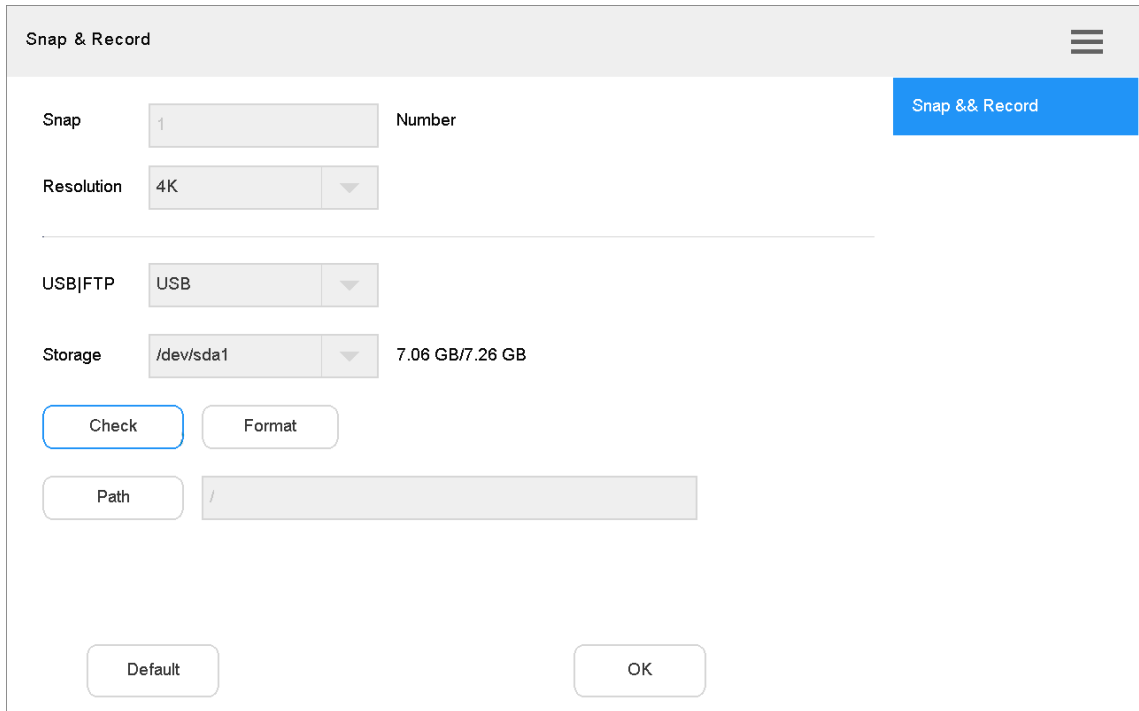
4.1.9 Snapshot and Recording Settings

4.1.9.1 Configuring USB Flash Drive Storage

Procedure

Step 1 On the **Preview** page, tap .

Figure 4-9 Snapshot and recordings



Step 2 Insert USB flash drive into network keyboard.

Step 3 Tap **Check**.

Step 4 The system displays general storage disk name and device capacity.

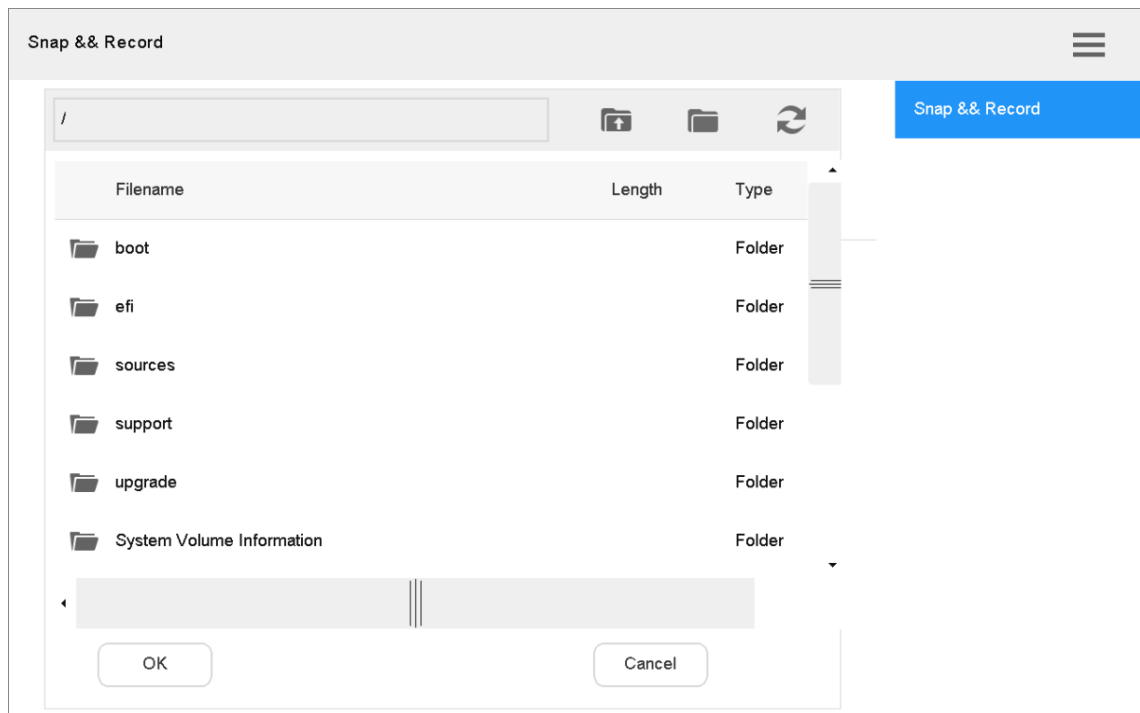
Step 5 Set the parameters.

Table 4-2 Snapshot and recording parameter (USB flash drive)

Parameter	Description
Snap	It supports only 1 snapshot at present.
Resolution	The defined resolution will be used if the video resolution is greater than the defined one; otherwise, if the video resolution is smaller than the defined resolution, the video resolution will be used.
USB FTP	USB is enabled for storage by default.
Format	Format USB flash drive.

Parameter	Description
Path	Select snapshot storage path. • Tap  to return to the upper level of folder. • Tap  to create a folder. • Tap  to refresh the page.

Figure 4-10 Snapshot storage



Step 6 Tap **OK**.

4.1.9.2 Configuring FTP Storage

Procedure

- Step 1 On the **Preview** page, tap .
- Step 2 In the **USB|FTP** drop-down list, select **FTP**.

Figure 4-11 FTP

The screenshot shows the 'Snap & Record' settings interface. At the top, there's a title bar with a menu icon. Below it, the 'Snap' section has a text input with '1' and a 'Number' label. The 'Resolution' section has a dropdown menu set to '4K'. The 'USB|FTP' section has a dropdown menu set to 'FTP' and a toggle switch that is currently off. Below this, the 'Address' field is set to '0 . 0 . 0 . 0' and the 'Port' field is set to '21'. There are input fields for 'User Name' and 'Password'. The 'Directory' field has a 'Test' button next to it. At the bottom, there are 'Default' and 'OK' buttons.

Step 3 Tap  to enable FTP storage.

Step 4 Configure the parameters.

Table 4-3 Snapshot and recording parameter (FTP)

Parameter	Description
Snap	It supports only 1 snapshot at present.
Resolution	The defined resolution will be used if the video resolution is greater than the defined one; otherwise, if the video resolution is smaller than the defined resolution, the video resolution will be used.
USB FTP	Select FTP .
Address	Set FTP address.
User Name	FTP user name.
Password	FTP login password.
Directory	Set directory name.
Test	Test whether FTP is available.

Step 5 Tap **OK**.

4.1.10 Playing back Videos

This function is supported by network video recorders (NVR) that have recorded videos, rather than IVSS devices.

Procedure

Step 1 On the **Preview** page, tap .

Figure 4-12 Playback

Playback

Device NVR(11111111) ▼

Channel 2 ▼

☰

Time 2019 - 10 - 17 00:00:00 - 23:59:59

Playback

Storage 0.00KB/0.00KB

Detect Format

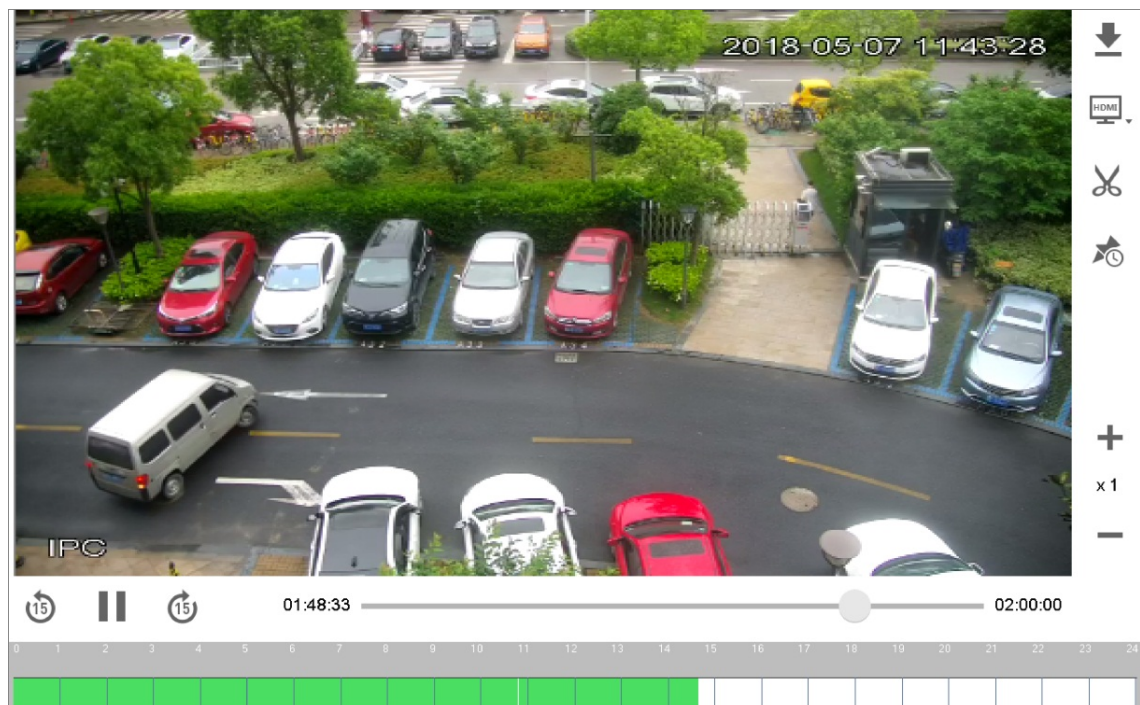
No.	Channel	Start Time	End Time	Size(MB)
-----	---------	------------	----------	----------

PgUp PgDn

Step 2 Select devices and channels, configure time, and then tap **Playback**.

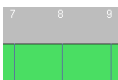
The system starts to play back videos.

Figure 4-13 Play back video



During playback, you can control the playback speed, download the video and display the video on the video wall.

Table 4-4 Playback icon description

Icon	Description	Icon	Description
	Download the video to USB flash drive.		With HDMI port, display the video on video 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, tap it to start fast forward mode, such as $\times 2$ and $\times 4$.		Slow down the play, such as $\times 1/2$ and $\times 1/4$.
	Play/pause.		Rewind or fast forward 15 seconds.
	Tap the green area at the bottom to adjust play period.		

4.2 Playback

Play back the videos.

Procedure

- Step 1** On the main page, tap **Playback**.
- Step 2** Select devices and channels, configure time, and then tap **Playback**.
The system starts to play back videos.
For details on the playback operations, see "4.1.10 Playing back Videos".
- Step 3** Tap  on the network keyboard panel.

