# **Emergency Call Terminal**

# **Quick Start Guide**



### **Foreword**

#### General

This manual introduces the installation, functions and operations of the Emergency Call Terminal device (hereinafter referred to as "the Terminal"). 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 high potential hazard which, if not avoided, will result in death or serious injury.
warning warning	Indicates a medium or low potential hazard which, if not avoided, could result in slight or moderate injury.
<b>A</b> CAUTION	Indicates a potential risk which, if not avoided, could result in property damage, data loss, lower performance, or unpredictable result.
OT TIPS	Provides methods to help you solve a problem or save you time.
NOTE	Provides additional information as the emphasis and supplement to the text.

### **Revision History**

Version	Revision Content	Release Time
V1.0.2	Revised description of words.	September 2022
V1.0.1	1. Delete the image of Management	
	Platform in Figure 1-4 Networking.	A
	2. Change the font from Arial to Myraid pro.	August 2021
	3. Update the About the Manual section.	
V1.0.0	First release.	April 2020

### **Privacy Protection Notice**

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

#### About the Manual

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

# **Important Safeguards and Warnings**

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

### **Operation Requirements**



- Check whether the power supply is correct before use.
- Do not unplug the power cord on the side of the device while the adapter is powered on.
- Operate the device within the rated range of power input and output.
- Transport, use and store 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.

### **Installation Requirements**



#### / WARNING

- Do not connect the power adapter to the device while the adapter is powered on.
- Strictly comply with the local electric safety code and standards. Make sure the ambient voltage is stable and meets the power supply requirements of the device.
- Do not connect the device to two or more kinds of power supplies, to avoid damage to the device.
- Improper use of the battery might result in a fire or explosion.



#### WARNING

- 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.
- Install the device on a stable surface to prevent it from falling.
- Install the device in a well-ventilated place, and do not block its ventilation.
- Use an adapter or cabinet power supply provided by the manufacturer.
- Use the power cords that are recommended for the region and conform to the rated power specifications.
- 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.

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# **1 Product Overview**

### 1.1 Introduction

The Terminal can be connected with the management platform and master station (VTS) to provide emergency calling, voice broadcasting, video monitoring, and more. It is applicable to schools, banks, industrial parks, apartments, office buildings and other places. And it can be configured on the web page.

### 1.2 Structure

### 1.2.1 Front Panel

Figure 1-1 Front panel

Table 1-1 Front panel description

No.	Name	Description
1 Illiumin atou		When the light is insufficient and the Terminal is monitored or
	Illuminator	calling, the illuminator is turned on automatically.
2	Speaker	Outputs audio.
3	Service button	Calls the management center.
4	Microphone	Inputs audio.
5	SOS button	Sends alarms to the management center.
6	Camera	Capture videos.

# 1.2.2 Rear Panel

Figure 1-2 Rear panel

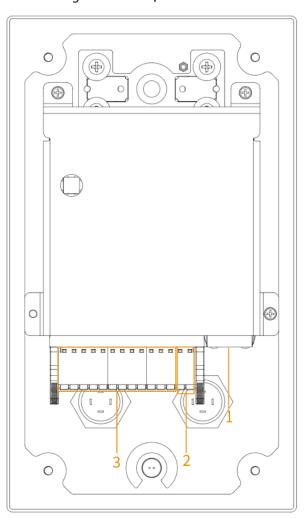


Table 1-2 Rear panel description

No.	Name	Description
1	Network port	Insert network cable (RJ-45 connector).
2	Power port	Connect 12 VDC power supply.
2	Device ports	For audio input and output, alarm input and output, RS-485, and
3 Device ports	so on. For details, see "1.2.3 Device Ports."	

