

Video Matrix Platform

Quick Start Guide



V1.0.0

Foreword

General

This manual introduces the functions and operations of the video matrix platform (hereinafter referred to as the "Platform"). Read carefully before using the platform, and keep the manual safe for future reference.

Models

- M80-S12
- M80-S24

Symbols

The following symbols might appear in the manual.

Symbol	Description
 DANGER	Indicates a high potential hazard which, if not avoided, will result in death or serious injury.
 WARNING	Indicates a medium or low potential hazard which, if not avoided, could result in slight or moderate injury.
 CAUTION	Indicates a potential risk which, if not avoided, could result in property damage, data loss, 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.	July 2026

Privacy Protection Notice

As the device user, you might collect the personal data of individuals such as their names, email addresses, face images, audio and fingerprints. You shall be fully responsible for any activities associated with processing personal data. You commit to comply with your local privacy protection laws and regulations to protect the legitimate rights and interests of individuals, and shall implement measures which are required by applicable law, including but not limited to, providing clear and comprehensive information to individuals before processing their personal data, obtaining consent from individuals when necessary, informing individuals of the existence of the surveillance area, and providing required contact information.

Intelligent Product Usage Statement

Intelligent products utilize AI technology to effectively enhance security. The intelligent recognition and alarm functions of the product might be affected by factors such as environmental lighting, camera angles, object obstructions, and network delays, potentially leading to false alarms, missed alerts, or response delays. This intelligent product is solely intended to be used as a security assistance tool. The results from performing identification are for reference only and do not constitute absolute guarantee of personal or property safety. Users need to combine these products with necessary physical security measures to enhance overall protection. Except as otherwise provided by laws or in the event of intentional or gross negligence on the part of the company, the company shall not be liable for any losses caused by the aforementioned factors not attributable to the company.

About the Manual

- This manual is provided for general reference only. Discrepancies might exist between the product and this manual, including but not limited to printed, electronic, or any other editions.
- The manual will be updated according to the latest laws and regulations of related jurisdictions. Specifications and documentation are subject to change without prior notice. For the latest versions, as well as legal notices, consult the printed manual, the product webpage, our official website, or scan the QR code to access the electronic edition.
- The manual will be updated as necessary to reflect product changes and applicable legal requirements. These updates will not diminish your statutory rights, nor will they remove or weaken the safety information or essential instructions provided at the time of purchase.
- Although we make every effort to ensure accuracy, errors or deviations in descriptions of functions, operations, or technical data might occur. If there is any uncertainty or controversy, we reserve the right of final explanation.
- All trademarks, registered trademarks and company names referenced in this manual are the property of their respective owners.

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.

Transportation Requirements



- Transport the device under allowed humidity and temperature conditions.
- Do not transport the device with its front panel facing down.

Storage Requirements



Store the device under allowed humidity and temperature conditions.

Installation Requirements



DANGER

-  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.



WARNING

-  Rotating Fan Blades Hazard

Avoid touching the fan blades, especially when they are moving.

-  Before installation, disconnect all the power cords.
- Use a cable tie to bundle the cables after they are connected to avoid risk of short circuits, overheating and electrocution caused by tangled cables.



- 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.

- A 5 A overcurrent protection device is required to be installed in the external power circuit of the product as a circuit breaker. Make sure the protection device is close to the product, offering safety of cutting power during maintenance.
- Install the device near a power socket for emergency disconnect.
- An easily accessible safety disconnect switch must be incorporated into the external power supply circuit during installation.
- Make sure the product is installed by trained professionals and it must be installed in locations that only professionals can access.
- To ensure heat dissipation, the gap between the device and the surrounding area should not be less than 5 cm on the sides and 1 cm on top of the device.
- Do not block the ventilator of the device with objects, such as newspaper, table cloth or curtains.
- Do not put open flames, such as a lit candle, on the device.
- Prevent liquid from dripping or splashing on the device. Do not put any objects filled with liquid, such as a vase, on top of the device.
- Do not place or install the device in a place exposed to sunlight or near heat sources.
- Keep the device away from dampness, dust, or soot.
- Make sure the device is installed stably and levelly, allowing normal status for internal tremor resistant modules.
- 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.
- An independent protective grounding terminal is designed at the lower-right corner of the product. Make sure the terminal is reliably grounded during installation.
- Connect the cables in sequence when linking the circuit, and connect the power cable last to avoid damaging the device.
- Make sure the negative binding post of the battery is disassembled while the device is being wired.
- 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.

