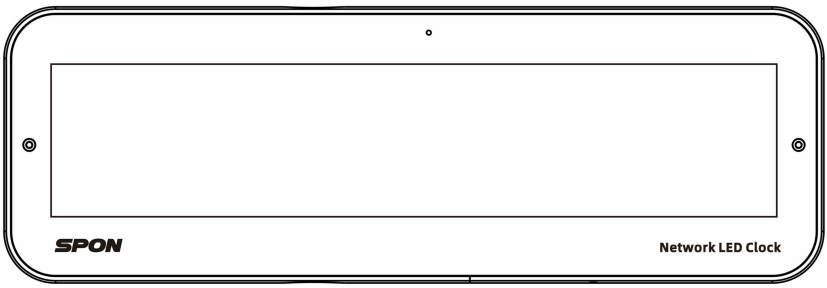
SPON

# Network LED Clock

# USER MANUAL




www.sponcomm.com

# Contents

# Manufacturer's Reference

**SPON Communications Co., Ltd is the holder of the following certificates:**

- ISO 9001:2015 QUALITY MANAGEMENT SYSTEM CERTIFICATE.
- ISO/IEC 20000-1:2018 INFORMATION TECHNOLOGY-SERVICE MANAGEMENT CERTIFICATE OF CONFORMITY.
- ISO/IEC 27001:2022 INFORMATION SECURITY MANAGEMENT SYSTEM CERTIFICATE OF CONFORMITY.
- ISO 14001:2015 ENVIRONMENTAL MANAGEMENT SYSTEM CERTIFICATE.
- ISO 45001:2018 OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM CERTIFICATE.
- All development, production and distribution processes of the company are managed by this standard and guarantee high quality, technical level and professional aspect of all our products.

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The user shall bear full responsibility for the application of the product, SPON does not

assume any responsibility for any indirect or incidental losses caused by the incorrect use of this guide.

# Important Safety Precaution

Please read this User Manual carefully before using this product and follow all the safety precautions mentioned herein.

## During Installation

**Avoid humidity:**

Please do not expose the device to rainy environment or other humid environment, otherwise it may lead to fire or electric shock.

**Use correct power supply:**

Please use the specified power adapter for the device, using high voltage power supply may lead to fire or electric shock.

**Protect the electric wire:**

Do not scratch, cut or twist the power cord, keep the power cord away from any heating device, do not place heavy objects on top of the power cord, otherwise it may lead to fire or electric shock.

## During Use

**If anything goes wrong:**

During use of this device, if any of these anomalies mentioned below happens, please cut off the electricity immediately, otherwise it may lead to fire or electric shock.

- smoke or strange smell coming out of the device.
- water or other foreign object gets into the device.
- damage on the product shell.
- damage of the power cord (cable core exposed or broken).
- malfunction of the device (no network connection or no sound).

**Do not open the product shell:**

There are high voltage parts inside of the product shell, opening the product shell without permission may lead to fire or electric shock.

**Do not touch the device when it thunders:**

To avoid electric shock, please do not touch the device or power plugs when it thunders.

**Do not place liquid containers on top of the device:**

If accidentally knock over the liquid container and let any liquid get into the device, it may

lead to fire or electric shock.

**Cautions when the device is not in use**

If the device is not in use for 10 days or longer, please cut off the electricity and unplug the power plug from the power socket, otherwise it may lead to fire or electric shock.

# 1. INTRODUCTION

## 1.1. About This Manual

**This manual covers the following models:**

| Product Type | Model Number | Power Output(8Ω) |
|---|---|---|
| Network LED Clock | GEN-3102A03 | 2*30W |