Figure 4-14 Playback

Playback

Device
EVS(191016030000)
Channel
1(1)

Time
2019 - 10 - 16
00:00:00 -- 23:59:59
Playback

Storage
0.00KB/0.00KB
Detect
Format

No.	Channel	Start Time	End Time	Size(MB)
1	1(1)	19-10-16 00:00:00	19-10-16 01:00:01	1051.69MB
2	1(1)	19-10-16 01:00:01	19-10-16 02:00:01	1051.25MB
3	1(1)	19-10-16 02:00:01	19-10-16 03:00:01	1051.69MB
4	1(1)	19-10-16 03:00:01	19-10-16 04:00:00	1051.00MB
5	1(1)	19-10-16 04:00:00	19-10-16 05:00:00	1051.69MB
6	1(1)	19-10-16 05:00:00	19-10-16 06:00:00	1051.69MB

PgUp
PgDn



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

4.3 Video Wall



In platform video wall mode, it does not support using the F1 key.

Control decoder, matrix, and video wall.

Devices can be added only through webpage. For details, see "4.3.1 Adding Video Wall through Matrix Webpage" and "4.3.2 Adding Video Wall through Decoder Webpage".



The webpage of some devices might be different. Refer to the actual webpage.

There are 2 ways to add video wall on the webpage:

- Matrix webpage (supports multiple video walls).
- Decoder webpage (supports only one video wall).



Video matrix platform and network video decoder support multiple video walls.

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

4.3.1 Adding Video Wall through Matrix Webpage

Here uses matrix webpage as an example.



- For more specific configurations, refer to matrix user manual.
- This section also applies to video wall device.

4.3.1.1 Logging in to Matrix Device Webpage

Procedure

- Step 1 Enter IP address of matrix device in the address bar of the browser, and then press Enter.
- Step 2 Enter the login user name and password.
- Step 3 Click **Login**.

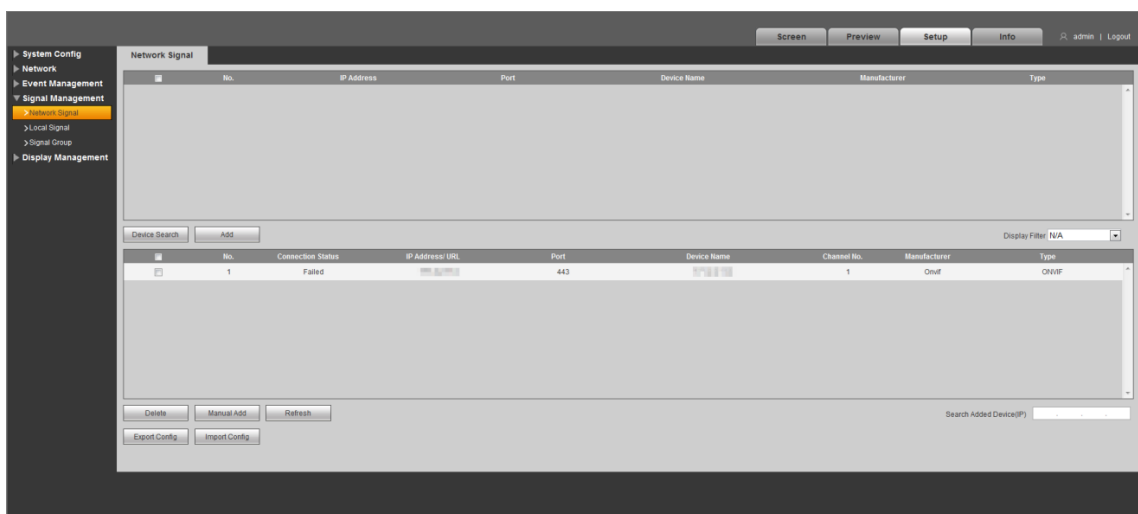
4.3.1.2 Adding Network Signal

Search for and add network signals manually.

Procedure

- Step 1 Select **Setup > Signal Management > Network Signal**.

Figure 4-15 Network signal

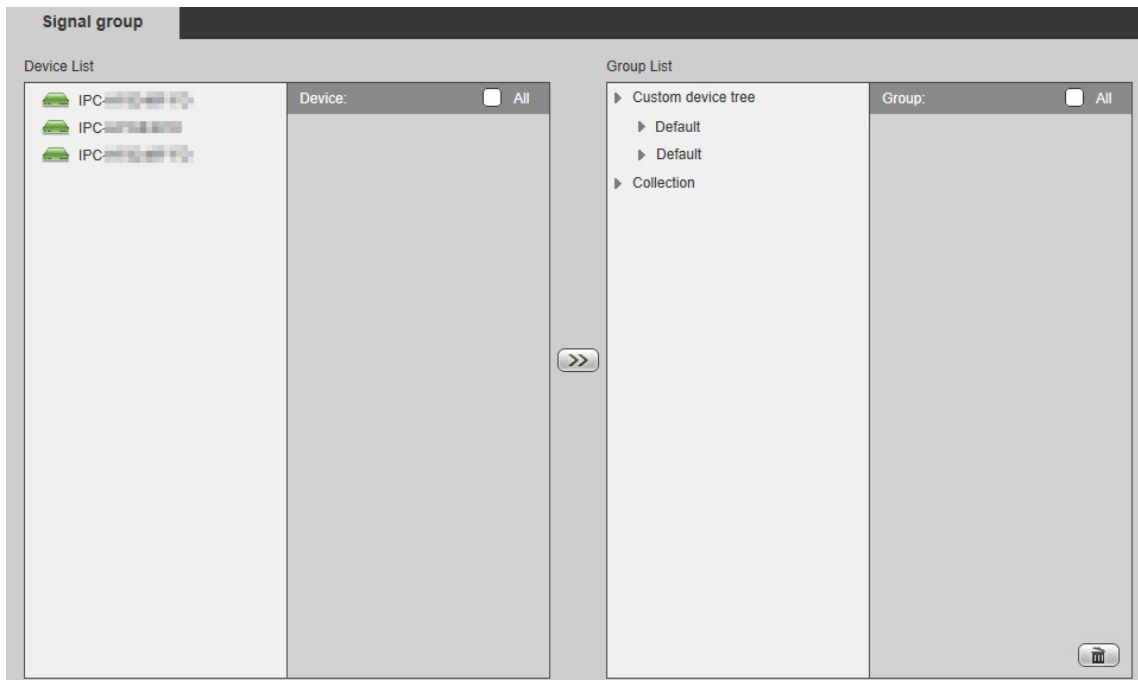


- Step 2 Add network signals.
- Click **Device Search** to show search results, select the needed device and then tap **Add**.
 - Click **Add** to set parameters in the pop-up dialog box.

4.3.1.3 Signal Group

Select **Setup > Signal Management > Signal Group**. The **Signal Group** page is displayed. Devices in the device list can be added to group list.

Figure 4-16 Signal group

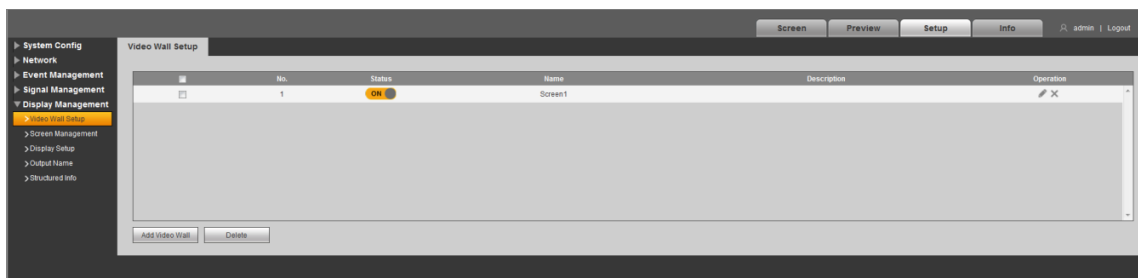


4.3.1.4 Adding Video Wall

Procedure

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

Figure 4-17 Video wall setup

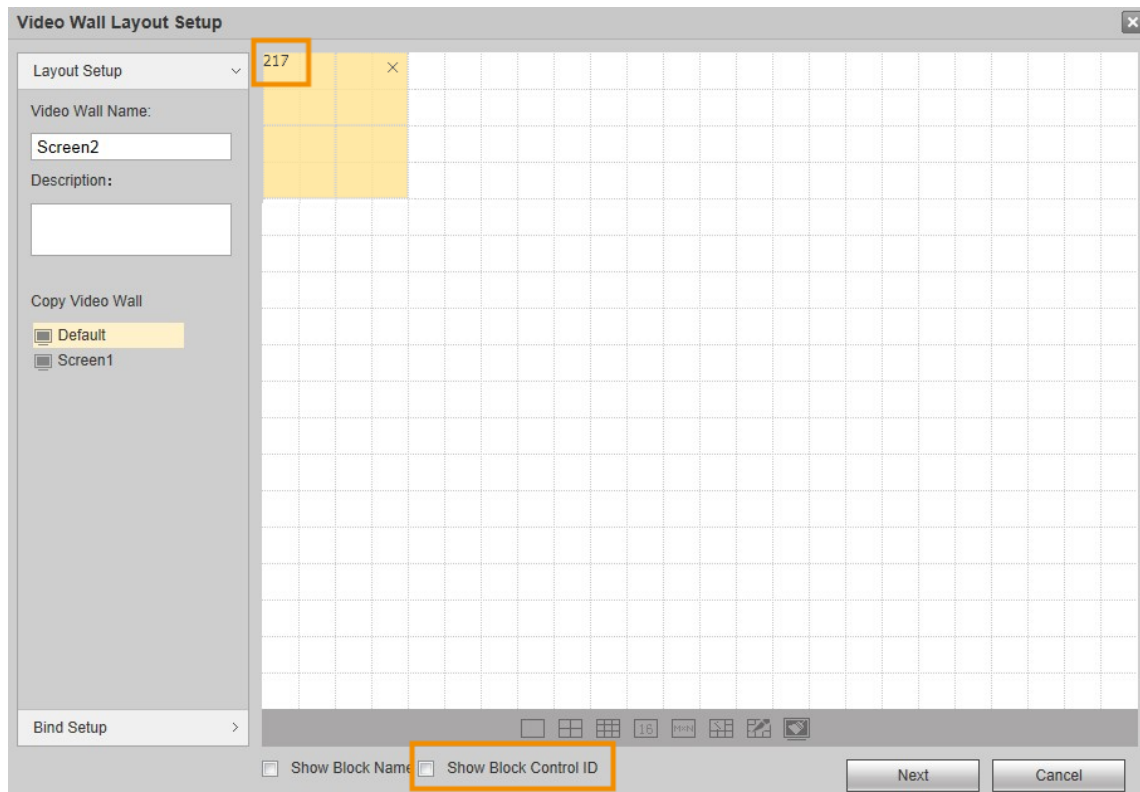


Step 2 Click **Add Video Wall**, and then you can add video walls.

Step 3 Click **Edit** to view the video wall layout configuration.

Select **Show Block Control ID**. The ID is the screen ID used for keyboard control.

Figure 4-18 Video wall layout setup



4.3.2 Adding Video Wall through Decoder Webpage

Here uses decoder webpage as an example.



For more specific configurations, see decoder user manual.

4.3.2.1 Logging in to the Decoder Webpage

Procedure

- Step 1 Enter IP address of decoder in browser address bar, and then press Enter.
- Step 2 Enter the login user name and password.
- Step 3 Click **Login**.

4.3.2.2 Adding a Remote Device

Search for and add the remote device manually.

Procedure

- Step 1 Select **Settings** > **Remote Device**.

Figure 4-19 Remote device

Remote Device

IP Address

☐	SN	IP Address	Mac Address
☐	201		
☐	202		
☐	203		
☐	204		
☐	205		
☐	206		
☐	207		
☐	208		

☐	Delete	Edit	SN	Connection Status	IP/URL

Step 2 Add a remote device.

- 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.

Step 3 View and modify the control ID of the input channel.

Double-click the device list to go to the **Modify** page, where you can view and edit the control number of the channel under the device. The control number is the CAM number used for keyboard control.

