

Network Keyboard(NKB5200)

Quick Start Guide



V1.0.0

Foreword






This document describes the appearance and functions of the network keyboard in details. Read it carefully before using the product. After reading, keep the document properly for future reference.

Model

NKB5200

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
V1.0.0	First release.	April 2023

Privacy Protection Notice

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

Interface Declaration

This manual mainly introduces the relevant functions of the device. The interfaces used in its manufacture, the procedures for returning the device to the factory for inspection and for locating its faults are not described in this manual. Please contact technical support if you need information on these interfaces.

About the Manual

- The manual is for reference only. Slight differences might be found between the manual and the product.
- We are not liable for losses incurred due to operating the product in ways that are not in

compliance with the manual.

- The manual will be updated according to the latest laws and regulations of related jurisdictions. For detailed information, see the paper user's manual, use our CD-ROM, scan the QR code or visit our official website. The manual is for reference only. Slight differences might be found between the electronic version and the paper version.
- All designs and software are subject to change without prior written notice. Product updates might result in some differences appearing between the actual product and the manual. Please contact customer service for the latest program and supplementary documentation.
- There might be errors in the print or deviations in the description of the functions, operations and technical data. If there is any doubt or dispute, we reserve the right of final explanation.
- Upgrade the reader software or try other mainstream reader software if the manual (in PDF format) cannot be opened.
- All trademarks, registered trademarks and company names in the manual are properties of their respective owners.
- Please visit our website, contact the supplier or customer service if any problems occur while using the device.
- If there is any uncertainty or controversy, we reserve the right of final explanation.

Important Safeguards and Warnings

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

Transportation Requirements



Transport the device under allowed humidity and temperature conditions.

Storage Requirements



Store the device under allowed humidity and temperature conditions.

Installation Requirements



- 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.



- 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.
- The power supply must conform to the requirements of ES1 in IEC 62368-1 standard and be no higher than PS2. Please note that the power supply requirements are subject to the device label.
- The device is a class I electrical appliance. Make sure that the power supply of the device is connected to a power socket with protective earthing.
- 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



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



- 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 2.1 A and the rated power is 25 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



- 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.
- Replace unwanted batteries with new batteries of the same type and model. Replace unwanted batteries with new batteries of the same type and model to avoid the risk of fire and explosion. Dispose of the old batteries as instructed.

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1 Product Introduction

Network Keyboard 5200 is a touchscreen keyboard that uses the Android system. It displays live videos, decodes videos with codecs, such as H.265 and H.264, and controls devices. The keyboard is compatible with many devices, such as cameras and storage devices, and works with the Video Matrix platform and DSS Pro. It is suitable for use by enterprises and the government, and is ideal for industries such as the education, health, transportation, intelligent building and finance industry.