## 1.2. System Requirements

**Recommended PC operational environments are as follows:**

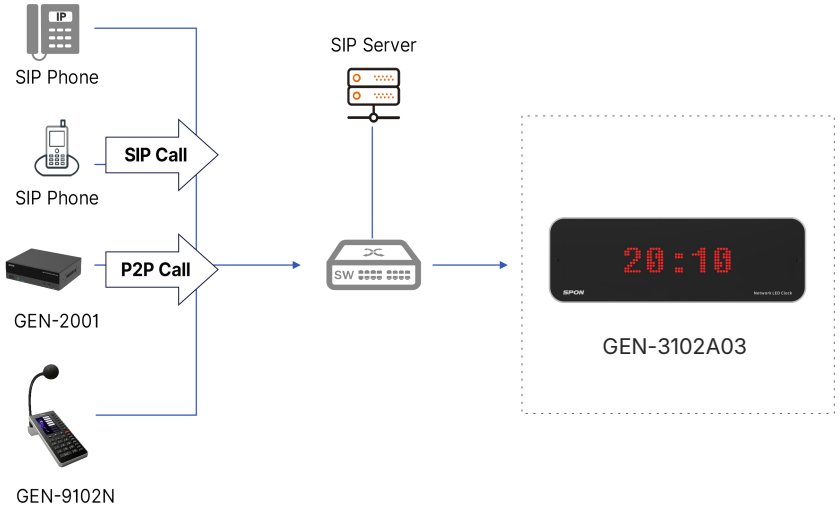
| | |
|---|---|
| Display | Resolution: 1920x1080 |
| OS(64bit) | Windows10~Windows 11 |
| Browser | Microsoft Edge \ Google Chrome |

# 2. Introduction to System Scenario Functions

| | Initiator | Recipient | Connected Attachments |
|---|---|---|---|
| **SIP to Local Broadcast** | GEN-9102<br>GEN-2001<br>SIP Phone | GEN-3102A03 | GEN-4101 |
| **VMS to Local Broadcast** | VMS Client | | |
| **Bluetooth to Local Broadcast** | Smartphone, Bluetooth Player | | |
| **MIC/Line in to Local Broadcast** | External audio(Recommended Balanced Signals)<br>MIC Panel Accessories | | |

**Note**: The specific functions and interfaces of the equipment will be adjusted according to the product form of the equipment, please refer to the actual product specifications parameters prevail.

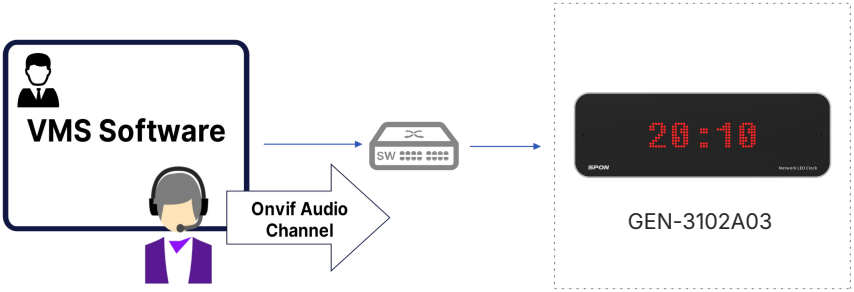
## 2.1. SIP to Local Broadcast




| **By registering the device with SIP Server or using P2P calling, you can make the receiving end play broadcasts. For the broadcast settings via SIP Phone or using P2P calling, refer to the following setup procedure** | | |
|---|---|---|
| **Setup 1** | Login to devices WEB<br>-Default username and password are both admin | Login |
| **Setup 2** | Ensure that the IP address of the device and the SIP server and SIP Phone can communicate with each other, and fill in the correct SIP account information.<br>-SIP server address, port, SIP account, password and other information provided by the SIP server provider<br>-P2P-type broadcasts, requiring the originator to support P2P calls (GEN-9102 or GEN-2001 recommended) | SIP |

| | | |
|---|---|---|
| **Setup 3** | Setting the broadcast priority<br>-Adjust pattern prioritization as needed | Priority |
| **Setup 4** | Reboot<br>-After setting the parameters, you need to reboot the device to take effect | Maintain |
| **Setup 5** | Adjusting the broadcast volume<br>-Volume can be fine-tuned through the broadcast program and the total output volume can be adjusted through audio parameters<br>-Volume adjustment according to the site environment and actual use requirements | Audio |