Figure 4-20 Network signal

Modify

Device Name:

Manufacturer:

Protocol:

IP Address:

Port: (1~65535)

HTTP Port: (1~65535)

Username:

Password:

Channel No.: (1~1024)

☐	Channel No.	Channel Name	Channel Note	ControllID	Channel Type
☒	0	Channel_01		10001	Remote Channel
☒	1	Channel_02		10002	Remote Channel
☒	2	Channel_03		10003	Remote Channel
☒	3	Channel_04		10004	Remote Channel
☒	4	Channel_05		10005	Remote Channel

Note: Check the fixed channel, do not check the temporary channel

OK Cancel

4.3.2.3 Editing Decoder Video wall

Click the merged screen to edit the video wall.

4.3.3 Adding a Device

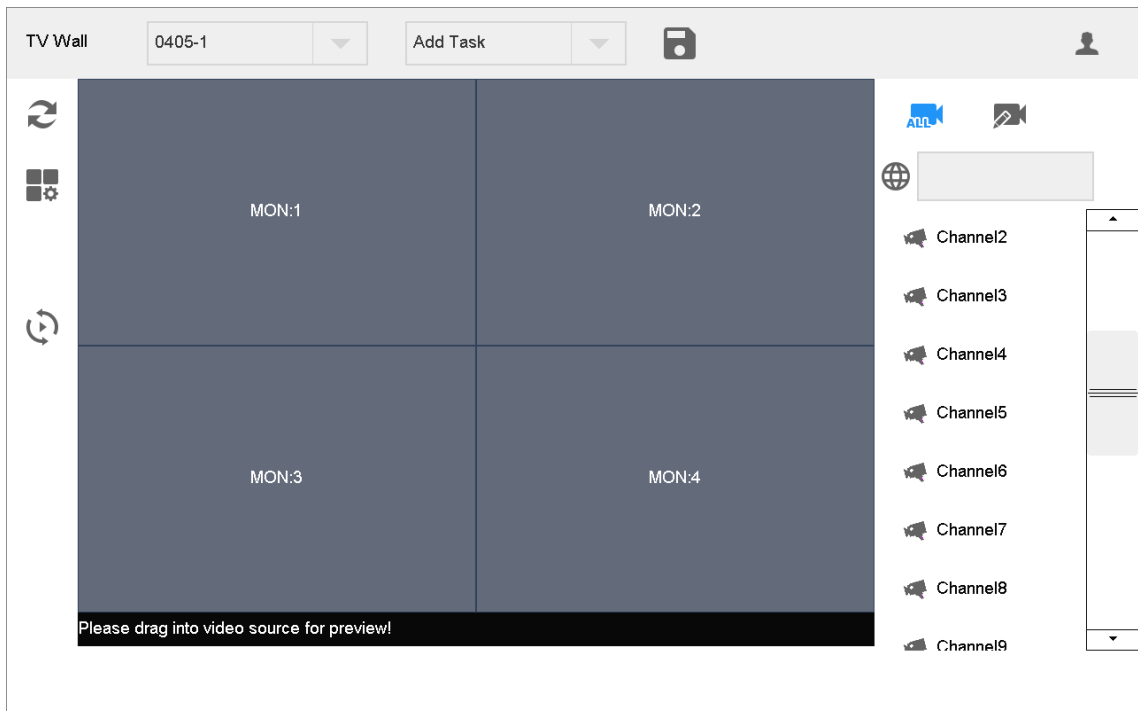
Add video wall, matrix and decoder device to the network keyboard. For details, see "3.6 Adding Devices".

4.3.4 Video on Wall

Procedure

- Step 1 On the main page, tap **TV Wall**.
- Step 2 In the drop-down list, select a video wall.

Figure 4-21 Video wall (screen)



Step 3 Tap one screen, such as MON:1.

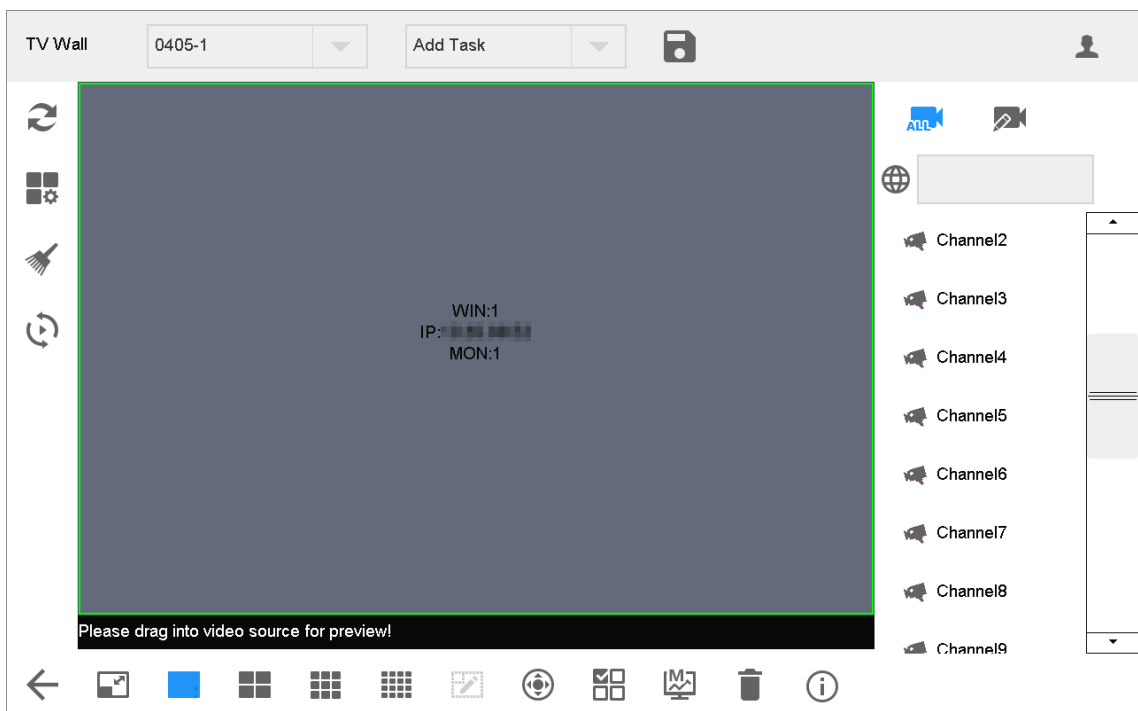
Step 4 Split the screen.

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

Step 5 Drag video source on the right to the video wall.

The system displays relevant information.

Figure 4-22 Video wall (screen information)



Step 6 (Optional) Switch main and sub streams.

Tap , and then drag the video to switch main and sub streams. M represents main stream, while S represents sub-stream.

Step 7 (Optional) Clear screen.

Tap  to clear screen.

4.3.5 Video Wall Icon Description

Table 4-5 Icons of video wall page

Icon	Description	Icon	Description
	Refresh.		Configure video wall.
	Clear screen.		Return.
	Maximize and restore the window.		Single split.
	4 splits.		9 splits.
	16 splits.		Custom split.
	PTZ.		Select windows on the screen.  It is used with the deletion button.
	Switch main and sub streams. M represents main stream, while S represents sub-stream.		Delete.
	Details on channels.		Displays the video on the wall quickly.  For details, see "4.1.3 Video on Wall".
	Displays all input channels.		Displays signal group.  For details, see "4.3.1.3 Signal Group".
	Start or stop the scheme tour.  You need to configure tour tasks on the decoder. This is just a switch.	-	

4.3.6 PTZ Control

For details, see "4.5 PTZ Control."

4.3.7 Adding a Task

Frequently-used operations can be saved as tasks, so that you can use them quickly. Up to 16 tasks can be added.

Procedure

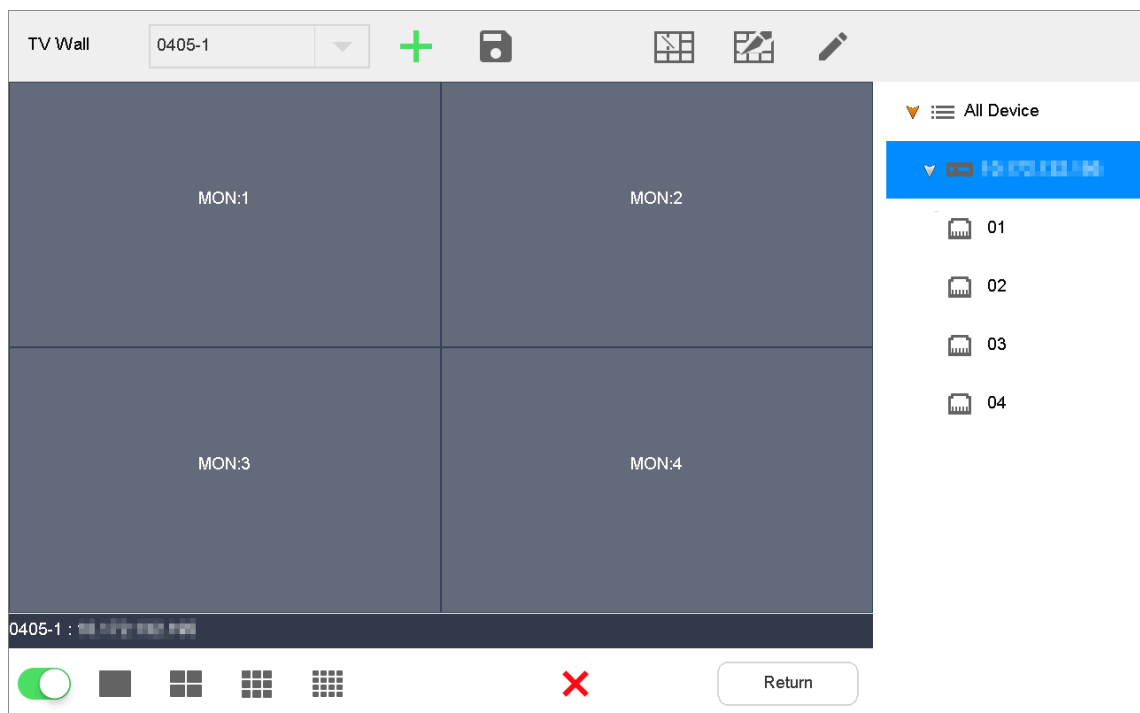
- Step 1 On the **TV Wall** page, perform a series of operations according to actual needs. For example, split the screen into 16 sections.
- Step 2 Tap .
- Step 3 Enter the task name.
- Step 4 Tap .

4.3.8 Configuring Video Wall

Procedure

- Step 1 On the **TV Wall** page, tap  go to the **TV Wall** page.

Figure 4-23 Configure video wall



- Step 2 Add video wall.

1. Tap .

Figure 4-24 New video wall

2. Enter the name, select line and column, and then tap .
3. Drag decoding channels on the right to the screen to bind them.
4. (Optional) Select 2 or more screens, and then tap  to merge them into one screen.
5. Tap .

Step 3 Tap  to enable video wall, and then this video wall will be displayed in the **TV Wall** drop-down list.



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

Related Operations

- Delete video wall

Tap  to delete the video wall.

- Cancel merged screen

Select a merged screen, and then tap .

- Edit video wall

Tap , and then the **Edit Video Wall** dialog box is displayed.

- Return to the video wall page

Tap **Return**.

- Exit the video wall page

Tap .

4.4 Platform

The network keyboard can connect to a platform, and thus control the devices that are added to the platform. Currently, the supported platforms include DSS 8 series platforms, ICC, DSS Pro, DSS Express, and C9100.



- Preview of DSS platform channels is not supported.
- 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

Background Information

You can add an encoder, decoder, video wall and matrix device. Here uses adding a decoder for example.



This section is about operations on the DSS Pro. For details on downloading and initializing the DSS Pro client, see the DSS Pro user manual.

Procedure

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 user name and password of the multiple devices in the same segment are the same.



- ◇ 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 4-25 Add a device

1.Login Information

Add Mode:

IP Address

Access Protocol:

Dahua

Device Category: ?

Encoder

IP Type:

IPv4

IPv6

IP Address:

Device Port:

37777

Username:

admin

Password:

Organization:

Root

Server:

- Step 5 Enter the device information.
- Step 6 Click the **Decoding Channel** tab of the device, select **Pull** from **Decoding Mode**, and then click **OK**.