1.1 Product Appearance

1.1.1 Front Panel

Figure 1-1 Front panel

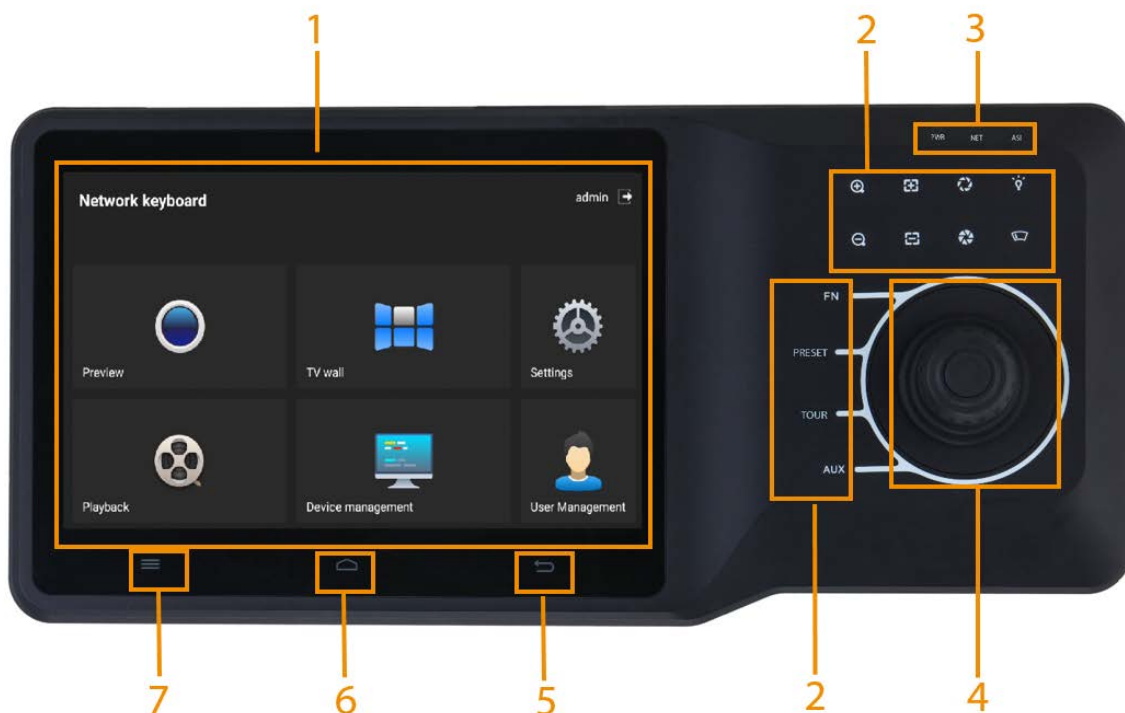


Table 1-1 Front panel description

No.	Description
1	LCD screen. Displays the keyboard menu,
2	PTZ control. Supports functions such as zoom, focus, aperture, FN, brush, line scan, preset, patrol, tour and more.
3	Indicator. Displays the status of power supply, network connection, and alarm.
4	3D joystick. Used for selecting and operating menus.
5	Return.
6	Function reserved.

No.	Description
7	Reset.

1.1.2 Rear Panel

Figure 1-2 Real panel



Table 1-2 Rear panel description

No.	Description	No.	Description	No.	Description
1	OTG port connects to ADB	6	Microphone input port	11	Network port. Supports PoE power supply
2	COM port used for debugging	7	Microphone output port	12	Power port
3	485 port	8	SD slot	13	Power button. Powers on and off the device
4	2 USB2.0 ports	9	HDMI signal output port	14	Ground
5	USB3.0 port	10	VGA video output port that outputs analog video signals	—	

1.1.3 Side Panel

Side panel has 3 volume buttons: volume up, volume down and mute.

1.2 Key Module

Key module is an external device that can connect to network keyboard to do operations such as video on wall, controlling PTZ cameras.






Figure 1-3 Key module



- When the key module connects with the network keyboard, you need to turn on the main switch on the side panel of the key module.
- After connecting the key module to network keyboard with USB or Bluetooth, the green light turns on for 10 seconds and then goes off.
- When connected with Bluetooth, the default username of Bluetooth is **KEYBOARD**.

Table 1-3 Button description

Button	Description	Button	Description
F1	Number 1—16+F1. Fast enables No.1to16 plans. <ul style="list-style-type: none"> • Supports video wall. • Goes to the Plan management page to see the plan number. 	Window	Press number and the window at the same time to focus on the current window of the screen.
F2	Function reserved.	Split	Press the number and the Split key to split the current screen.
F3			Delete 1 digit from number buffer zone. The icon is similar to squares.
F4			Camera group/Camera. Press the number key and the Camera Group key or Camera key to drag the signal to the screen and start tour automatically. 0+Camera means cutting off current video signals.

Button	Description	Button	Description
Mode		Preset	Press number and Preset key at the same time to enable the preset.  when controlling PTZ camera, the preset function cannot be used.
0~9	Enter number 0 to 9.	Tour	Press number and Patrol to enable the patrol.
Screen	Press number and the Screen key at the same time to select a screen.	PTZ	When powered by USB, press and hold PTZ control key to control backlight.
Scan	Press number and Scan key at the same time to enable the scan.	Tour	Press the number and Tour key at the same time to enable this tour.
Rotate	Press it to start rotation, and then press it again to stop rotation.	ESC/OK	Function reserved.
	Previous channel.		Next channel.
 	Playback. Press number and the Playback key to play back the video of this channel. Only supports devices with storage function.	—	