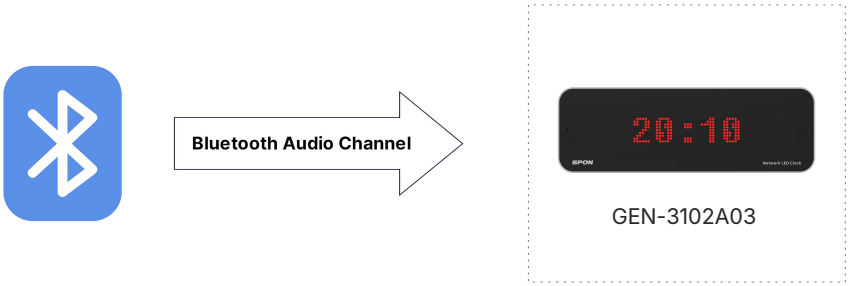
## 2.2. VMS to Local Broadcast




| | | |
|---|---|---|
| **By registering the device with or connecting it to NVR or VMS, VMS broadcasting can be performed using the microphones connected to these clients. For VMS Broadcast Settings, please refer to the following setup procedure.** | | |
| **Setup 1** | Login to devices WEB<br>-Default username and password are both admin | Login |
| **Setup 2** | Enable ONVIF protocol functionality and add devices via NVR or VMS<br>-Default ONVIF protocol port: 9090; default user name: admin; default password: 123456<br>-For details on how to set up MICs and speakers for NVR and | ONVIF |

| | | |
|---|---|---|
| | VMS, see the NVR and VMS User's Manuals | |
| **Setup 3** | Setting the broadcast priority<br>-Adjust pattern prioritization as needed | Priority |
| **Setup 4** | Reboot<br>-After setting the parameters, you need to reboot the device to take effect | Maintain |
| **Setup 5** | Adjusting the broadcast volume<br>-Volume can be fine-tuned through the broadcast program and the total output volume can be adjusted through audio parameters<br>-Volume adjustment according to the site environment and actual use requirements | Audio |

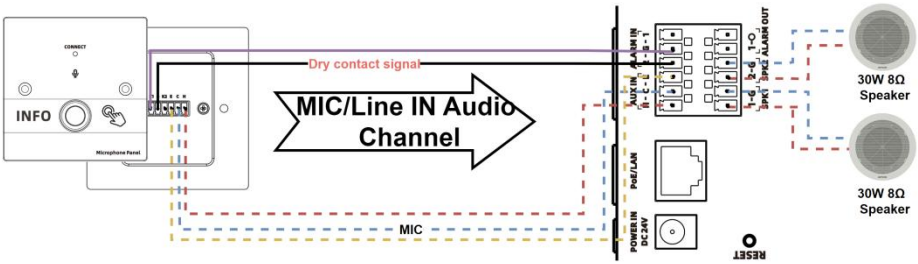
## 2.3. Bluetooth to Local Broadcast




| | | |
|---|---|---|
| **Setup 1** | Login to devices WEB<br>-Default username and password are both admin | Login |
| **Setup 2** | Log in to the device's Web interface.<br>Navigate to the "Bluetooth" settings page.<br>Enable the Bluetooth function and enter a new Bluetooth name (optional).<br>Save the settings and restart the device to apply the changes. | Bluetooth |
| **Setup 3** | Setting the broadcast priority<br>-Adjust pattern prioritization as needed | Priority |
| **Setup 4** | Reboot | Maintain |

| | | |
|---|---|---|
| | -After setting the parameters, you need to reboot the device to take effect | |
| **Setup 5** | Adjusting the broadcast volume<br>-Volume can be fine-tuned through the broadcast program and the total output volume can be adjusted through audio parameters<br>-Volume adjustment according to the site environment and actual use requirements | Audio |

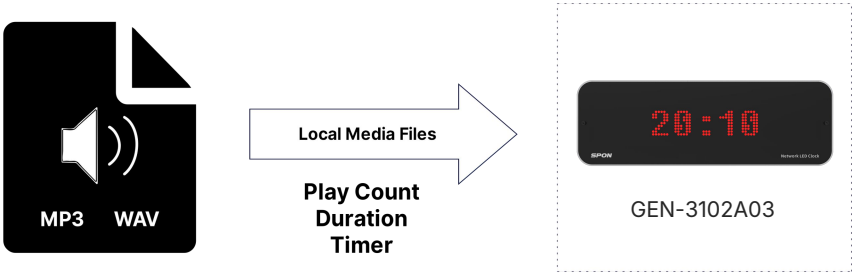
## 2.4. MIC/Line in to Local Broadcast




| | | |
|---|---|---|
| **Setup 1** | Login to devices WEB<br>-Default username and password are both admin | Login |
| **Setup 2** | Select External LINE or MIC depending on the type of external audio source connected;<br>When choosing to select External LINE, the audio source should use a balanced input signal, otherwise anomalies such as noise may occur.<br>When selecting MIC, the MIC Phantom Power should be turned on or off according to the actual connected equipment.<br>-It is recommended to use the GEN-4101 MIC panel accessory to get better audio effect. | Audio |
| **Setup 3** | Initiate intercom or broadcast programs through MIC panel accessories<br>-Configure the event type in event selection, and the destination address or area. | Event |
| **Setup 4** | Setting the broadcast priority | Priority |

| | | |
|---|---|---|
| | -Adjust pattern prioritization as needed | |
| **Setup 5** | Reboot<br>-After setting the parameters, you need to reboot the device to take effect | Maintain |