# 1.2.3 Device Ports

Figure 1-3 Device ports

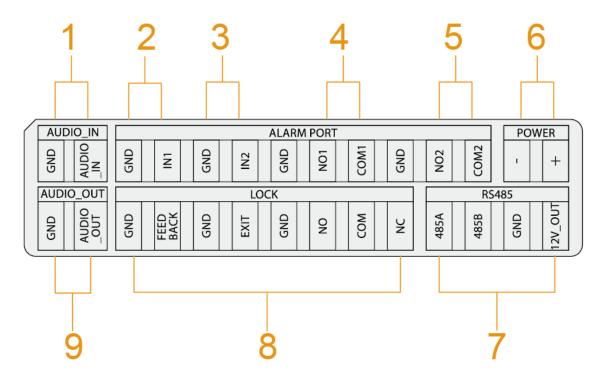
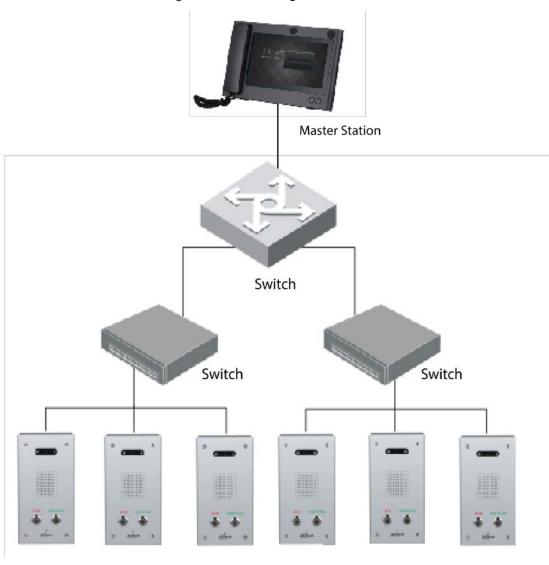


Table 1-3 Device ports description

No.	Name	No.	Name
1	MIC	6	Power input
2	Alarm input 1	7	RS-485
3	Alarm input 2	8	Reserved ports
4	Alarm output 1	9	Active speaker
5	Alarm output 2	_	_

# 1.3 Typical Networking

Figure 1-4 Networking





The master station in the networking is optional.

# 2 Installation



- Do not install the Terminal in places with condensation, high temperature, grease, dust, chemical corrosion, or direct sunlight.
- In case of abnormality after powering on, cut off the power supply immediately, and then pull out the network cable. Power on again after troubleshooting.
- Engineering installation and debugging shall be done by professional teams. Do not dismantle or repair arbitrarily in case of device failure. Contact after-sales department.

Surface mount is supported, and rear cable outlet and bottom cable outlet are reserved on the mounting plate.

### 2.1 Screws

Before installing the Terminal, check the screws in the accessory package.

Table 2-1 Screws

Name	Figure	Quantity
M3 × 8 hexalobular socket screw	NONDONON	4
ST3 × 18 self-tapping screw	{mmmmm	4
Expansion bolt		4

# 2.2 Mounting Plate Dimensions

Before installing the Terminal, see the mounting plate dimensions first to provide enough installation space.

-101[3.98]--75[2.95]-176[6.93] 120[4.72] -75.0[2.95]-

Figure 2-1 Mounting plate dimensions (mm [inch])

# 2.3 Procedure

<u>Step 1</u> Drill 4 holes on the wall according to the screw holes on the mounting plate, and put the expansion bolts into the holes.

·Ø27[1.06]

- Step 2 Fix the mounting plate on the wall with the ST3×18 self-tapping screws.
- <u>Step 3</u> Apply sealant between the mounting plate and the wall, and to cover the cable outlets.
- <u>Step 4</u> Fix the Terminal to the mounting plate with M3X8 hexalobular socket screws.