2 Start and Shutdown

2.1 Start

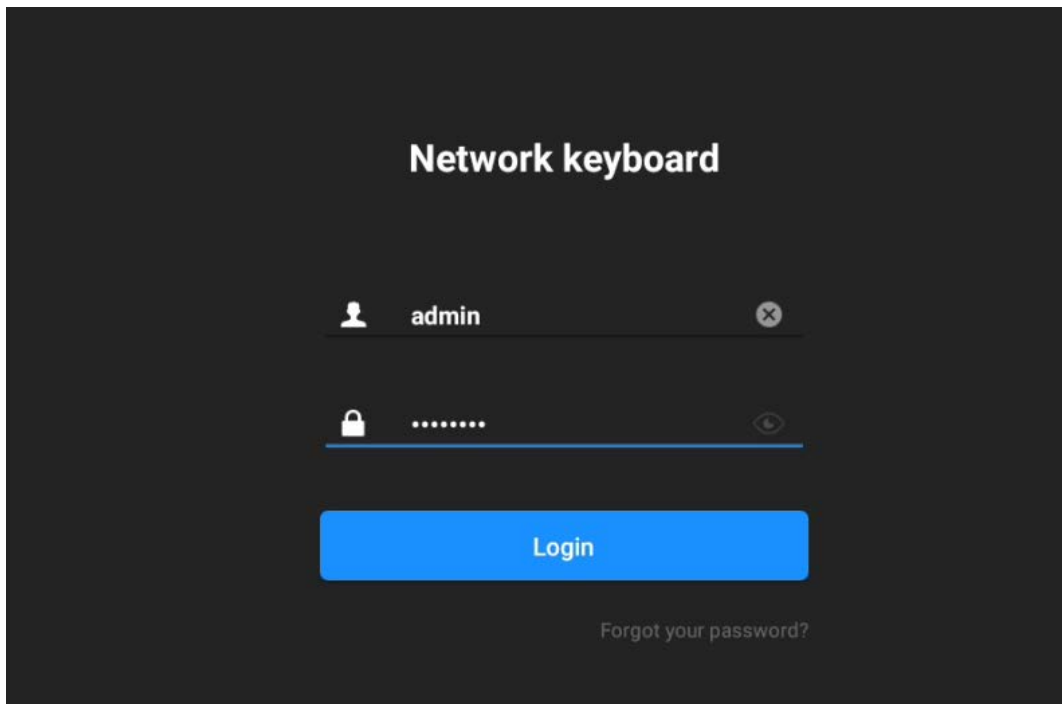
Procedure

- Step 1 Connect the network keyboard to the power supply, and then press the power button on the rear panel. The device starts successfully and displays the login page.
- Step 2 Enter the username and password, and then click **Login**.



The page of the keyboard can be operated with touchscreen or an external mouse.

Figure 2-1 Figure 2-1 Login



2.2 Powering Off

You can power off the keyboard by one of the 2 following ways:

- Press the power button on the rear panel.
- Unplug the power cord.

2.3 Screen Lock

Select **Setting** > **General** > **Screen Lock**, and then configure the screen lock time. After that click **OK**.

3 Quick Settings


3.1 Initializing the Device

Background Information

You need to initialize the device for first-time use.

Procedure


Step 1 Connect the keyboard to the power, and then press the power button on the rear panel to start the device.

Step 2 Press and hold  for 15 times to initialize the device.



Initialization will clear all configuration. Operate with caution.



You can press and hold  on the main menu for 5 seconds to initialize the device.

Step 3 Read and select **Consent Agreement License**, and then click **Next**.

Step 4 Enter the new password, and then confirm your new password.



The password must contain at least 8 characters combining numbers and letters.

Step 5 Set security questions and answers.

Step 6 Click **OK**.

3.2 Login

Procedure

Step 1 After powering on the device, the system goes to the login page.

Step 2 Enter the username and password, and then click **Login**.

Figure 3-1 Figure 3-1 Login

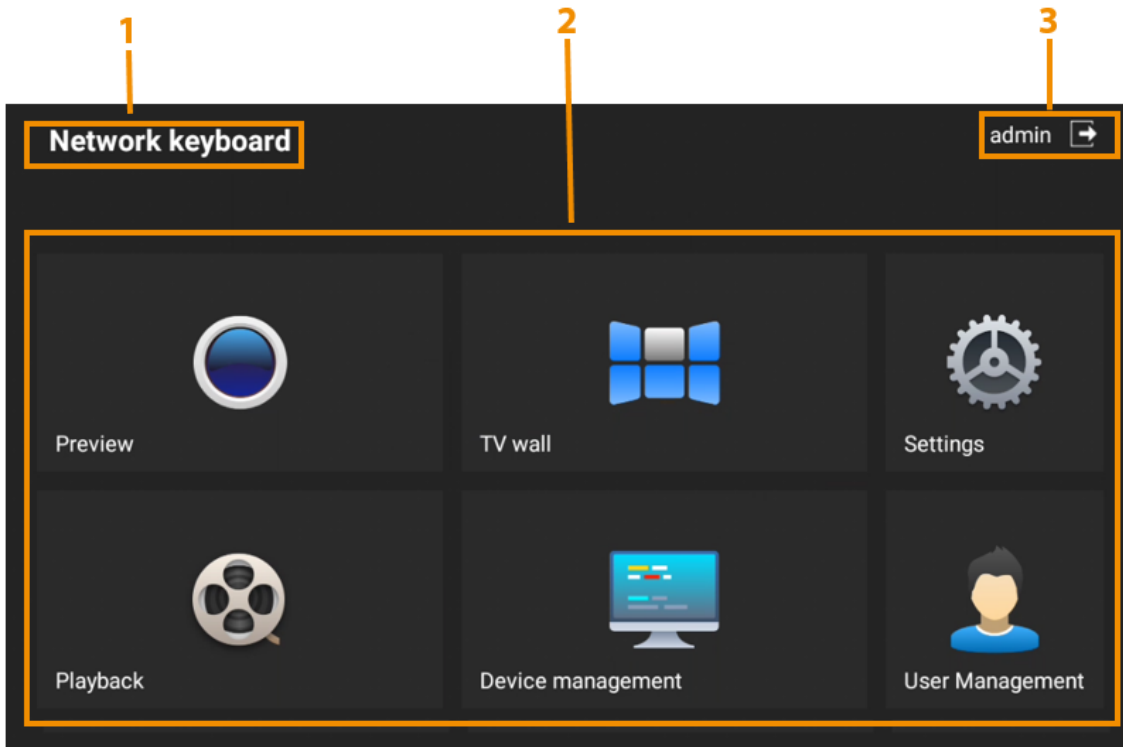



Table 3-1 Table 3-1 Function module description

No.	Description
1	The name that identifies the device.
2	<p>Functions.</p> <ul style="list-style-type: none"> ● Preview: Preview local devices and their operations. ● Playback: Play back local videos. ● TV wall: Control locally added devices such as decoder, TV wall, matrix, screen, and more. ● Device management: Add directly connected device and platform. ● Setting: Configure the network, Bluetooth, storage, serial port and more. ● User management: Add users and configure their permissions.
3	Username. Click  to log out.