Figure 4-26 Edit decoding channel

All Devices

Add Device

Resource Maintenance

Device Config

Basic Info

Decoding Channel

Video Channel

Alarm Input Channel

Alarm Output Channel

Decoding Channel

Number of Channels

12

Decoding Mode

Pull

Delete

Channel No.	Channel Name	Output Decoding Type	Unique ID	Operation
1	HDMI OUT 01	Decoding Channel		
2	HDMI OUT 02	Decoding Channel		
3	HDMI OUT 03	Decoding Channel		
4	HDMI OUT 04	Decoding Channel		
5	HDMI OUT 05	Decoding Channel		
6	HDMI OUT 06	Decoding Channel		
7	HDMI OUT 07	Decoding Channel		
8	HDMI OUT 08	Decoding Channel		
9	HDMI OUT 09	Decoding Channel		
10	HDMI OUT 10	Decoding Channel		
11	HDMI OUT 11	Decoding Channel		
12	HDMI OUT 12	Decoding Channel		

Total 12 Record(s)

1

20/Page

Get Info

OK

Cancel

- Step 7 Click **OK**.
- To add more devices, click **Continue to add**.

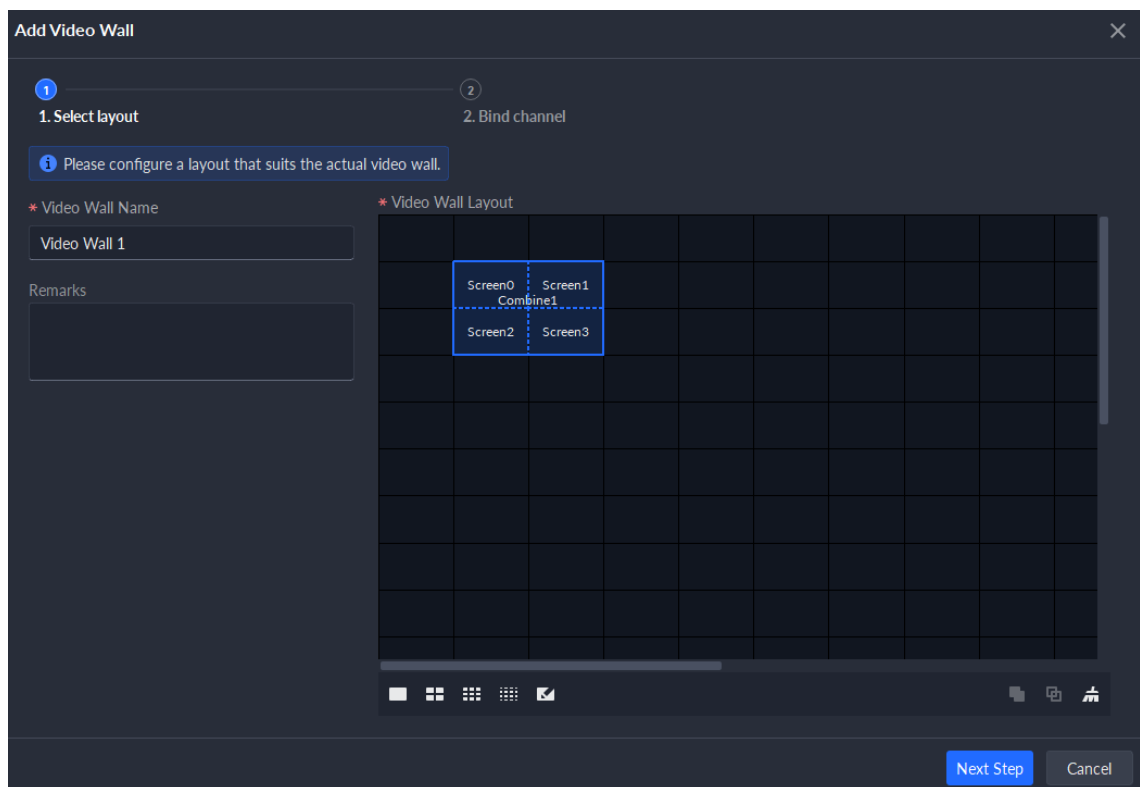
4.4.1.2 Adding Video Wall

Add a video wall layout on the platform.

Procedure

- 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 4-27 Add a video wall

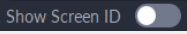
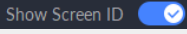


- The video wall name cannot consist of special characters including < > % & = " ' and /.
- Select a splicing mode from among 1 × 1, 2 × 2, 3 × 3, 4 × 4 or set a custom mode by clicking
- A multi-screen splicing mode is a combined screen by default. You can perform video roaming on it. For example, with 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, drag it to the corresponding screen, and then tap **Finish**.



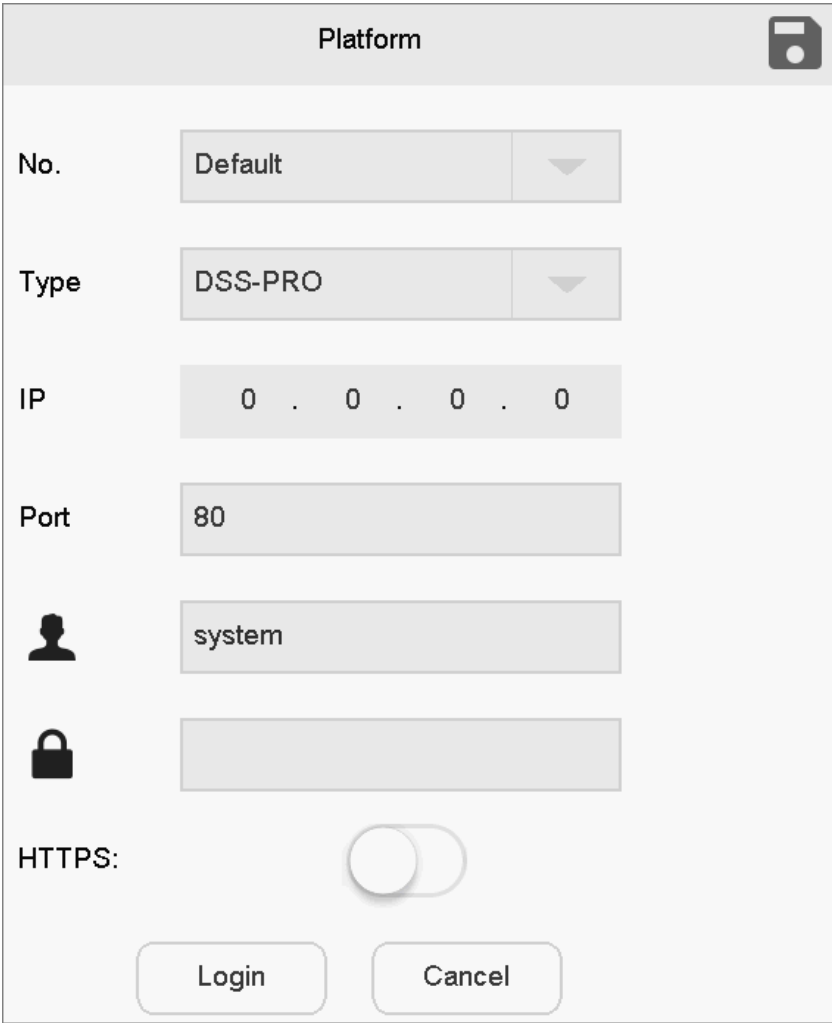
- You can set whether to show ID in the screen.  means that the screen ID is disabled. Click the icon and it becomes , meaning that screen ID is enabled.
- Each screen in a combined screen must be bound with a decoding channel.

4.4.2 Video on Wall

Procedure

Step 1 On the main page of the network keyboard, tap **Platform**.

Figure 4-28 Connect keyboard operation platform



Step 2 Configure the parameters.

Table 4-6 Platform parameter description

Parameter/Icon	Description
No.	Customize platform number.
Type	Select platform type, including DSS (the old version before DSS-PRO), DSS-PRO, ICC, DSS-C9100, and DSS-Express.

Parameter/Icon	Description
IP	Enter IP address of platform.
Port	Set port number. - For DSS platform, the default port number is 9000. - For DSS-PRO and DSS-Express, the default port number is 80 for HTTP, and 443 for HTTPS. For details on enabling the HTTP service, see the DSS Pro or DSS Express user manual.  You need to configure HTTP allowlist on the DSS client. For details, see the DSS PRO or DSS Express user manual.
	Enter the user name to log in to the platform.
	Enter the password to log in to the platform.

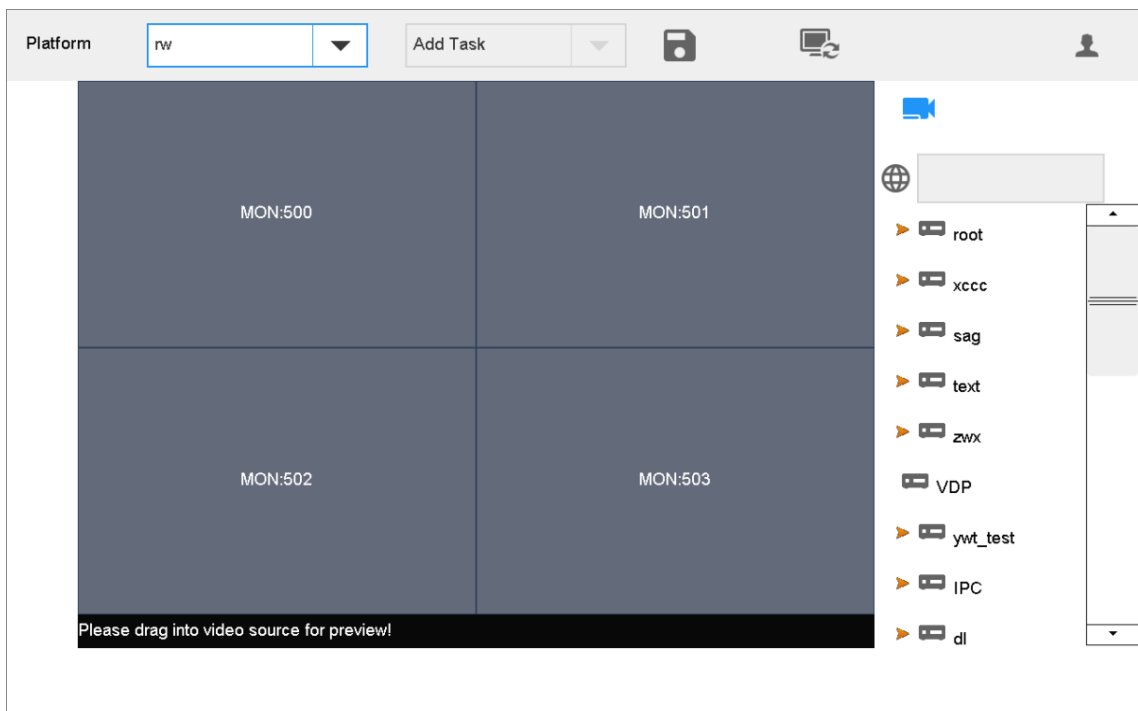
Step 3 Tap **Login**.



Tap  to save the present information.

Step 4 Select platform.

Figure 4-29 Platform (1)



Step 5 Tap one screen, such as MON:500.