Figure 2-2 Installation

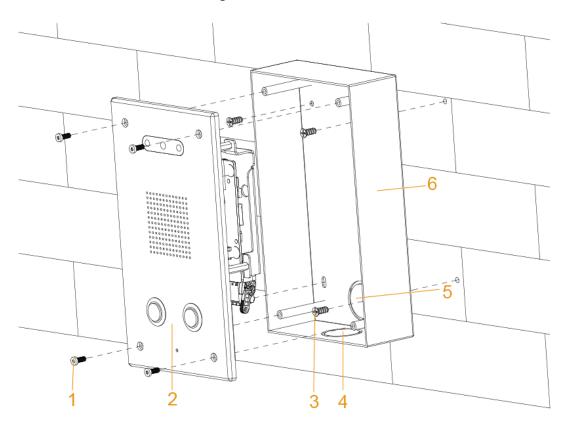


Table 2-2 Installation component

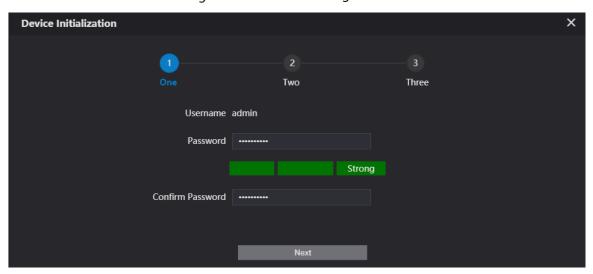
No.	Name	No.	Name
1	M3X8 hexalobular socket screw	4	Bottom cable outlet
2	Emergency Call Terminal	5	Rear cable outlet
3	ST3×18 self-tapping screw	6	Mounting plate

# 3 Web Operations

### 3.1 Initialization

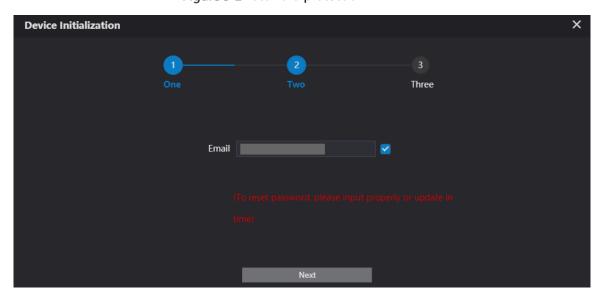


- For first-time login, or login after restoring to factory settings, you need to initialize the Terminal.
- The IP address is 192.168.1.108 by default. Make sure that the PC and the Terminal are in the same network segment.
- <u>Step 1</u> Enter the IP address of the Terminal in the address bar.
- <u>Step 2</u> Enter and confirm the password according to the on-screen prompts, and then click **Next**. Figure 3-1 Password setting



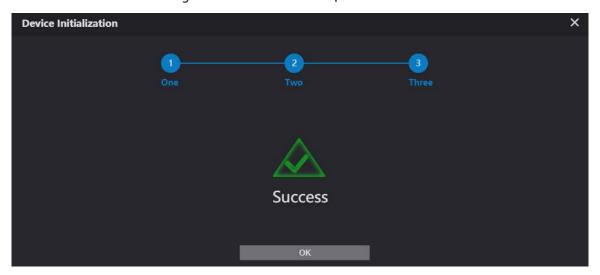
Step 3 Select the checkbox, enter the email address, and then click **Next**.

Figure 3-2 Password protection



Step 4 Click OK.

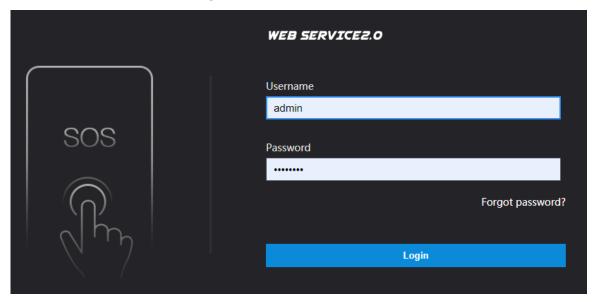
Figure 3-3 Initialization completed



# 3.2 Login

- Step 1 Enter the IP address of the Terminal in the address bar.
- Step 2 Enter the username and password.

Figure 3-4 Login web page



Step 3 Click Login.

### 3.3 Password Reset

If you forget the password when logging in to the web page, you can reset the password.