3.3 Network Settings

Configure the IP address and DNS server of the network keyboard to make sure that the network keyboard and remote devices are on the same network.

Prerequisites

Before configuring network parameters, make sure that the network keyboard is connected to the network properly.

Procedure

Step 1 Connect to wired network.

- 1) Log in to the network keyboard, and then click **Settings**.

- 2) Select **Settings > Wired Network**.
- 3) Configure the parameters, and then click **OK**.

Figure 3-2 Wired network

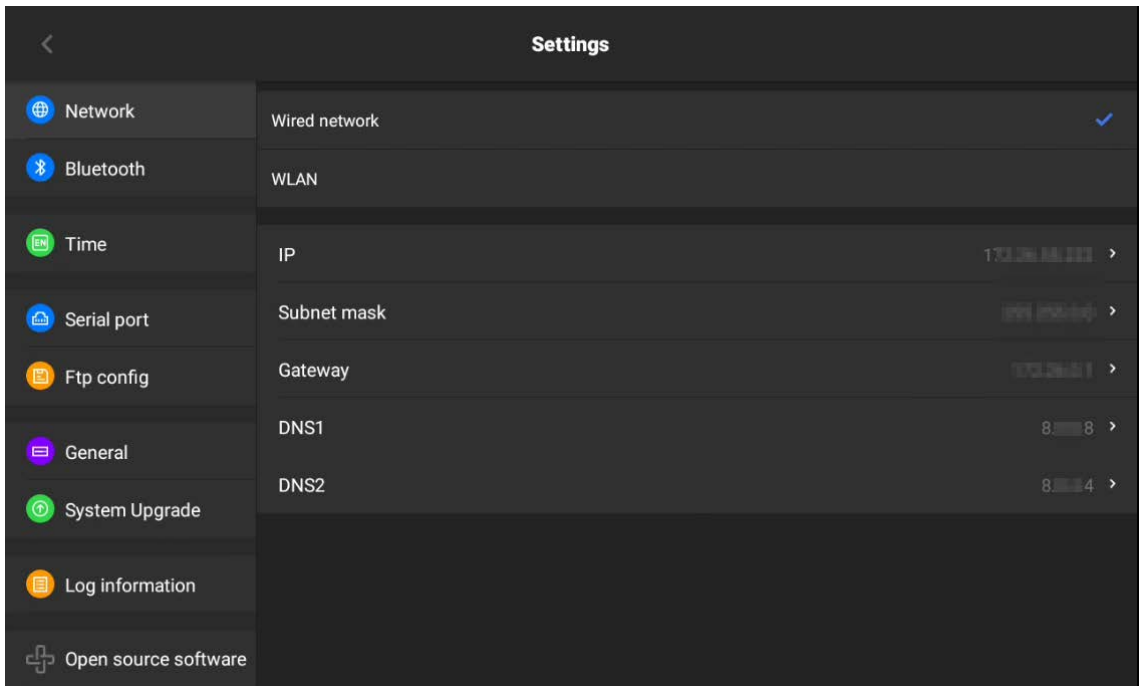


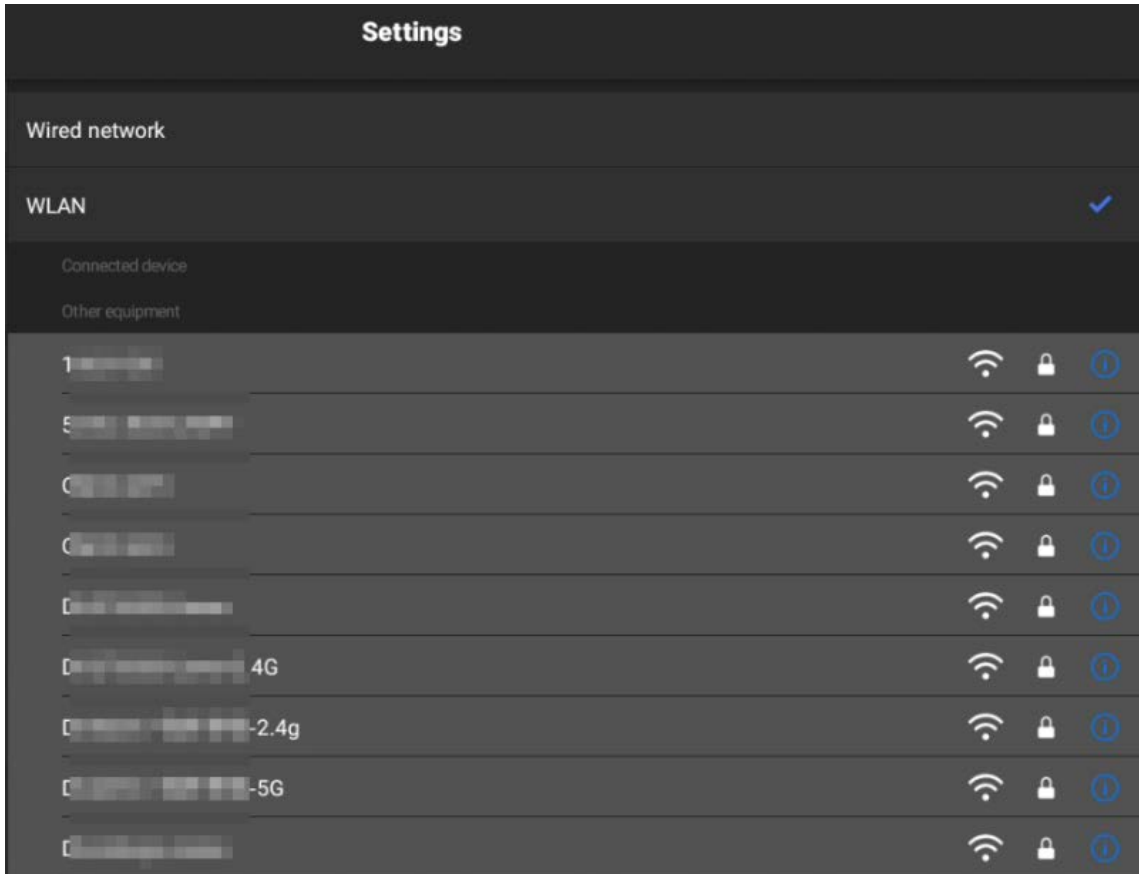
Table 3-2 Parameter description

Parameter	Description
IP	Configure the IP address of the network keyboard. The IP address is 192.168.1.108 by default.