## 2.5. Media Files to Local Broadcast



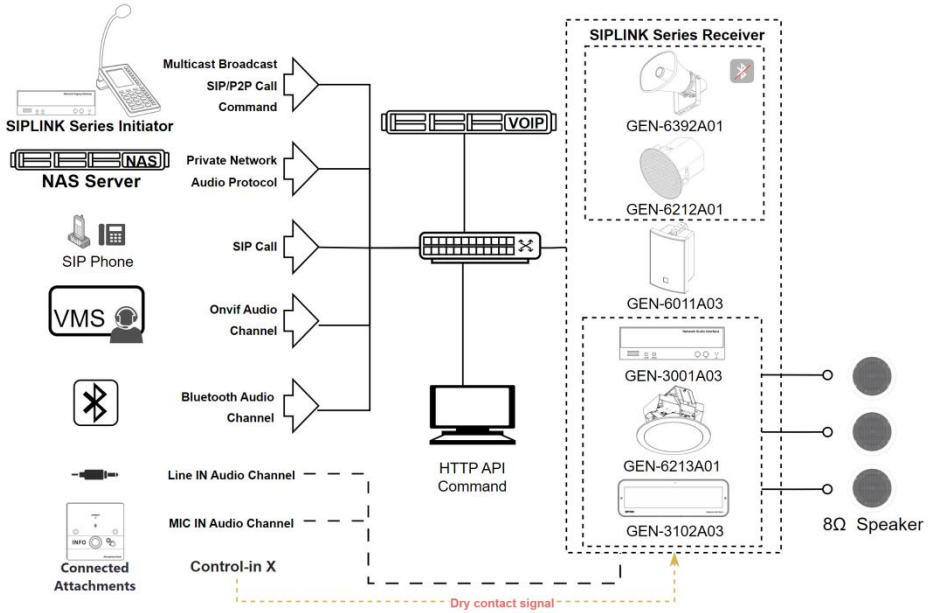

| | | |
|---|---|---|
| **Setup 1** | Login to devices WEB<br>-Default username and password are both admin | Login |
| **Setup 2** | Upload media files to the device<br>-Built-in 80MB media storage space, support MP3, WAV file format (8K~48KHz) | Media |
| **Setup 3** | Create a broadcast pattern<br>-Setting the name of the broadcasting program, media files, number of times to be played, playback interval, playback time, etc. | Pattern |
| **Setup 4** | Setting the broadcast priority<br>-Adjust pattern prioritization as needed | Priority |
| **Setup 5** | Reboot<br>-After setting the parameters, you need to reboot the device to take effect | Maintain |
| **Setup 6** | Adjusting the broadcast volume<br>-Volume can be fine-tuned through the broadcast program and the total output volume can be adjusted through audio parameters | Audio |

| | | |
|---|---|---|
| | -Volume adjustment according to the site environment and actual use requirements | |

### 2.5.1. SIPLINK Series APPLICATION

SIPLink series consists of a variety of different forms of network audio terminals, the system can be used as a stand-alone audio system, but also can be integrated with external systems and platforms (such as video surveillance platforms, internal communication systems, fire alarm systems, etc.), linkage, operation and so on.

SIPLink series can interact with many different systems in the same project and provide more possibilities to configure system integration solutions for system design.



# 3. Status Indicator

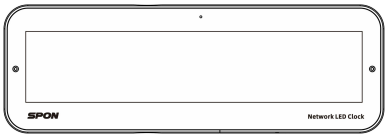
| Device Operation | STATE | GEN-3102A03 |
|---|---|---|
| Device startup in progress | ● | |
| Device startup complete, standby | ● Continuous green light | |
| Reception SIP/P2P/ONVIF | ● ●(Flashing) 0.5 - 0.5sec | |
| Bluetooth audio input | ● ●(Flashing) 0.5 - 0.5sec | |
| LINE /MIC audio input | ● ● (Flashing) 0.5 - 0.5sec | |
| Pattern execution | ● ●(Flashing) 0.5 - 0.5sec | |

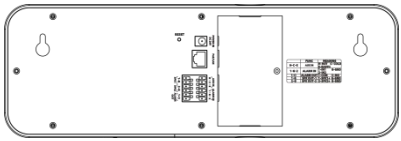
# 4. SIPLINK Series Product Introduction

## 4.1. GEN-3102A03

### 4.1.1. Product Introduction

The GEN-3102A03 is a network LED clock unit with DC and PoE power options. It supports direct SIP or VMS calls, up to 20 multicast streams, and stores 20 audio files. It includes priority management, timers, and customizable events (via HTTP API) and can connect up to two external constant impedance speakers, ideal for schools.