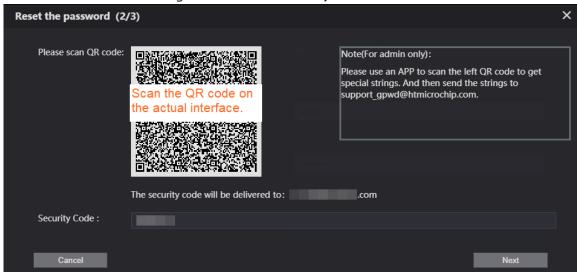
<u>Step 1</u> Click **Forgot password?** on the login web page.



If you use IE browser, the system might prompt **Stop running the script**, click **No** to continue to run the script.

- Step 2 Click **Next**, scan the QR code according to the on-screen prompts, and you will get the security code.
- <u>Step 3</u> In the **Security Code** box, enter the security code received in your provided mailbox.

Figure 3-5 Enter the security code

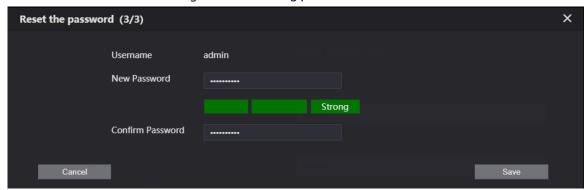


- Step 4 Click Next.
- <u>Step 5</u> Enter and confirm the new password.



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

Figure 3-6 Resetting password



Step 6 Click Save.

# 3.4 Local Settings

# 3.4.1 Basic Settings

Set the name of the Terminal for easy identification.

- <u>Step 1</u> Select **Local Setting > Basic** on the web page.
- Step 2 Enter the device name.

Figure 3-7 Device name setting



Step 3 Click Confirm.

### 3.4.2 Video & Audio

You can set the brightness, contrast, hue, saturation and scene mode of the monitoring screen, and adjust the volume of the Terminal.

<u>Step 1</u> Select **Local Setting > Video & Audio** on the web page.



If the plug-in has not been installed, follow on-screen instructions to install it.

Figure 3-8 Video & audio

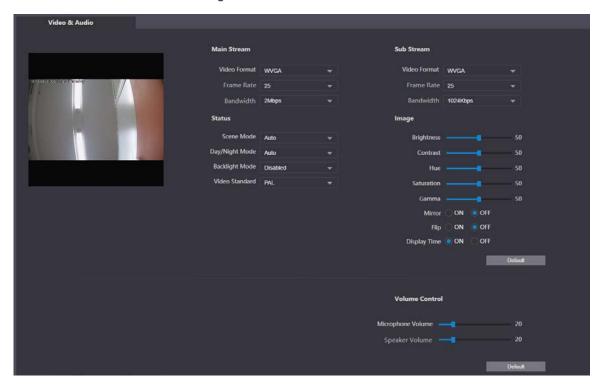


Table 3-1 Video & audio parameter description

Parameter	Possible 3-1 video & audio parameter description
rarameter	Description
Video Format Frame Rate	The Terminal supports <b>720P</b> (1280 $\times$ 720), <b>WVGA</b> (800 $\times$ 480), <b>D1</b> (720
	$\times$ 576), and <b>CIF</b> (352 $\times$ 288). You can select as needed.
	The number of frames per second in a video. The higher the frame rate
	is, the more clear and smooth the video will be.
Bandwidth	Select the bandwidth according to the network the Terminal is
Barrawiatri	connected to.
	The overall brightness of the image.
Brightness	The larger the value is, the brighter the image will become.
	The image might be white if the value is too large.
	The ratio of black to white in the image. The larger the value is, the
	richer the image color.
Contrast	If the value is too large, the dark area becomes darker and the
	bright area is likely to be overexposed.
	The image might be greyish if the value is too small.
	Adjust the color of the image. The larger the value, the darker the
Hue	color.
	Adjust the image vividness. The larger the value, the more vivid the
Saturation	image. This value does not affect the overall brightness of image.
Gamma	Change the image brightness and contrast in a non-linear way. The
	larger the value, the brighter the image.
Mirror	Flip the image horizontally.
Flip	Flip the image vertically.
Display Time	Display the time at the top left corner of the monitoring screen.
- 10   11   11   11   11   11   11   11	The overall tone of the image varies with the scene modes.
	Disabled: No mode is set.
	Auto: Automatically adjust the scene mode to make the image
Scene Mode	color normal according to the light reaching the sensor. This mode
Seeme Wode	is selected by default.
	Sunny: The image tone is decreased in this mode.
	Night: The image tone is increased in this mode.
	This mode affects the illumination of the Terminal.
	Auto: Automatically adjust the mode to make the image color
Day/Night Mode	normal according to the light reaching the sensor.
Day/Night Wode	Color: The image is colored.
	B/W: The image is black and white.  Solost the appropriate companyation mode according to the actual.
	Select the appropriate compensation mode according to the actual conditions.
	conditions.
Backlight Mode	
	When human faces are in the backlight, it is recommended to select
	WDR.
	Disabled: No compensation is made.