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.

 WARNING

- Operating the device in a domestic environment may cause radio interference.
- Place the device in a location that children cannot easily access.
- When the redundant power supply is optional, use the power supply of the same manufacturer and model as the original one of the product.
-  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.



- Use the device under the allowed humidity and temperature conditions.
- Use the device within the rated range of power input and output.
- Operating temperature: -10 °C to +50 °C (14 °F to 122 °F).
- Do not disassemble the device.
- Do not plug or unplug RS-232, RS-485 or the audio/video signal cable with the power on to avoid damaging the ports.

Maintenance Requirements

 DANGER

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.

 WARNING

- A blown fuse does not ensure disconnection of subsequent circuit. Please be cautious during maintenance.
- Power off the device before maintenance.

- The device can only be used with batteries possessing internal protection. To prevent explosion, dispose of the old batteries as instructed.
- Make sure to use the same model when replacing the battery to avoid fire or explosion.



- The device casing provides protection for internal components. Use a screwdriver to loosen the screws before detaching the casing. Make sure the casing is put back and fixed to the original spot before power on and use the device again.
- Damp dust on the circuit board might cause the device to short circuit, resulting in device damage. Make sure to regularly clear dust from the circuit board, connectors and the case with a brush.

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1 Overview

1.1 Introduction

Based on Advanced Telecommunications Computing Architecture (ATCA), the video matrix platform is our company's self-developed next-generation telecommunications-grade video processing platform that features a modular design with a plug-in card structure, allowing for flexible configuration of various input and output cards according to user requirements.

It supports various functions such as multi-signal source acquisition, audio and video encoding, network signal access, decoding to video wall, matrix switching, video splicing, window roaming, video wall playback, signal pre-monitoring, and plan management. It can be widely applied in various scenarios such as command and dispatch centers, monitoring centers, conference rooms, and exhibitions.

1.2 Main Case

Video matrix platform with 19-inch 5U (M80-S12)/8U (M80-S24) structure host case includes function card slot, power port and intelligent temperature-controlled fan. The front panel indicators show the device operating status.

- Air inlet of the case.
- Intelligent temperature-controlled fan allows hot swap.
- Function card slots: A total of 12 (M80-S12)/ 24 (M80-S24), sequentially numbered for the installation of function cards.
- Main control card slot: 1 dedicated slot labeled **M1**.
- The main control and function card share a slot, with a total of 1, marked as **10/M2** (M80-S12)/ **12/M2** (M80-S24).
- One dedicated slot for the switching card, marked as **N**.
- Dual-power module supports redundant hot standby.



Two power cables must be unplugged simultaneously.

Figure 1-1 Front panel (M80-S12)



Figure 1-2 Rear panel (M80-S12)



Figure 1-3 Front panel (M80-S24)