Subnet Mask	The subnet mask of the network.
Gateway	The gateway must be on the same network with the IP address.
DNS1	IP address of DNS server.
DNS2	IP address of alternate DNS server.


Step 2 (Optional) Connect to WLAN.

- 1) Log in to the network keyboard, and then click **Settings**.
- 2) Select **Network > WLAN**.
- 3) Select the network according to your needs, and then enter password and click **OK**.

Figure 3-3 Configure WLAN



Related Operations

Click  on the right side to see the details on the connected Wi-Fi.

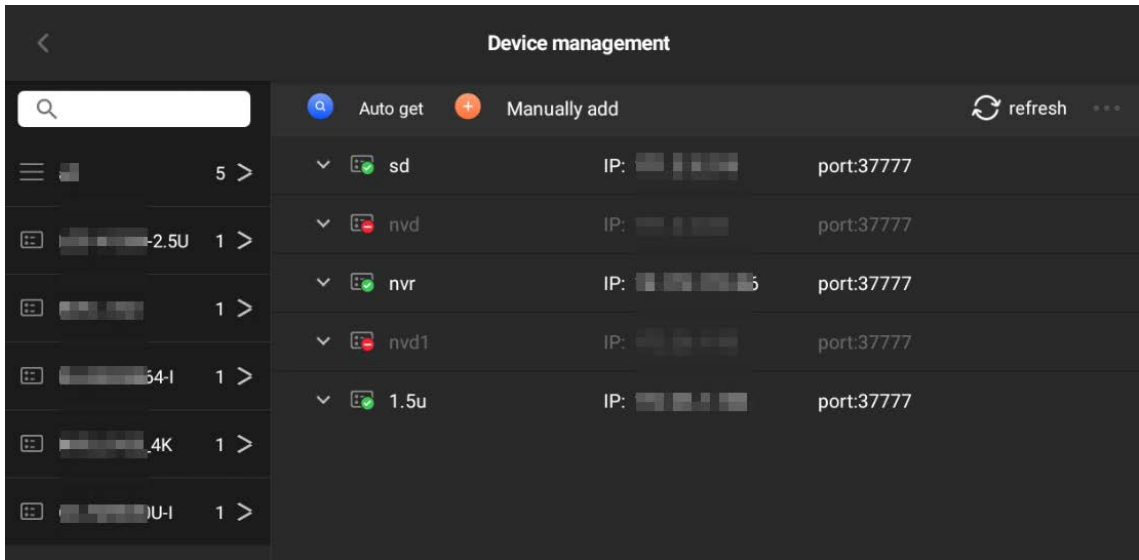
3.4 Adding Devices

Procedure

Step 1 Add the device manually.

- 1) Log in to the network keyboard, and then click **Device management**.

Figure 3-4 Add devices manually



2) Click **Manually add**, and then configure the parameters.