Parameter	Description	
	BLC: Backlight compensation corrects areas with extremely high	
	or low levels of light to maintain a normal and usable level of light	
	for the object in focus.	
	• <b>WDR</b> : The system dims bright areas and compensates dark areas	
	to ensure the clarity of all areas according to the lighting	
	conditions.	
	• <b>HLC</b> : The system constrains bright areas and reduces halo size to	
	dim the overall brightness.	
	Select <b>PAL</b> or <b>NTSC</b> as needed.	
Video Standard	PAL: The frame rate is 25 fps by default.	
	• NTSC: The frame rate is 30 fps by default.	
Microphone	Adjusts the volume of the microphone or speaker.	
Volume/Speaker Volume		

# 3.4.3 System Settings

You can set the time zone, system time, DST type and NTP timing.

<u>Step 1</u> Select **Local Setting > System** on the web page.

Figure 3-9 System settings



Table 3-2 System settings parameters

Parameter	Description	
Date Format	Select the display format of the date from YYYY-MM-DD, MM-DD-YYYY	
Date Format	and <b>DD-MM-YYYY</b> .	
Time Format	Select the time format from <b>24-Hour</b> and <b>12-Hour</b> .	
Time Zone	Select the local time zone.	
Custom Times	Set the system time manually.	
System Time	Click <b>Sync PC</b> to synchronize the system time with the PC time.	
	Select the <b>ON</b> checkbox to enable DST.	
DST setting	1. Select <b>Date</b> or <b>Week</b> as the <b>DST Type</b> .	
	2. Set the <b>Start Time</b> and <b>End Time</b> .	

Parameter	Description	
	Set NTP time synchronization.	
	1. Select the <b>NTP Enable</b> checkbox.	
	2. Configure parameters.	
NTP setting	NTP Server: Enter the IP address of the time server for the Terminal to	
	synchronize time.	
	Port: Enter the port number of the time server.	
	Interval: Enter the interval at which the time is synchronized.	
Maintenance	Set the auto maintenance time of the system.	
SSH	You can enable SSH (Secure Shell) authentication to perform safety	
חככ	management. The function is disabled by default.	

Step 3 Click Save.

### 3.4.4 Alarm Output Settings

After the alarm output is enabled, when the Terminal initiates a call, the alarm output relay can output the alarm signal.

<u>Step 1</u> Select **Local Setting > Alarm Output** on the web page.

Step 2 Configure parameters.

Figure 3-10 Alarm output settings

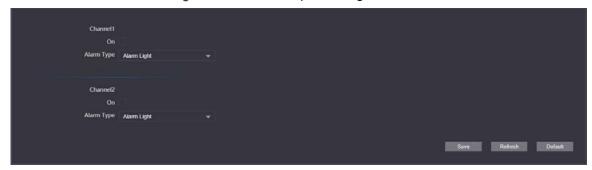


Table 3-3 System settings parameters

Parameter	Description
Channel	The Terminal has two alarm outputs. Select the alarm output channel according to the alarm device you have installed.
	,
Alarm Type	Alarm Light is selected by default.

Step 3 Click Save.

# 3.4.5 Security Management

You can configure system service to ensure secure management.