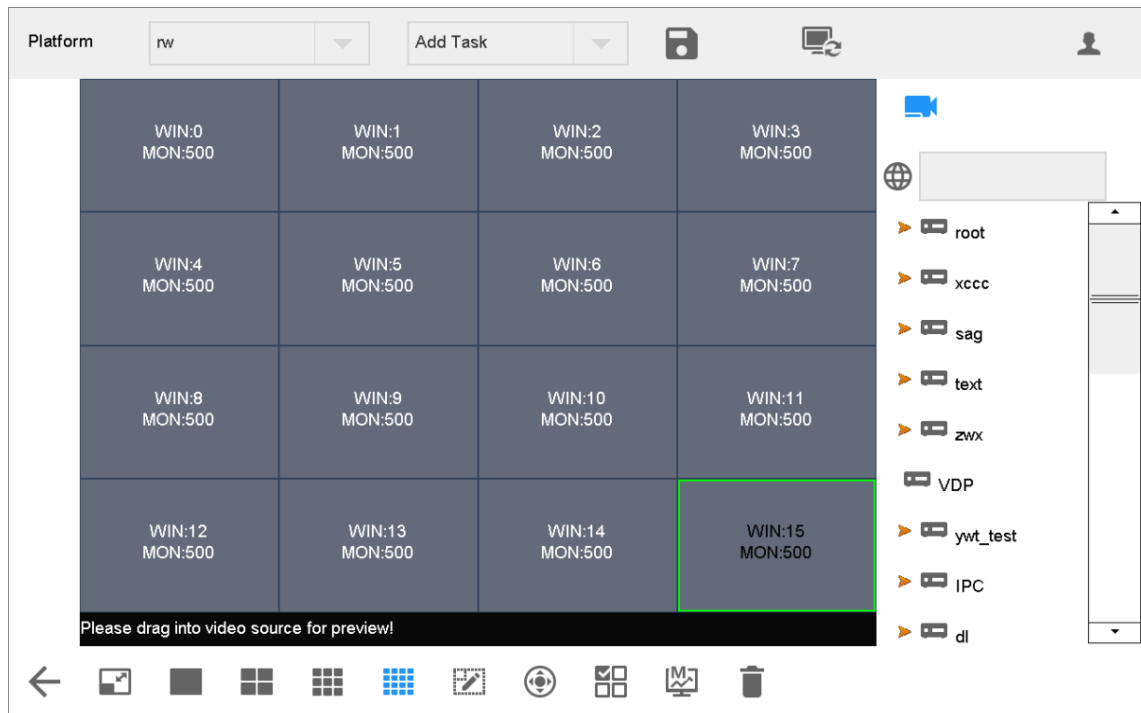
Step 6 Split the screen. For example, tap  to get 16-split screen.



Tap , enter the line and column numbers, and customize the splicing. The maximum splicing is 20 × 20.

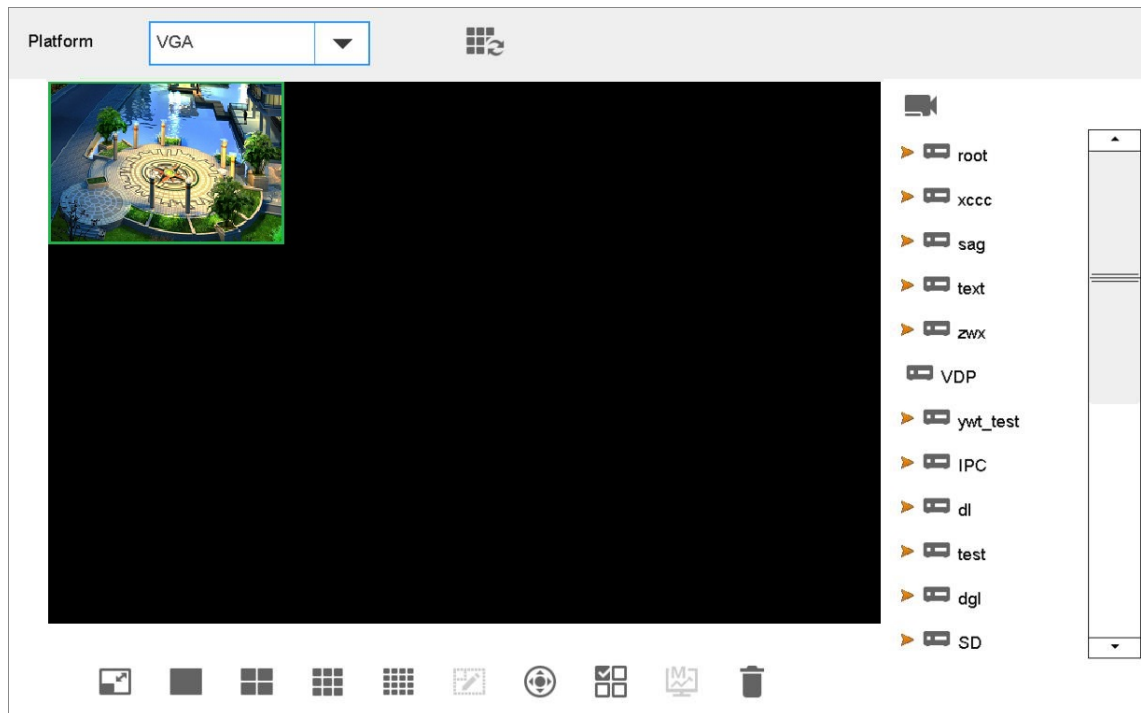
Step 7 Drag video source on the right to the large screen.

Figure 4-30 Platform (2)



Step 8 Tap .

Figure 4-31 Live view



Related Operations

- : When the network keyboard is connected to the platform, only main stream will be acquired on the live page. This icon is not available in the latest version.
- Tap  to clear screen.

For other operations of video wall, see "4.1.3 Video on Wall."



ICC, DSS Pro, and DSS Express do not have this icon. The layout is cleared after each split.

4.4.3 Icons of Platform Page

Table 4-7 Icons of platform page

Icon	Description	Icon	Description
	Refresh.		Clear screen.
	Return.		Maximize and restore the window.
	Single split.		4 splits.
	9 splits.		16 splits.
	Custom split.		PTZ.
	Select windows on the screen. This button is used with deletion button.		When the network keyboard is connected to the platform, only main stream will be acquired on the live page. This icon is not available in the latest version.
	Delete.		Input channel details. Functions might vary across platforms. Some platforms do not have this icon.
	Switch to the live view page.		Switch to video wall mode.

4.4.4 PTZ Control

For details, see "4.5 PTZ Control".

4.4.5 Adding a Task

For details, see "4.3.7 Adding a Task".

4.5 PTZ Control



The camera must support the PTZ function.

Tap on the **Platform** page, and then the PTZ control page is displayed on the right.

Figure 4-32 PTZ control



Table 4-8 PTZ control parameter description

Parameter	Description
Step type	- By selecting Fixed, the step remains unchanged when PTZ turns. It is always the defined step value. - By selecting Variable, the step changes with the tilt of joystick. The larger the tilt angle, the quicker the turning speed.
8 direction keys	Control turning direction of SD lens.
Zoom	Zoom in or out the PTZ lens.
Focus	Increase or decrease focus of PTZ lens.
Iris	Increase or decrease iris of PTZ lens.
Call	Call the presets, scan, tour and pattern.
Settings	PTZ operation settings, including preset, scan, tour and pattern.
SD menu	Open and close the SD menu.
AUX Fn	Lighting and wiper functions.
Exit	Exit PTZ control.



Use the joystick to control 8 directions of PTZ.

4.5.1 Call

Tap **Call**. The **Call** page is displayed.

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



- It will be called successfully after you have set presets.
- Call methods of scan, tour and pattern are the same as that of presets. For details, see "4.5.2 Settings".

Figure 4-33 Call

Call

1

Preset

Scan

Tour

Pattern

Return

4.5.2 Settings

4.5.2.1 Setting Preset

The camera saves parameters (such as current status of PTZ pan/tilt, focus) to the memory, so that you can quickly call these parameters and adjust the PTZ to the correct position.

Procedure

- Step 1 Turn the camera to required position with the joystick or direction button.
- Step 2 Select **Preset**.
- Step 3 Enter a preset value in **Preset** input box, such as 1.
- Step 4 Tap **Settings**. Preset 1 is set successfully.

4.5.2.2 Setting Tour

Configure tour and the PTZ camera repeats performing tours among the configured presets after configuration.

Procedure

- Step 1 Select **Tour**.
- Step 2 Enter tour route value in **Tour No.** input box.
- Step 3 Enter a preset value in **Preset** input box, and then tap **Add Preset** to add a preset to the tour route.



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

4.5.2.3 Setting Pattern

Pattern records a series of operations that makes to the camera. The operations include horizontal and vertical movements, zoom and preset calling. After recording and saving the operations, you can call the pattern path directly.

Procedure

- Step 1 Select **Pattern**.
- Step 2 Enter pattern number in **Pattern No.** input box.
- Step 3 Tap **Start Pattern** to carry out operations of zoom, focus, iris or direction.
- Step 4 Tap **Stop Pattern** to complete the settings of one pattern route.

4.5.2.4 Setting Scan

Scan means the camera moves horizontally at a certain speed between the defined left and right boundaries.

Procedure

- Step 1 Turn the camera to left margin with the joystick or direction button.
- Step 2 Tap **Set Left** to determine left margin position.
- Step 3 Turn the camera to right margin with the joystick or direction button.
- Step 4 Tap **Set Right** to determine right margin position.

4.5.3 SD Menu

Tap **SD Menu** . The **SD Menu** page is displayed.

Figure 4-34 SD menu

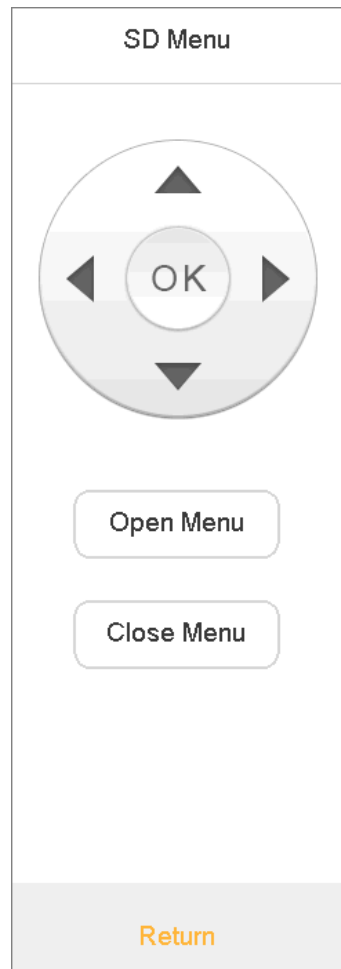


Table 4-9 SD menu parameter description

Parameter	Description
Direction key	Select PTZ menu options.
OK key	Confirm operations.
PTZ menu	- Tap  to open PTZ menu on the P review page. Then, use direction key to select different functions to operate the PTZ. - Tap  to close PTZ menu on the Preview page.

4.5.4 Auxiliary Function

Figure 4-35 Auxiliary function

AUX Fn	
AUX	Single Light ▼
Light Mode	Manual ▼
Light Intensity	99
Light Angle	36
OK	
Return	

- 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

You can set device, general, account, and system parameters.

4.6.1 Device Management

4.6.1.1 Adding a Device

For details, see "3.6 Adding Devices".

4.6.1.2 Input Channel

Displays input number, channel, channel name, device, IP address and details. Also, you can modify input channel number.

On the **Settings** page, tap **Device**, and then tap **Input Channel**. The **Input Channel** page is displayed.

Modify input channel number: Tap ⓘ to modify input channel number and name in the pop-up dialog box.

Figure 4-36 Input channel

Input Channel							
NO.	Channel	Ch Name	Device	IP	Detail		Device
1	1	151	123456	192.168.1.1	ⓘ		Input Channel
2	2	CAM 2	123456	192.168.1.2	ⓘ		
3	3	IPC-2.22-D1	123456	192.168.1.3	ⓘ		
4	4	CAM 4	123456	192.168.1.4	ⓘ		
5	5	CAM 5	123456	192.168.1.5	ⓘ		
6	6	CAM 6	123456	192.168.1.6	ⓘ		
7	7	CAM 7	123456	192.168.1.7	ⓘ		
8	8	CAM 8	123456	192.168.1.8	ⓘ		
PgUp PgDn 1/8 1 GO							

4.6.2 General Settings

4.6.2.1 Wired Network

For details, see "3.5.1 Wired Network".