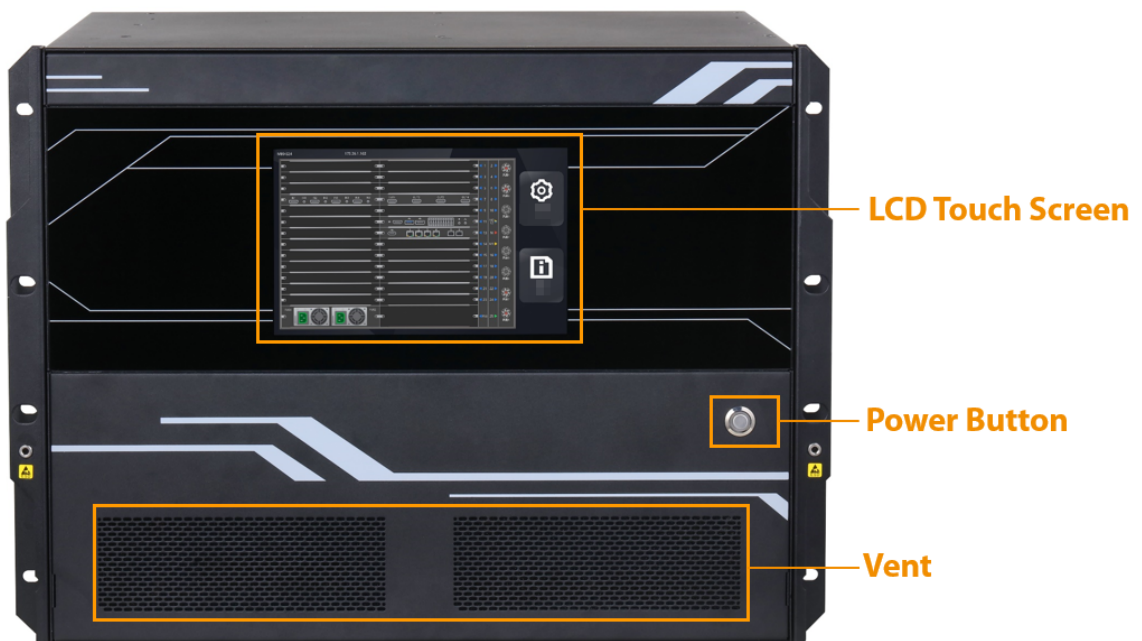
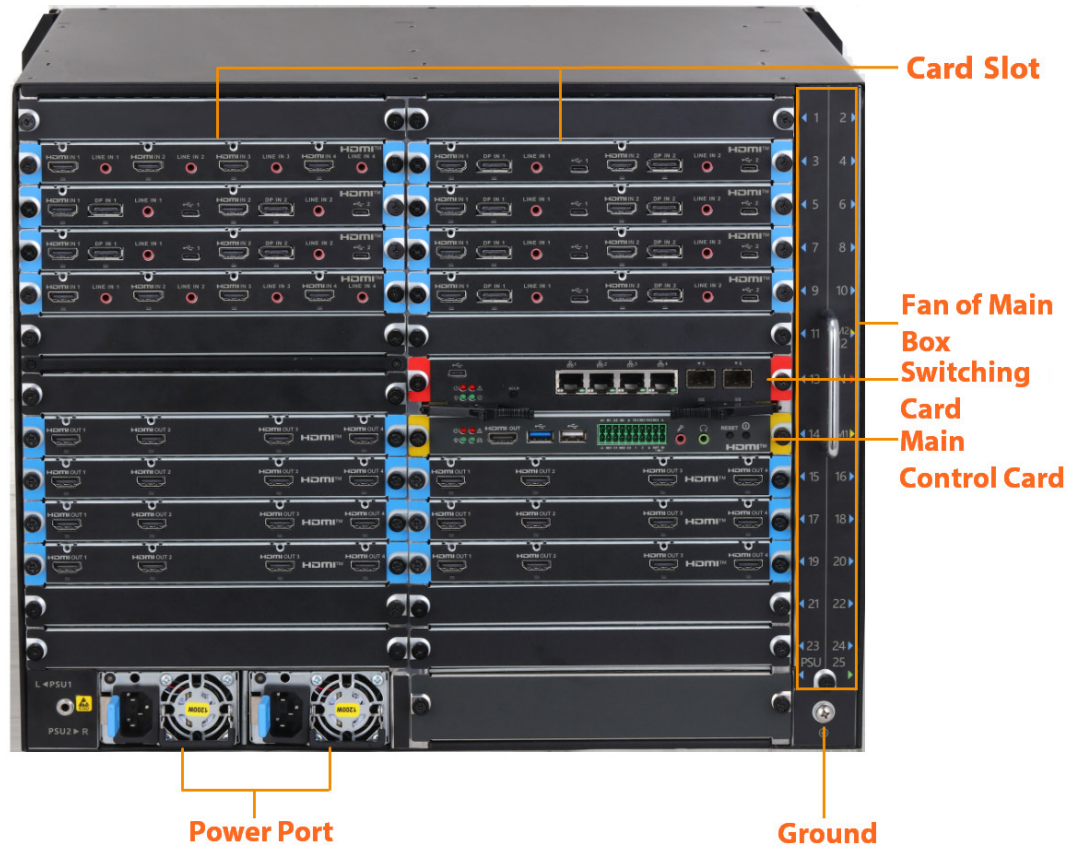


Figure 1-4 Rear panel (M80-S24)



2 Installation

2.1 Inspection Steps

When you receive the device, check it according to the following steps.

Procedure

- Step 1 Inspect whether there are obvious damages on its appearance.
The material of product package should be able to protect the product from most impacts during transportation.
- Step 2 Open the external package, and check whether any part of accessories is missing. You may refer to accompanied accessory bag. After you have checked that all parts are included, you may remove protective film on the device.
- Step 3 Check whether main control panel, control panel and function card are inserted tightly.



One label at the side of the case displays serial number and other information of the device, which shall be provided when contacting after-sales support. This label needs to be protected well, and must not be torn or discarded; otherwise, we might not be able to provide effective service.