### 4.1.2. Product Features

- Supports receiving SIP audio, ONVIF audio, Bluetooth, and multicast.
- Built-in 80MB file storage (supports up to 20 files in WAV/MP3 format).
- 1 audio input (supports MIC or LINE input, switchable via WEB interface).
- 2 control inputs and 1 control output (supports DC12V output, configurable via WEB interface).
- Supports HTTP API interface, which can receive HTTP API to trigger file playback.
- Built-in 2*30W power amplifier (DC-powered), compatible with external analog constant-resistance speakers.
- Built-in timer for scheduled playback of local files.
- Supports POE/POE+ and DC power supply.

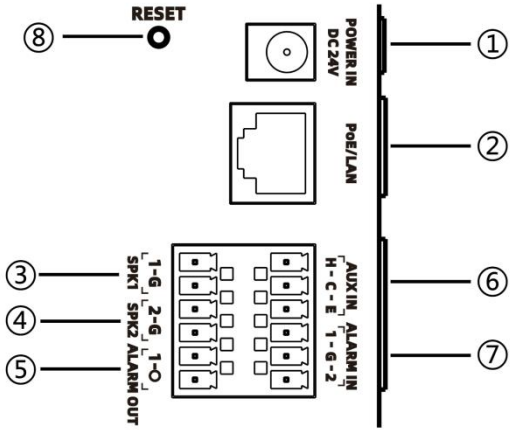
### 4.1.3. Product Specification

| Product Specification | |
|---|---|
| Power Supply | DC 24V, PoE(IEEE802.3af/at) |
| Power Cons | ≤3W |

| | |
|---|---|
| Network Protocol | TCP/IP, UDP, HTTP, RTP, RTSP, ARP, ICMP, NTP, SIP, ONVIF |
| Network I/F | 100BASE-TX, RJ45 Connector |
| Config Method | Web Interface or DevConfig Tool |
| Power Output | 2*30W@8Ω(Use DC24V)<br>2*7W@8Ω(Use POE/POE+) |
| Frequency Response | 100~20KHz |
| Audio Trans | Multicast, ×20(Editable) |
| Audio Codec | Opus, PCMU (G.711u), PCMA (G.711a), G.722 |
| Audio Input | ×1, Line/Mic input (Balanced, Switchable) |
| Input Sensitivity | -10dB(Line), -20dB(Mic) |
| Control Input | ×2 |
| Control Output | ×1, Relay output/DC12V output switchable |
| Speaker interface | ×2 |
| Bluetooth Input | ×1, 2.4GHz |
| Audio Storage | Max 20 audio files ,80MB |
| Audio File Format | WAV, MP3 |
| Mounting Method | Wall-mounted Installation |
| Install Env | Indoor Locations |
| Working Temp | -10°C~+50°C |
| Housing Material | Sheet Metal, ABS |
| Color | White, Black |
| Dimensions | 366*123*55mm |
| Weight | 1600g |
| Warranty | 2 Years |

### 4.1.4. Product Interfaces

**[Rear Panel]**




| | FUNC | MEANING |
|---|---|---|
| H-C-E | AUX IN | H-HOT C- COLD E-EARTH |
| 1-G-2 | ALARM IN | 1-IN1 G-GND 2-IN2 |
| 1-O | ALARM OUT | 1-COM O-NO |
| 1-G | SPK OUT-1 | 1-SPK1+ G-GND |
| 2-G | SPK OUT-2 | 2-SPK2+ G-GND |

①Power Input: Supports DC 24V power supply.

②RJ45 Connector: Supported only with POE power supply.

③Speaker Output 1#Terminal: Supports a 30W, 8Ω speaker.

④Speaker Output 2#Terminal: Supports a 30W, 8Ω speaker.