4.6.2.2 WLAN

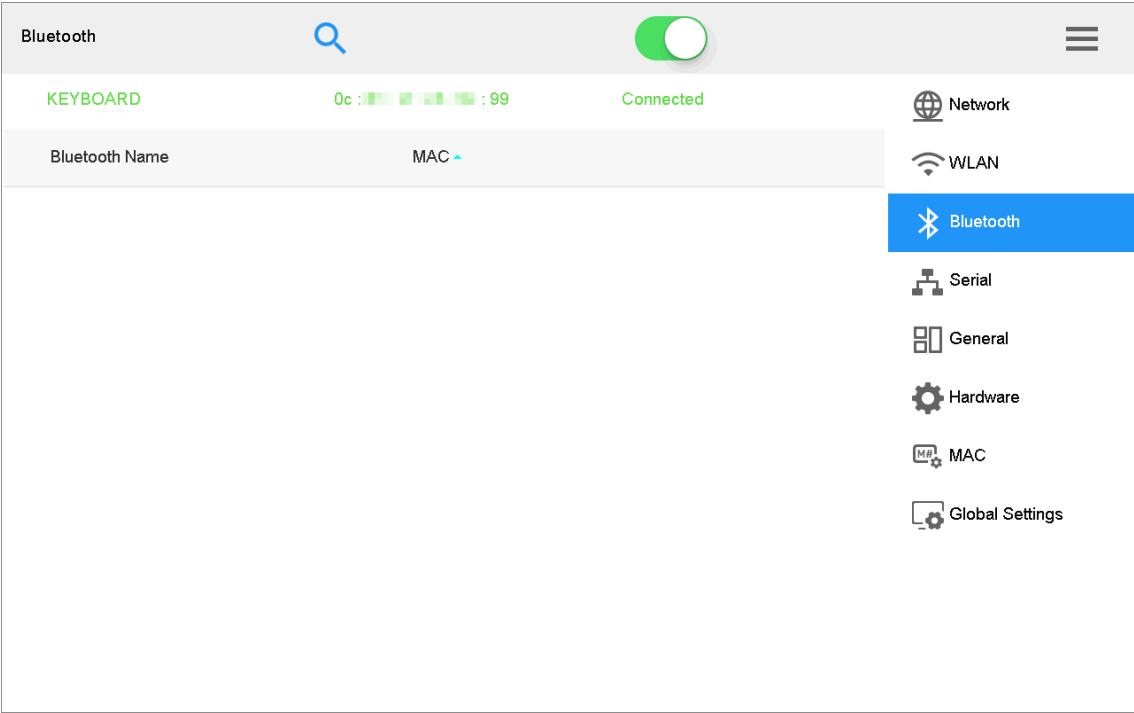
For details, see "3.5.2 WLAN".

4.6.2.3 Bluetooth

Procedure

- Step 1 On the **General** page, tap **Bluetooth**.
- Step 2 Tap  to enable Bluetooth.
- Step 3 Tap  to search for nearby Bluetooth devices.
- Step 4 Double-tap the searched device and the system will display **Connecting**.
- Step 5 After several seconds, the system will display **Connected**, meaning that it is connected successfully.

Figure 4-37 Bluetooth

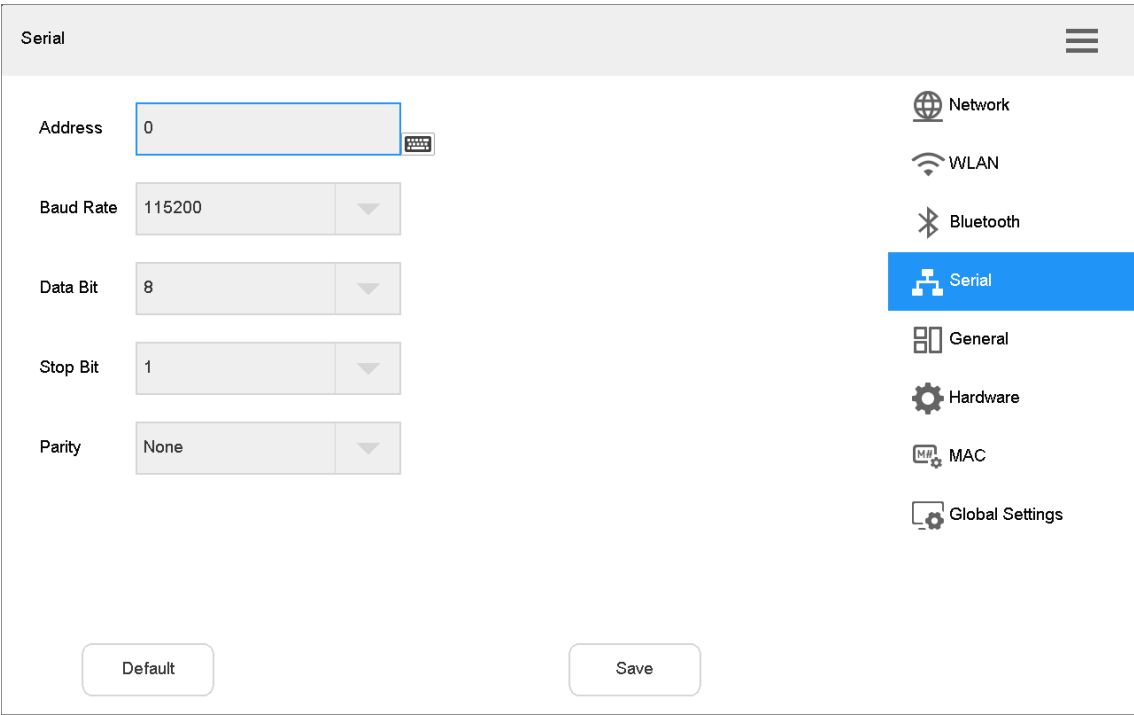


4.6.2.4 Serial Port

Procedure

Step 1 On the **General** page, tap **Serial**.

Figure 4-38 Serial



Step 2 Set the parameters.

Table 4-10 Serial port parameter description

Parameter	Description
Address	In case of serial port control, identify devices according to the address. The value ranges from 0 to 255.
Baud Rate	Baud rate ranges from 1200 to 115200. 8 levels are 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 Tap **Save**.

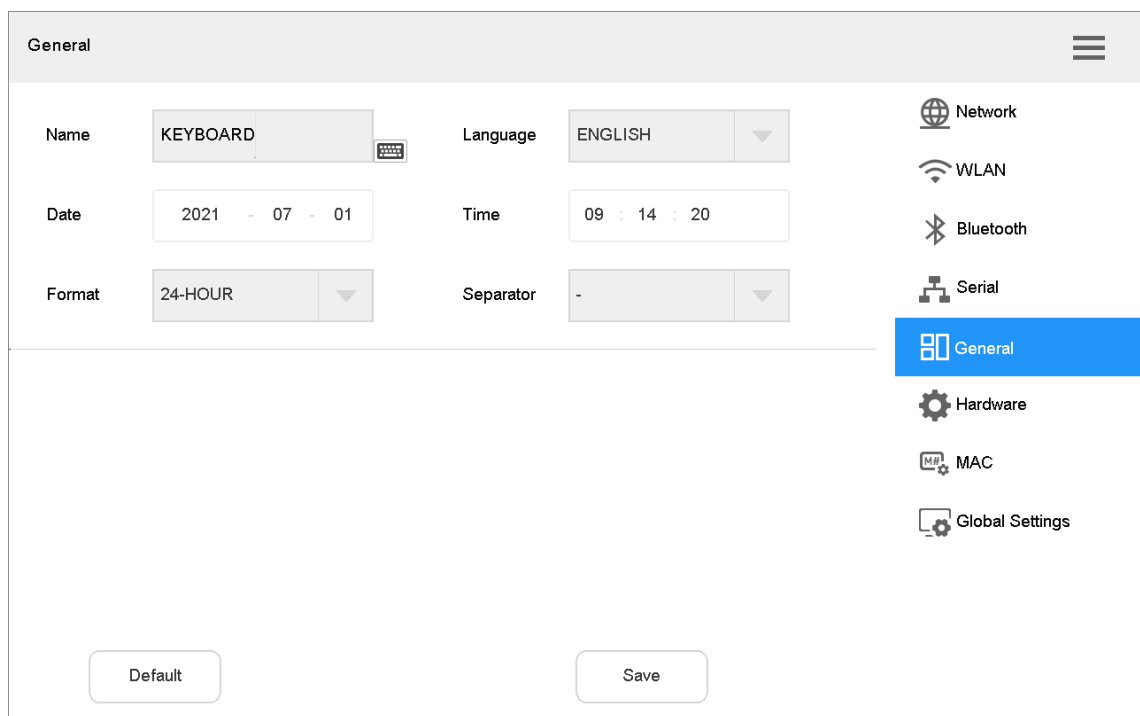
4.6.2.5 General

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

Procedure

Step 1 On the **Settings** page, tap **General**.

Figure 4-39 General



Step 2 Set the parameters.

Table 4-11 General parameter description

Parameter	Description
Name	Set network keyboard name.
Language	Select language.
Date	Set date.
Time	Set time.

Parameter	Description
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 Tap **Save**.

4.6.2.6 Hardware

You can adjust the volume and set the locking time of network keyboard.

Procedure

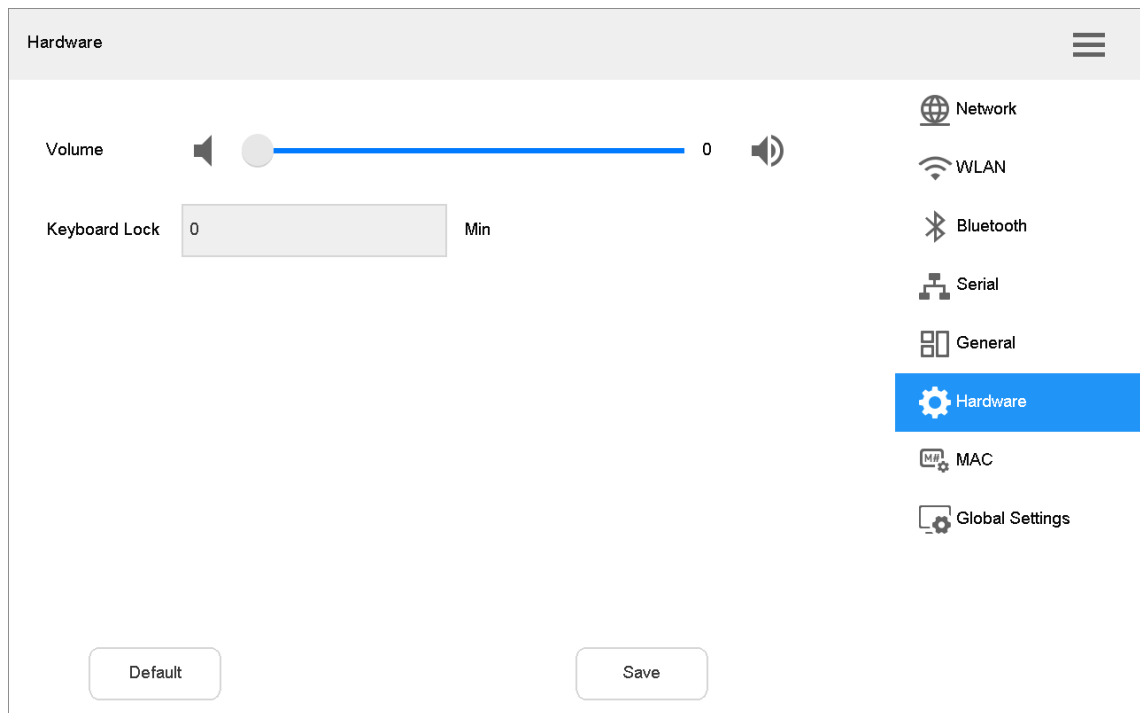
Step 1 On the **Settings** page, tap the **Hardware** tab.

Step 2 Adjust the volume.

Step 3 Set the **Keyboard lock** time.

After keyboard is locked, log in to the device again before you can access the device.

Figure 4-40 Hardware



Step 4 Tap **Save**.

4.6.2.7 MAC

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

On the **Preview** or **TV Wall** page, press number key + F2 to use MAC.