Figure 3-5 Directly connected device

The screenshot shows the 'Add device' form. The title is 'Add device'. The form has the following fields:

- device type: Directly connected device (dropdown menu)
- device name: decoder
- IP address: [redacted]
- port: 37777
- User name: admin
- password: [redacted]

At the bottom of the form is a large blue button labeled 'add'.

Table 3-3 Parameter description

Parameter	Description
Device Type	You can select Directly connected device or Platform from the drop-down list.
Name	The name that identifies the device or the platform.
IP Address	IP address of the device or the platform.
Port	Port number of the device or the platform.

3) Click **add**.

Step 2 (Optional) Search for device automatically.



1) Log in to the network keyboard, and then click **Device management**.

2) Click Auto get.

3) Enter IP address, and then click **Search**.

4) Select device, and then click **add**.

Related Operations

- Press and hold the device, and then click **Delete** to delete the added device.
- Insert USB flash drive, and then click  to import or export device files.
- Click  to refresh the page.

3.5 Video on Wall

Procedure

Step 1 Log in to the keyboard.

Step 2 Click **TV wall**.

Step 3 Press and hold the screen to bind TV wall device.

Figure 3-6 Bind TV wall

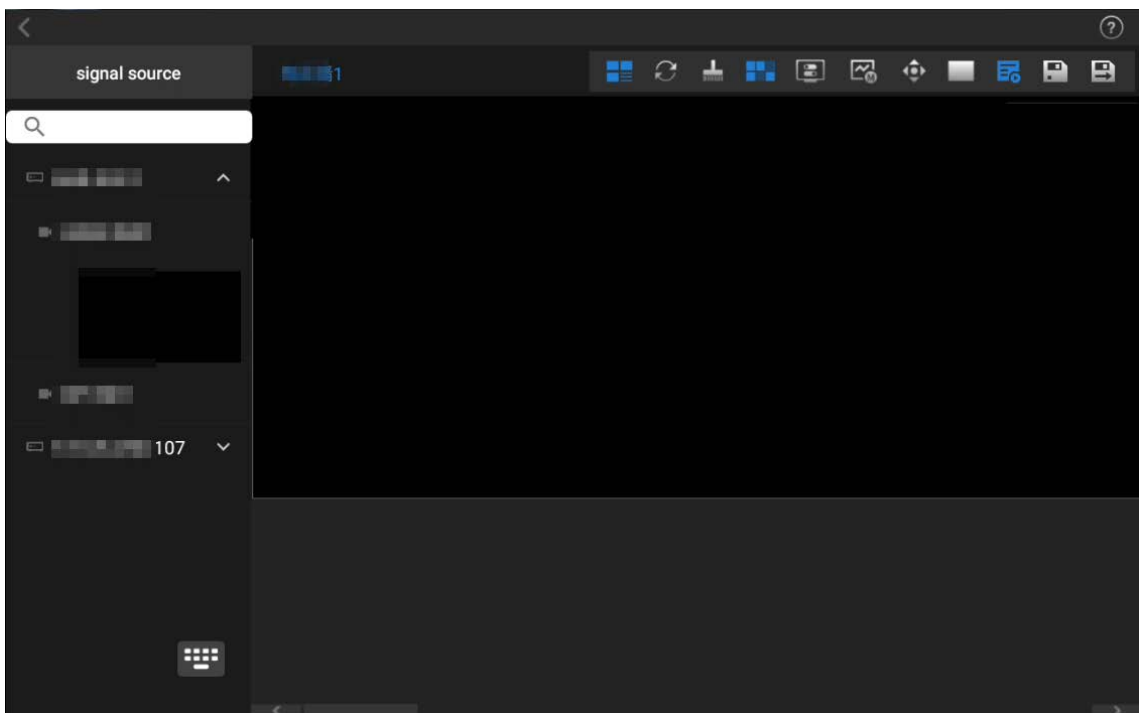


















Table 3-4 Image description

Icon	Description	Icon	Description	Icon	Description
	Scene preset		Main stream/sub stream		New plan
	Refresh		PTZ control		TV wall instructions
	Screen cleaning		Screen split		Position
	Play local video		Plan menu		Virtual keyboard
	Screen control		Modify plan		Favorites

Step 4 Split screen according to your needs.


- 1) Click , and then select **Customize Split**.
- 2) Select rows and columns, and then select **OK**.



Up to 9 windows can be displayed.

Step 5 Drag signal source to the screen from signal source list on the left, and then the screen displays video.







- Click  to change stream.
- TV wall displays video of sub stream by default.
- After disabling the local display function, the screen displays channel information.

Step 6 (Optional) Select **Favorites** and drag it to the screen to start signal tour.



This function is available on NVD (Network Video Decoder).

Related Operations


- Click  to clear screen.
- Click  to enable or disable local display.
- Click  and select the window, and then enter number (for example, 1) +  to display the video of channel 1 on the wall.


3.6 PTZ Operations

PTZ control is available on PTZ cameras.