<u>Step 1</u> Select **Local Setting > Security** on the web page.

Figure 3-11 Security management



Table 3-4 Security management parameter description

Parameter	Description
CGI Enable	Enabled by default. The Terminal can connect with other network video
Onvif Enable	products through this protocol.
	CGI (Common Gateway Interface) is an interface between external
	programs and web server.
Password Reset	Enabled by default to allow password resetting and setting reserved email
	address. After successful setting, you can reset the password by clicking
	Forgot password? on the login web page.
	If the function is disabled, you can only reset the password after restoring
	the Terminal to factory settings by pressing the reset button on the device.
Authentication Mode	Select the anthentication mode from <b>Security Mode</b> and <b>Compatible</b>
	Mode.

Step 3 Click Save.

### 3.4.6 Onvif User

The function is mainly for acquiring streams through Onvif protocol, and the information of the Onvif user needs to be validated. You can add or delete Onvif users, and modify their passwords. The Onvif user is admin by default.

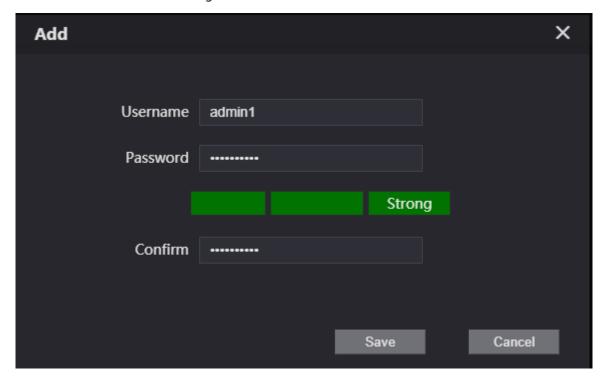
### Preparation

On the web page, select **Local Setting > Security**, and then select the **Onvif Enable** checkbox.

#### Procedure

- <u>Step 1</u> Select **Local Setting > Onvif User** on the web page.
- Step 2 Click **Add**.
- <u>Step 3</u> Enter the username and password, and then confirm the password you entered.

Figure 3-12 Add Onvif users



Step 4 Click Save.

# 3.5 Network Settings

### 3.5.1 TCP/IP

You can configure the IP address and DNS server to connect the Terminal to other devices in the network.

<u>Step 1</u> Select **Network > Basic** on the web page.

Figure 3-13 TCP/IP settings

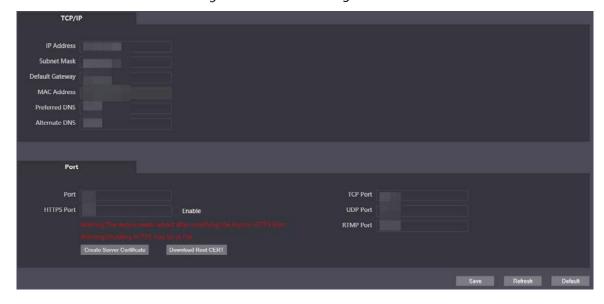


Table 3-5 TCP/IP parameter description

Parameter	Description
IP Address	Enter the IP address, subnet mask, and default gateway you planned.
Subnet Mask	
Default Gateway	The IP address and default gateway must be in the same network segment.
MAC Address	The MAC (Media Access Control) address of the Terminal.
Preferred DNS	The IP address of the DNS server.
Alternate DNS	Alternate IP address of the DNS server.

Step 3 Click Save.

### 3.5.2 Firewall

You can configure network access, PING prohibited, and anti-half connection to strengthen the security of the network and data.

- **Network Access:** Restrict access by setting block list and allow list.
  - ♦ Allow List: Only if the IP or MAC address of the user is in the allow list, can the Terminal be accessed. If a port is also set, the user can only access the specified port.
  - ♦ **Block List**: If the IP or MAC address of the user is in the block list, the Terminal cannot be accessed. If a port is also set, the user cannot access the specified port.
- **PING Prohibited**: If the function is enabled, the Terminal will not respond ping request.
- Anti-Half Connection: If the function is enabled, the Terminal can provide services normally
  when there is half connection attack.