Before using MAC, make sure that you have configured MAC with corresponding numbers.

Procedure

Step 1 On the **Settings** page, tap **MAC**.

Step 2 Tap **Add**.

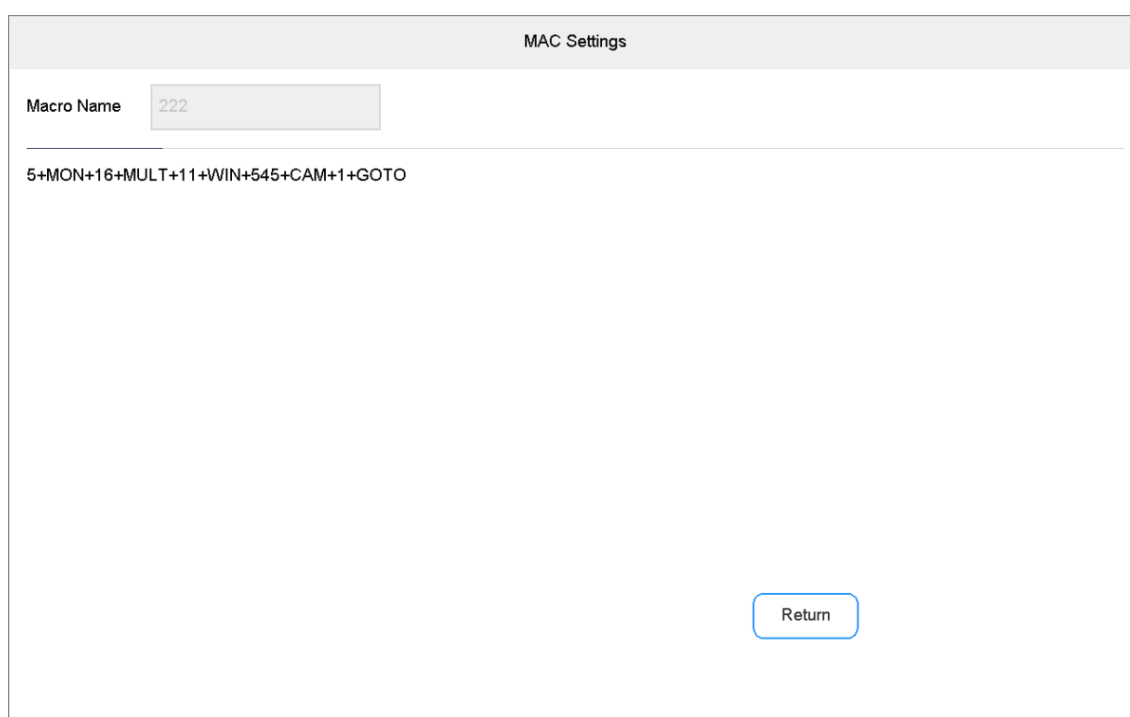
Step 3 Enter **Macro Name**, which can be combination of no more than 15 letters and numbers.

Step 4 Create MAC with key module.

The operation sequence is: Video wall No. + screen button + split No. + split button + window No. + window + channel No. + channel button + number + preset. For specific buttons, refer to the keyboard manual.

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

Figure 4-41 MAC settings



Step 5 Tap **Return**.

Related Operations

- Select a MAC, and then tap **Delete** to delete the MAC.
- Select a MAC, and then tap **Detail** to view details.

4.6.2.8 Global Settings

Procedure

Step 1 On the **Settings** page, tap **Global Settings**.

Figure 4-42 General

Step 2 Set the parameters.

Table 4-12 Global settings parameter description

Parameter	Description
Excel	Excel configuration file import separator. It is comma by default. Italian configuration file must 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 the previous page completely.
Login Mode	● Safe Mode (Recommended) : Log in only with secure authentication method. ● 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. Tap  to enable the 2 functions, and then you will see tracking box on the decoded video images.
Smart Tracking Box	

Step 3 Tap **Save**.

4.6.3 Account Management

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.

Background Information

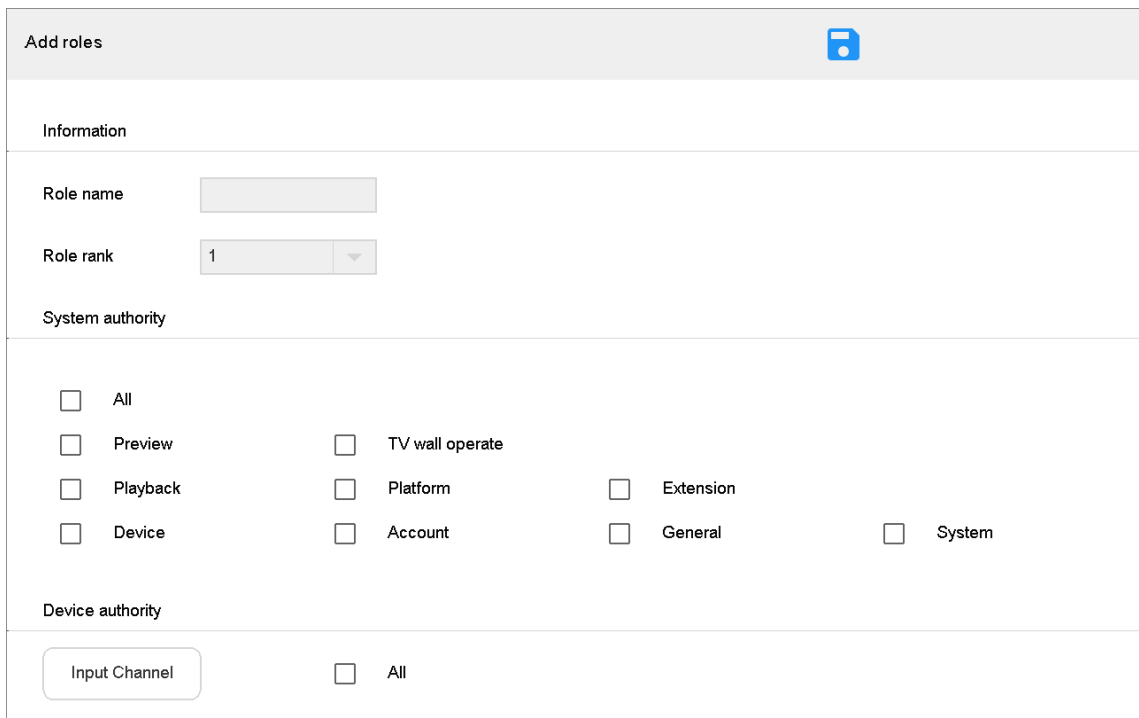
Default admin of the system cannot be deleted. Admin has the highest permissions by default.

Procedure

Step 1 Select **Settings** > **Account** > **Role**.

Step 2 Tap .

Figure 4-43 Add roles



Step 3 Set role name and role rank.

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

Step 4 In **System authority**, select role permissions to operate the system.

- Select the checkbox to enable the permission.
- Select **All** to select all permissions.

Step 5 Configure operation permissions of device input channel.

1. Tap **Input Channel**.
2. Tap .

Figure 4-44 Add channel

Add channel					
☐	NO.	Channel	Ch Name	Device	IP
☐	1	1	151	123456	192.168.1.1
☐	2	2	CAM 2	123456	192.168.1.2
☐	3	3	IPC-2.22-D1	123456	192.168.1.3
☐	4	4	CAM 4	123456	192.168.1.4
☐	5	5	CAM 5	123456	192.168.1.5
☐	6	6	CAM 6	123456	192.168.1.6
☐	7	7	CAM 7	123456	192.168.1.7
☐	8	8	CAM 8	123456	192.168.1.8

PgUp
PgDn
1/8
1
GO
OK
Return

3. Select the checkbox of corresponding channels, and then tap **OK**.



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

Step 6 Tap **Return** to return to the **Add roles** page.

Step 7 Tap  to save the settings.

Related Operations

- Delete roles
 1. Select the checkbox of the corresponding role.
 2. Tap **Delete**.
 3. Tap **OK**.
- Modify the role
 1. Tap  corresponding to the role.
 2. Modify role information according to actual needs.
 3. Tap  to save the settings.

4.6.3.2 Account

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

Background Information

Default admin of the system cannot be deleted. Admin has the highest permission by default. Creating a role before adding an account.

Procedure

Step 1 Select **Settings** > **Account** > **Account**.

Figure 4-45 Add user

Step 2 Tap .

Step 3 Set user name, enter the new password and confirm it, and select subordinate role.



New and **Confirm** password must be the same.

Step 4 Tap  to save the settings.

Related Operations

- Delete users
 1. Tap the user that you want to delete.
 2. Tap **Delete**.
 3. Tap **OK**.
- Modify user
 1. Tap  corresponding to the user.
 2. Enter old password, and set a new password.
 3. Tap  to save the settings.

4.6.4 System

4.6.4.1 Version Upgrade

Upgrade the device with USB flash drive of FAT232 format.

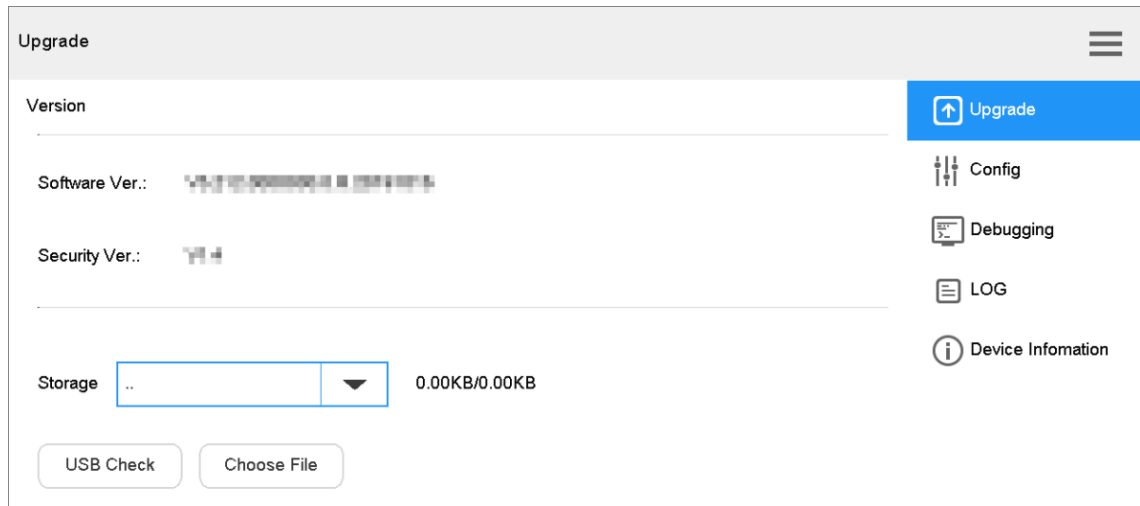


Do not use the USB flash drive upgrade function when CORE is enabled for debugging. You can turn off this debugging feature before upgrading.

Procedure

Step 1 On the **System** page, tap **Upgrade**.

Figure 4-46 Upgrade



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

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

The keyboard will restart automatically after upgrade.