Procedure

Step 1 Log in to the network keyboard, click **Preview** or **TV wall**.

Step 2 Click , select signal source, and then drag it to the window.

Step 3 Select a PTZ camera window, and then click  to enable the PTZ.










Use the joystick to control 8 directions of PTZ.

Figure 3-7 PTZ control



Table 3-5 PTZ control icon description



Icon	Description
	Controls device toward 8 directions, including up, down, left, right, upper left, upper right, lower left and lower right.
	Zoom in or zoom out of the images.
	Focus. Once there is any movement or change of an object on the video image and the image turns blurry, the camera will focus again automatically.
	Iris. Adjust the iris of images.
	Preset. Configure preset number, and then click OK to position the device to the corresponding point.
	Tour. Configure tour number. Click OK and the device automatically rotates back and forth in the order of the defined preset.
	<p>It consists of fixed step length and variable step length.</p> <ul style="list-style-type: none"> • Select fixed step length (ranges from 1 to 8), the device rotates, and the step length keeps at the fixed value. • Select variable step length, the value changes with the tilt angle of 3D joystick. For example, the larger tilt angle represents quicker turning speed. <p> Variable step length is available when the keyboard comes with the 3D joystick.</p>

Icon	Description
	<p>Auxiliary functions include scan, pattern, tour and brush.</p> <ul style="list-style-type: none"> : Configure the scan number, and then click OK, the device will scan back and forth at a certain speed according to the defined boundary. : Configure the rotate number, and then click OK, the device starts continuous 360° rotation horizontally at a certain speed. : Configure pattern number, and then click OK, the device automatically rotates back and forth according to the defined operating record. : Click OK to enable brush. Click  again, and then click OK to stop brush.
	Exit.

3.6.1 Configuring Presets

After configuring presets, 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 Set step length and turn the camera to the proper position with joystick or click the direction buttons.
- Step 2 Click , and then click  to add the current position to be a preset.

3.6.2 Configuring Tour

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

Procedure


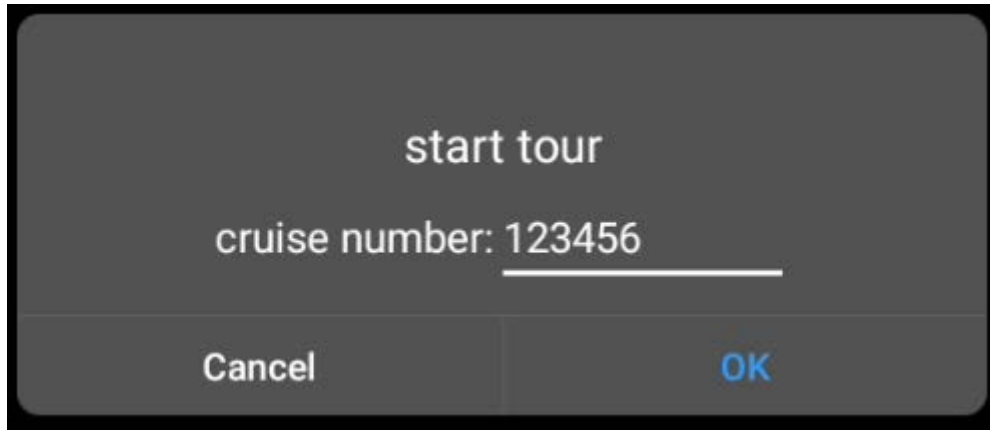
- Step 1 Click .
- Step 2 Configure tour number, and then click **OK**, the device starts tour.


Figure 3-8 Tour



3.6.3 Configuring Step Length

You can configure the rotation speed of the PTZ camera.

Procedure

- Step 1 Click .
- Step 2 Select Fixed step length or Variable step length according to your needs.

3.6.4 Configuring Scan

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

Procedure


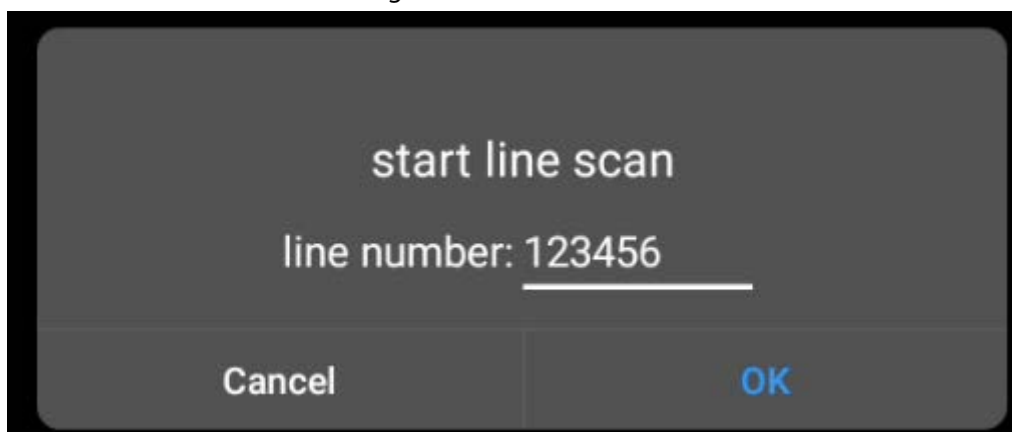
- Step 1 Click .
- Step 2 Configure **Scan number**, and then click **OK** to start scanning.