⑤Alarm Output Terminal: When a relevant task is received, it can trigger a short-circuit output signal.

WARNING: When switching the alarm output to DC 12V output, pay attention to the power polarity. Port [1] is the power ground, and Port [o] is the power positive.

⑥Line/Mic Input Terminal: Connects with a microphone or sound source device.

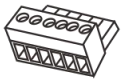
⑦Alarm Input Terminal: Used for receiving external dry contact signal triggers. Configurable Interlinked Tasks, including: Pattern, SIP/P2P Calls, Broadcast Disable.

⑧Reset Button: Press and hold the reset button for 10 seconds, then release. The device will automatically restart, After successful restart, parameters are restored to factory.

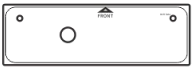
### 4.1.5. Product Packing List

Plastic expansion sleeve 3pcs(7mm*28)

Half round head phillips screw 3pcs(ST4*25)



Wiring Terminal 2pcs(3.81-6P)

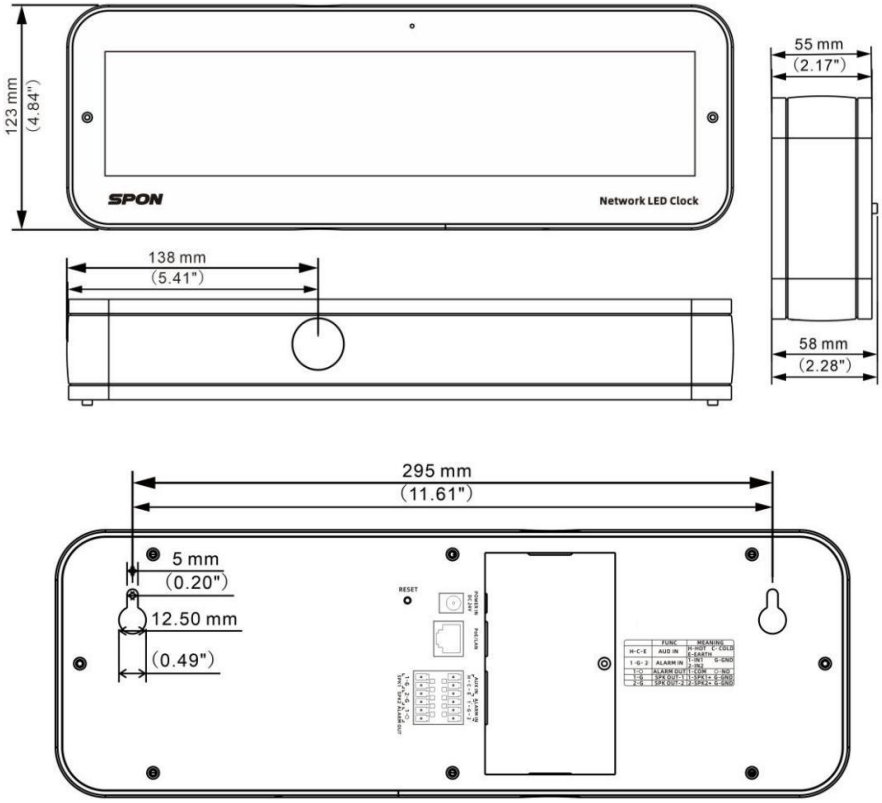


Mounting template stickers 1pcs

Quick Install Manual 1pcs


Certification 1pcs

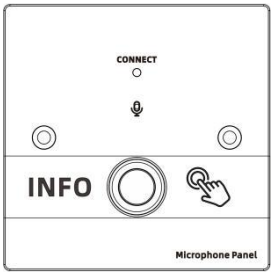
### 4.1.6. Product Dimensions (Unit: mm)

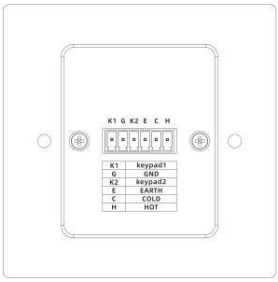


## 4.2. GEN-4101

### 4.2.1. Product Introduction

The GEN-4101 is a microphone panel equipped with a microphone, an alarm switch, and a status indicator. It can be installed with a standard 86mm electrical box. This panel can be used in conjunction with SIPLINK series devices to enable two-way communication.