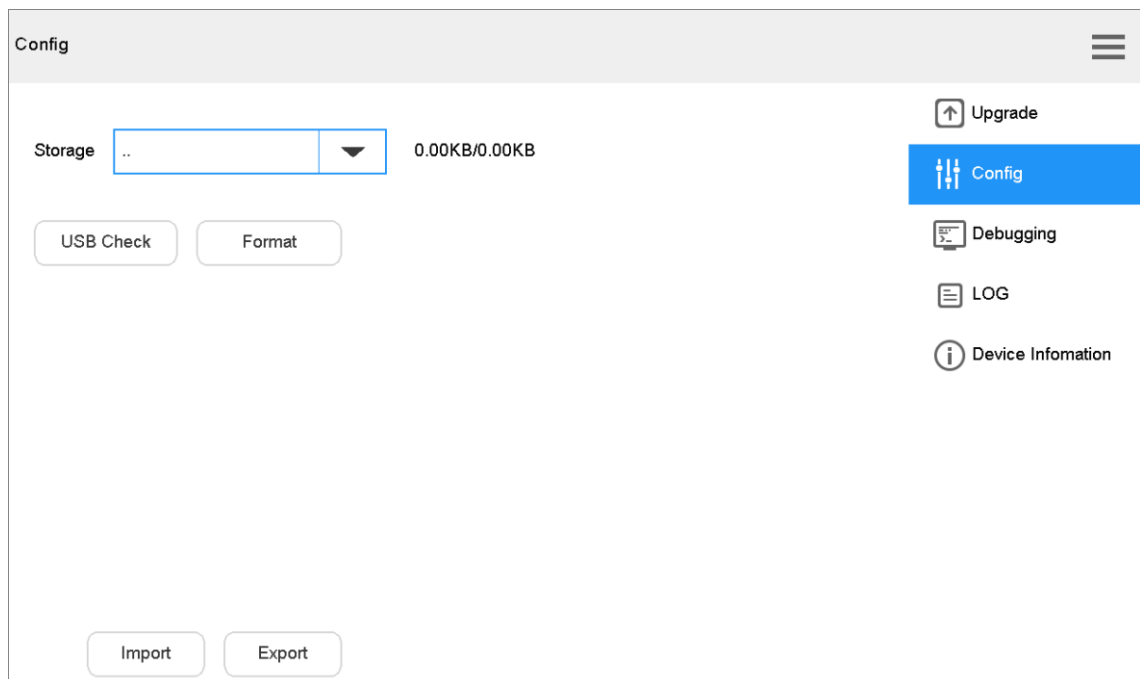
4.6.4.2 Configuration

You can import or export system configurations.

Procedure

Step 1 On the **System** page, tap **Config**.

Figure 4-47 Config



Step 2 Insert USB flash drive into the network keyboard, and then tap **USB Check**. The system detects all connected USB and capacity.

Step 3 Import or export configurations.

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



Tap **Format** to format the storage device, and all its files will be cleared. Please be advised.

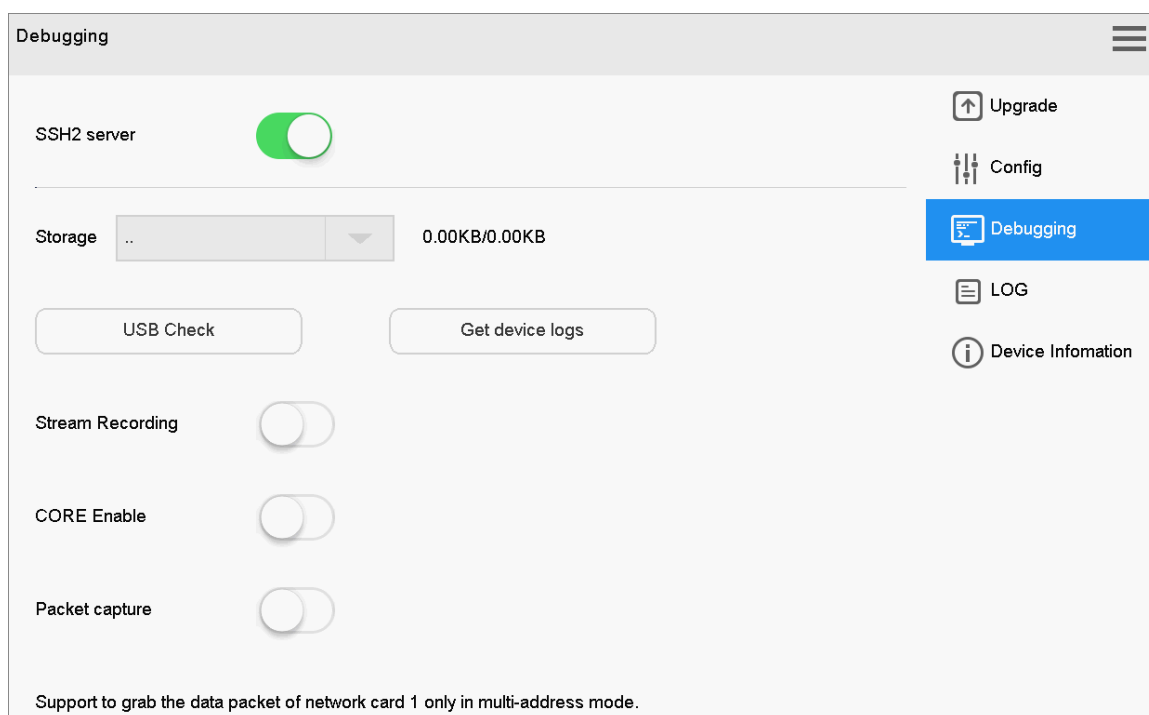
4.6.4.3 Debugging

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

Procedure

Step 1 On the **System** page, tap **Debugging**.

Figure 4-48 Debugging



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

Step 3 Insert USB flash drive into the network keyboard, and then tap **USB Check**. The system detects all connected USB and capacity.

Step 4 Tap **Start Capture**, the device starts capturing data packet.

After a while, tap **Stop Capture**. The captured data packet will be stored in USB flash drive.

Step 5 Tap **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, and then tap **Get device logs** to obtain the logs and provide them to developers.

Related Operations

If the network keyboard meets decoding anomalies (such as a distorted screen), stops responding, or restarts unexpectedly, you can obtain the CORE file and abnormal stream file on this page, and provide them to technical support for analysis.

1. Enable **SSH2 Server**.
2. Insert a FAT32 USB flash drive (recommended size: 8 GB or larger), and turn on **CORE Enable**. The device will prompt a restart. Tap **OK** to confirm the restart.
3. Enable **Stream Recording**, and the device will automatically record the stream.
4. Try to reproduce the issue and obtain information. Some operations can be performed flexibly with the assistance of technical support.
 - If some image failed to decode, but the device has not stop responding, you can disable **Stream Recording**, wait for the device to prompt that the video file packaging is complete, then shut down the device and remove the USB flash drive.
 - If the device has completely stopped responding, the recorded stream can only be copied to the USB drive through SSH remotely. In this case, do not restart the device or directly remove the USB flash drive. Wait 5 minutes for the CORE file to finish copying, then shut down the device and remove the USB flash drive.



In debugging mode, enabling CORE will affect the USB drive capture and recording function on the preview page. We recommend inserting a second USB flash drive, and selecting it for video capture or recording, or disabling the CORE function to capture images and record video.

5. After obtaining the relevant CORE files, you can turn off **CORE Enable** after starting the device, and then restart the device following the prompts, so that the device will exit the debugging mode.

4.6.4.4 Log

You can view the device log information on the page.

Procedure

- Step 1 On the **System** page, tap **LOG**.

Figure 4-49 Log

LOG

Start Time
2021 07 01 00 00 00

End Time
2021 07 02 00 00 00

Upgrade

Type
All

Search

Found 7 logs

USB Check

Config

Debugging

LOG

Device Information

No.	Time	Username	Event	
1	2021-07-01 08:57:11	default	Shut down	i
2	2021-07-01 08:57:11	default	Reboot	i
3	2021-07-01 08:57:21	admin	Login	i
4	2021-07-01 08:58:46	default	Shut down	i
5	2021-07-01 08:58:46	default	Reboot	i
6	2021-07-01 08:59:08	admin	Login	i
7	2021-07-01 09:05:07	admin	Login	i

PgUp
PgDn
1/1
1
GO

Backup
Clear

Step 2 Enter start time and end time.

Step 3 Select **Type**.

Step 4 Tap **Search**.

Figure 4-50 Search for logs

LOG

Start Time
2019 10 16 00 00 00

End Time
2019 10 17 00 00 00

Upgrade

Type
All

Search

Found 18 logs

USB Check

Config

Debugging

LOG

Device Information

No.	Time	Username	Event	
1	2019-10-16 11:21:34	default	Shut down	i
2	2019-10-16 11:21:34	default	Reboot	i
3	2019-10-16 11:26:18	default	Shut down	i
4	2019-10-16 11:26:18	default	Reboot	i
5	2019-10-16 11:26:46	admin	Login	i
6	2019-10-16 11:28:55	admin	Login	i
7	2019-10-16 11:28:55	admin	Login	i

PgUp
PgDn
1/3
1
GO

Backup
Clear

Related Operations

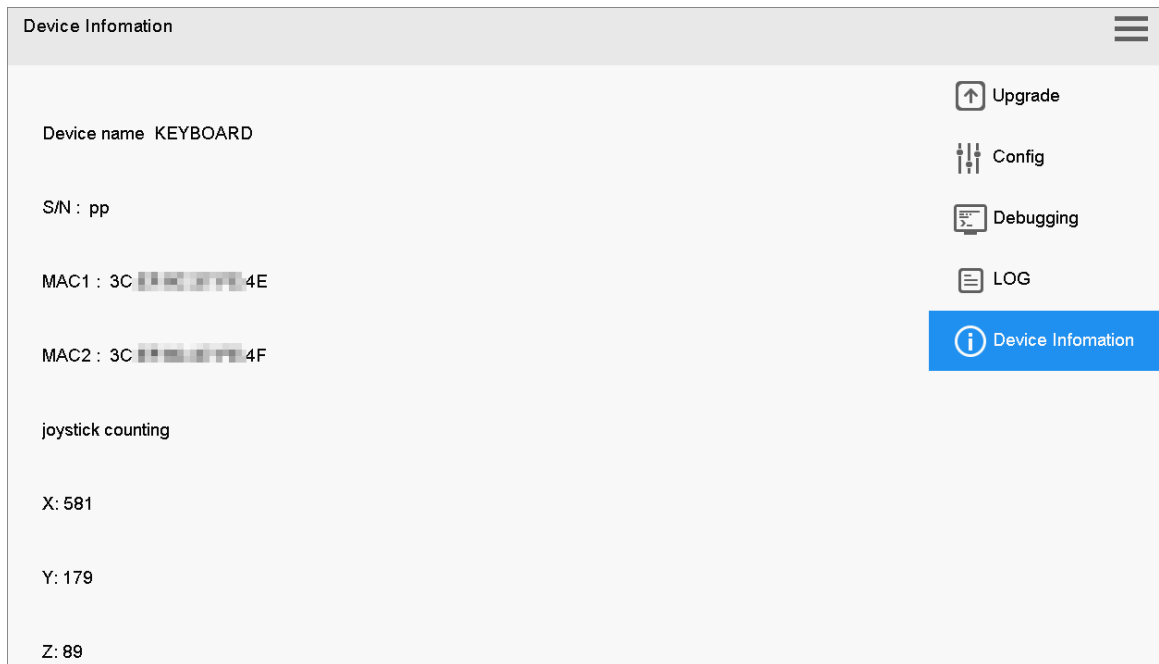
- Tap  to view log details.

- Tap **Clear** to clear all the logs. Please be advised.
- Tap **USB Check** to search for USB connected to the device.
- Tap **Backup** to back up logs to the USB.

4.6.4.5 Device Information

On the **System** page, tap **Device Information**, and then you can view serial number, MAC address, and joystick counting statistics of the network keyboard.

Figure 4-51 Device information



4.7 Extension

Control the devices that are physically connected to the network keyboard. Currently, it only supports controlling PTZ camera with RS-485 port.

Procedure

Step 1 On the main page, tap **Extension**.

Figure 4-52 Analog (1)

Analog

Connection Mode

RS485

▼

Device Type

Dome Camera

Address

1

Protocol

PELCOD

▼

Baud Rate

9600

▼

Data Bit

8

▼

Parity

Null

▼

Stop Bit

1

▼

OK

Step 2 Set the parameters.

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.  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 Tap **OK**.

Figure 4-53 Analog (2)

Analog

Connection Mode

RS485

Device Type

Dome Camera

Address

1

Protocol

AA-SD1

Baud Rate

9600

Data Bit

8

Parity

Null

Stop Bit

1

Variable

OK

+

Zoom

-

+

Focus

-

+

Iris

-

Call

Settings

SD Menu

AUX Fn

OK

Return

Exit

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 Allowlist**

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

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).