2.2 Device Installation

2.2.1 Installation Environment

As a system-level monitoring device, video matrix platform is usually used in central machine room of monitoring system. Its installation site shall meet national and local machine room construction standards.

Video matrix platform is a standard rack-mounted device fixed in a cabinet. Pay attention to the following points during installation and use:

- Ensure that the cabinet is sufficiently firm to support Video Matrix Platform and accessories. During installation, avoid dangers resulting from uneven mechanical load.
- Ensure that A/V cable owns sufficient installation space. Bending radius of cables must not be less than 5 times their outer diameter.
- Ensure well ventilation. It is suggested that its installation position shall be more than 50 cm above the ground.

Power Supply Requirements

The device has a rated current of 10 A or 5 A and a rated power of ≤ 1200 W. Its rated voltage ranges from 100 VAC to 240 VAC.

Anti-interference Requirements

- On-site power supply system shall take effective anti-interference measures.

- Working ground shall not be shared with ground wire or lightning protection device of electrical device, and shall keep away from them as far as possible.
- Keep away from high-power radio transmitting stations, radars and high-frequency heavy-current devices.
- When necessary, adopt electromagnetic shielding methods to resist interference.

Environmental Requirements

- Ensure that temperature in the cabinet is 0 °C–50 °C.
- Ensure that humidity in the machine room is 10% RH–90% RH.
- Ensure air ventilation required by safe operation of the device.

2.2.2 Installation Steps

Prerequisites

The main control card has been installed when the device is delivered.

Procedure

Step 1 Insert function cards or blank panel according to actual needs.



In a fully loaded condition, the blank panel does not need to be inserted; however, in a non-fully loaded condition, the blank panel must be inserted, otherwise it might affect usage.

Step 2 The ground terminal of the video matrix platform must be securely grounded.



To guarantee personal safety and device safety, video matrix platform and those devices (such as video walls and computers) that are connected to the platform with cables must be grounded.

Step 3 Connect network cable, HDMI cable and other cables.

Step 4 Plug in the power cable to boot the device.

2.3 Booting

Plug in the power cable, and then press the power switch on the front panel. The power indicator light turns on and the device boots up.

Pay attention to the following points during booting:

- Make sure that the supplied voltage is within 100–240 VAC 47–63 Hz. Check power cable connection before you turn on the device.
- We recommend you use power supply with stable voltage and little interference (refer to international standards), which helps the device to work stably and prolong service life. This will also benefit external devices such as camera. UPS is the best choice if possible.

3 Basic Operations

3.1 Initialization and Login (LCD Screen Operations)

Procedure

- Step 1 Connect the power cable and wait for the device to start up.
After the device starts up, it enters the initialization page.
- Step 2 Configure your own password, confirm the password, and then tap **OK**.
After the initialization is complete, the device enters the login page.

Figure 3-1 Configure password

Device Initialization

OK

Password Settings

ⓘ Password must be 8 to 32 characters, including at least two of the following categories: numbers, uppercase letters, lowercase letters and special characters (Characters like ' ' ; & cannot be included in).

Username admin

Password Please enter password

Confirm Password Please enter the password again

Password Strength



- The password must consist of 8–32 non-blank characters and contain at least two types of the following characters: uppercase, lowercase, numbers, and special characters (excluding ' ' ; &). The new password and confirmation password must match.
- Set a password with high strength according to the on-screen instructions.

- Step 3 On the login page, enter user name and password, and then tap **OK**.

3.2 Network Settings (LCD Screen Operations)

Procedure

- Step 1 On the main page, tap **Setting**.
- Step 2 Configure the IP address, subnet mask and gateway, and then tap **Save**.

Figure 3-2 Network settings

Network Settings

Save

Main Control IP Address 172.16.1.100

Subnet Mask 255.255.0.0

Gateway 172.16.0.1

3.3 Initialization and Login (Web Operations)

Procedure

Step 1 Enter IP address of the platform in the address bar of the browser, and then press Enter.

Step 2 Enter and confirm the new admin password.



- You need to configure your own password for the first-time login.
- The password must consist of 8–32 non-blank characters and contain at least two types of the following characters: uppercase, lowercase, numbers, and special characters (excluding ' " ; : &). The new password and confirmation password must match.
- Set a high security password according to the prompt of password strength.

Step 3 Click **OK**.

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



Refer to the corresponding user manual for a detailed introduction to the device.