- You cannot add the IP address or MAC address of the Terminal to the allow list or block list.
- When adding MAC address, you cannot set the port.
- MAC address verification takes effect only when the IP address of the Terminal and PC of the user are in the same LAN.
- When the Terminal is accessed through WAN, the system can only verify the MAC address of the router.

This section takes setting network access as an example.

- <u>Step 1</u> Select **Network > Firewall** on the web page.
- <u>Step 2</u> Select **Network Access** as the **Type**, and then select the **Enable** checkbox.
  - When enabling PING Prohibited and Anti Half Connection, you do not need to set parameters. Click Confirm to complete the settings.
  - When enabling Network Access, you need to configure allow list or block list. Here are the steps.
    - 1. Select **Allow List** or **Block List** as the **Mode**.
    - 2. Click **Add**.
    - 3. Configure parameters.

Table 3-6 Firewall parameters description

Parameter	Description
	Select IP Address, IP Segment, MAC Address or All IP Addresses.
	IP Address: Select the IP version, and then enter the IP address to be
	added.
Туре	IP Segment: Select the IP version, and then enter the Initial IPv4
	Address, and End IPv4 Address.
	MAC Address: Enter the MAC address to be added.
	All IP Addresses: Set all IP addresses to the allow list or block list.
All Device Ports	Set access ports. You can select all device ports, or set the port range.
Device Start Sever	All Device Ports: Set all ports of the Terminal to the block list or allow
Port	list. When all IP addresses are set to the block list, you are not allowed
	to select all ports. Because in this case, all devices cannot access all ports
Device End Sever	of the Terminal.
Port	Device Start Sever Port/Device End Sever Port: Set the start port and
	end port. The value ranges from 1 to 65535.

#### 4. Click **Save**.

The system goes back to the **Firewall** web page.

Step 3 Click Confirm.

# 3.5.3 Register

The Terminal registers to the proxy server designated by the user, and then the proxy server provides the transfer function to facilitate the client software to access the Terminal, so as to watch live view and monitor the scene.

<u>Step 1</u> Select **Network > Register** on the web page.

<u>Step 2</u> Select the **Enable** checkbox, and then set parameters.

Figure 3-14 Register



Table 3-7 Register parameter description

Parameter	Description
IP Address	The IP address or domain name of the server that the Terminal is registered
	to.
Port	The sever port for registering.
Device Register ID	Customize the register ID for the Terminal.

Step 3 Click Save.

# 3.6 Logout

Click and then select **Exit** to log out.

### 3.7 Restart

Click and then select **Reboot** to restart the Terminal.

# 3.8 Restoring to Factory Settings

Click and then select **Factory Defaults** to restore the Terminal to factory settings.



The operation will clear the data of the Terminal. Be cautious.

### **4** Basic Functions

# 4.1 Calling

If you have connected the Terminal to the entrance and exit management platform or master station, you can press the **SOS** or **service** button on the Terminal to call the platform client and master station. For details of adding the Terminal to the platform or master station, see the platform user's manual or the master station user's manual.

# 4.2 Monitoring and Listening

The management center can initialize monitoring or listening on the Terminal to remotely see the monitoring screen of the Terminal, and listen to the audio.

### 4.3 Light Compensation

When the ambient light is dim or at night, the Terminal can compensate the light automatically with the photosensitive technology to ensure a clearer image.

### 4.4 Tampering Alarm

The Terminal has a built-in tampering alarm switch. When the Terminal is removed from the wall, an alarm is triggered and sent to the management center.

### 4.5 Alarm Linkage

Alarm input, alarm output and other linkage functions can be customized according to customer requirements.

# 5 FAQ

Table 5-1 FAQ

Problem	Solution
The Terminal has no sound or light, and cannot be powered on.	Check whether the power supply is normal and the socket is in good contact.
There is a prompt that the call is not successful.	Network failure. Check whether the network cable is properly connected.
The user has some uncertainties or cannot solve the problems.	Contact the technical support personnel.

# **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.