Figure 3-9 Scan



- Step 3 Click  again, and then click **OK** in the pop-up window to stop scanning.

3.6.5 Configuring Automatic Rotation

Configure PTZ rotation and enable the camera when calling functions such as tour.

Procedure


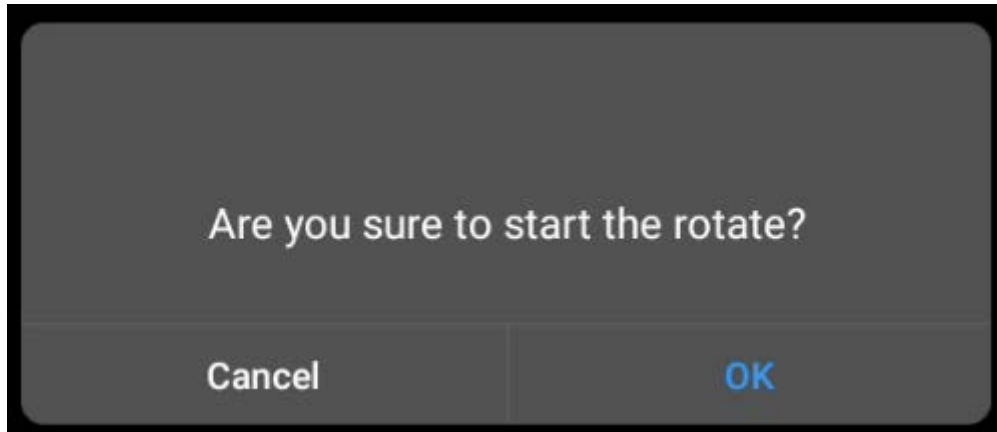
- Step 1 Click .
- Step 2 Click **OK** in the pop-up window to start auto rotation.

Figure 3-10 Rotation



- Step 3 Click  again, and then click **OK** in the pop-up window to stop rotation.

3.6.6 Configuring Pattern

Pattern means a record of a series of operations that makes to the camera. The operations include horizontal and vertical movements, zoom and preset calling. Record and save the operations, and then you can call the pattern path directly.

Procedure



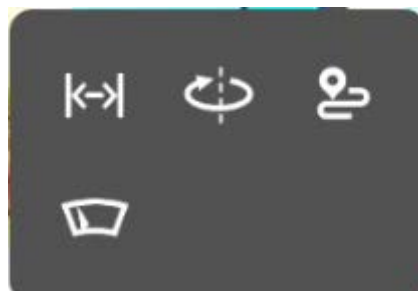

- Step 1 Click , and then select .

Figure 3-11 Auxiliary functions



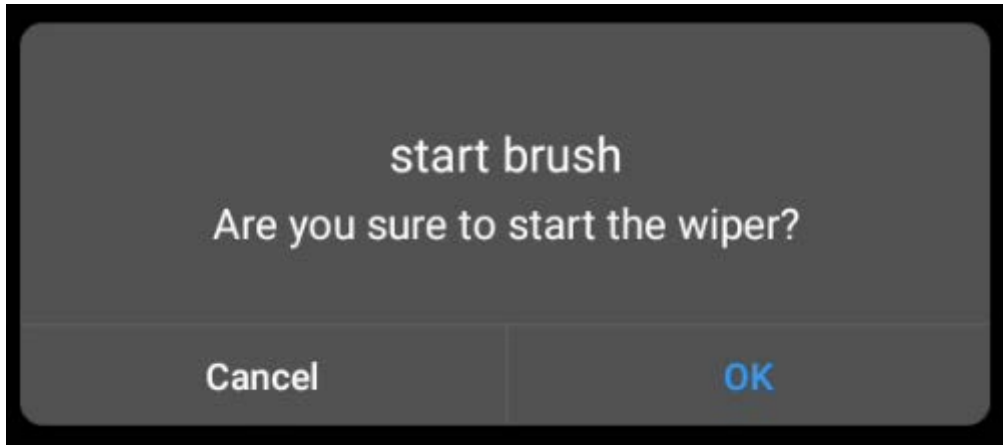
- Step 2 Configure the **Pattern number**, and then click **OK** to start pattern.
- Step 3 (Optional) Click  again and enter **Pattern number**, and then click **OK** to stop pattern.

3.6.7 Configuring Brush

Procedure

- Step 1 Click .
- Step 2 Click **OK** in the pop-up window to start brushing.

Figure 3-12 Brush



Step 3 Click  again, and then click **OK** in the pop-up window to stop brushing.

Appendix 1 Cybersecurity Recommendations

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.