Figure 3-3 Home page

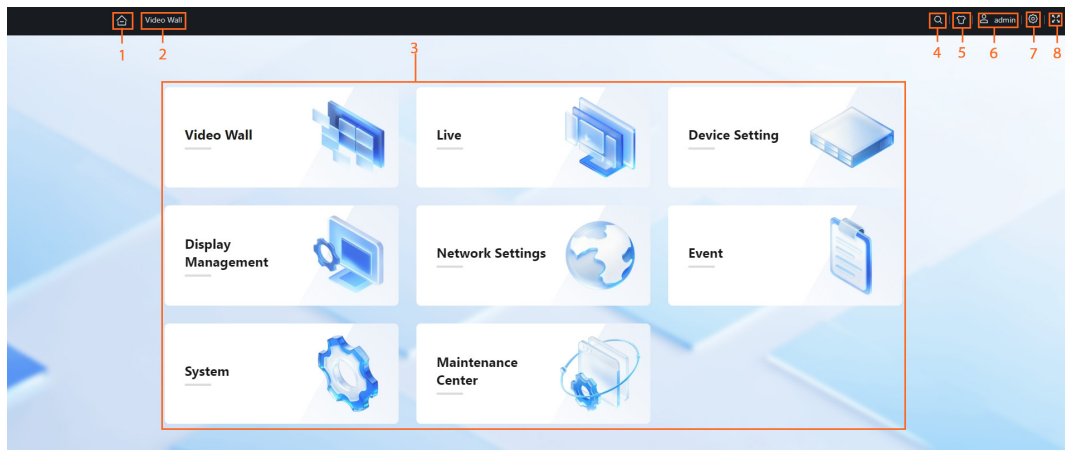
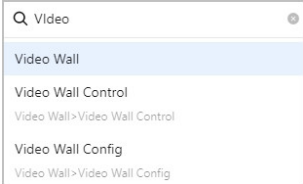


Table 3-1 Description of the homepage

No.	Name	Description
1	Main page	Click it to return to the main page menu.
2	Function tabs	Click it to enter the corresponding function configuration page. Click  to close the corresponding tab.
3	Application functions	Click each application function to enter the corresponding configuration page.
4	Search	Enter a function name keyword to search and quickly navigate to the corresponding configuration page. 
5	Theme	Switch between dark and light themes. The default is light.  Screenshots in this document use the light theme.
6	Log out	Click it, and then select Logout to return to the login page.
7	System configuration	Click it to select the function menu to configure the system.
8	Full screen	Click it to display the page in full screen. Click again to exit full screen.

Appendix 1 Security Recommendation

1. Account Management

a. Use Strong 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.

b. Change Password Regularly

It is suggested to change passwords regularly to reduce the risk of being guessed or cracked.

c. Assign Accounts and Permissions Reasonably

According to business and management needs, reasonably add new users, and reasonably allocate a minimum set of permissions for them.

d. Enable Account Lock

The account lock feature is enabled by default, and it is recommended 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.

e. Set and Update Passwords Reset Information Timely

The platform supports password reset function. To reduce the risk of being attacked, please set up related information for password reset in time. 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.

f. Enable Account Binding IP/MAC

It is recommended to enable the account binding IP/MAC mechanism to further improve access security.

2. Service Configuration

a. Enable HTTPS

It is suggested to enable HTTPS, so that you visit web service through a secure communication channel.

b. Disable Unnecessary Services and Choose Secure Modes

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

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

- SMTP: Choose TLS to access mailbox server.
- FTP: Choose SFTP, and set up strong passwords.

3. Network Configuration

a. Enable Firewall Allowlist

It is suggested to enable allowlist function to prevent everyone, except those with specified IP addresses, from accessing the system. Therefore, please be sure to add your computer's IP address and the accompanying equipment's IP address to the allowlist.

b. Network Isolation

The network should be isolated by partitioning the video monitoring network and the office network on the switch and router to different VLANs. This prevents attackers from using the office network to launch Pivoting attacks on the video monitoring network.

4. **Security Auditing**

a. **Check Online Users**

It is recommended to check online users irregularly to identify whether there are illegal users logging in.

b. **View the Platform Log**

By viewing the log, you can get the IP information of the attempt to log in to the platform and the key operation information of the logged-in user.

5. **Physical Protection**

It is suggested to perform physical protection to the device that has installed the platform. 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.

6. **Perimeter Security**

It is suggested to deploy perimeter security products and take necessary measures such as authorized access, access control, and intrusion prevention to protect the software platform security.