### 4.2.2. Product Features

- Fully compatible with SIPLINK series terminals, equipped with an omni-directional electret condenser microphone, and a momentary push button switch for initiating calls or triggering local file playback.
- Equipped with a power indicator light, the microphone accessory is powered via the audio input of the SIPLINK terminal. The maximum transmission distance reaches 30 meters, plug and play, extending the call functionality of the terminal.

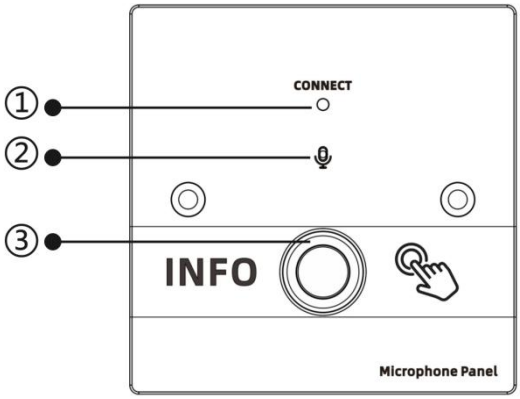
### 4.2.3. Product Specification

| Product Specification | |
|---|---|
| Power Supply | DC 12V |
| Current Consumption | 4 mA or less (at 12 V DC) |
| Microphone | Omni-directional electret condenser microphone |
| Frequency Response | 100~10KHz |
| Audio Input | ×1, -20dB |
| Control Output | ×1 |

| | |
|---|---|
| Indication | Green (Lit during audio input) |
| Mounting Method | wall-mounted installation |
| Install Env | Indoor Locations |
| Working Temp | -10°C~+50°C |
| Housing Material | Aluminum alloy |
| Color | Black |
| Dimensions | 86*86*22mm |
| Weight | 140g |
| Warranty | 2 Years |

#### 4.2.4. Product Interfaces

**[Front Panel]**

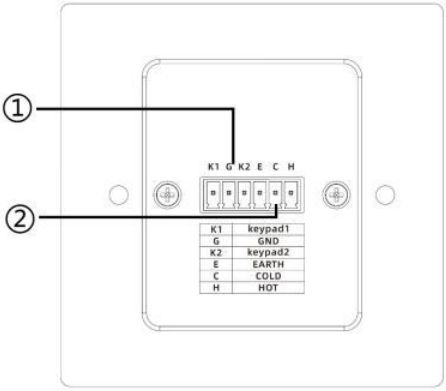



**①State Indicator Light:** Constant on when power on

**②MIC:** Constant on when power on, flashing when receive task.

**③Function button:** Press the button to trigger the corresponding task, and configure the specific function on the connected device.

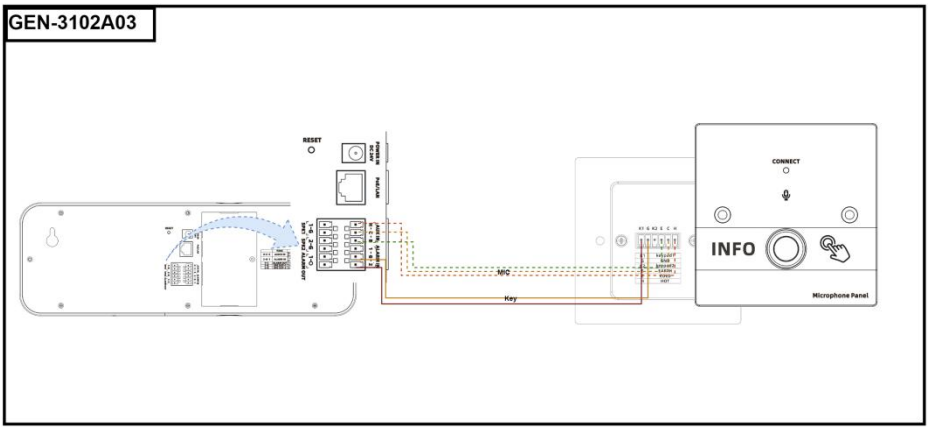
**[Rear Panel]**




**①Button terminal:** The Ground Terminal provides a safe electrical ground connection.

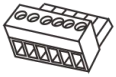
**②Balanced output terminal:** This port is a function multiplexing port designed to serve two main purposes. Firstly, it outputs the audio captured by the microphone (MIC) to the connected device. Secondly, it acts as a power supply port, providing power from the connected device to the panel.

### 4.2.5. Microphone panel wiring diagram



### 4.2.6. Product Packing List

Countersunk cross screw 2pcs(M4*25)

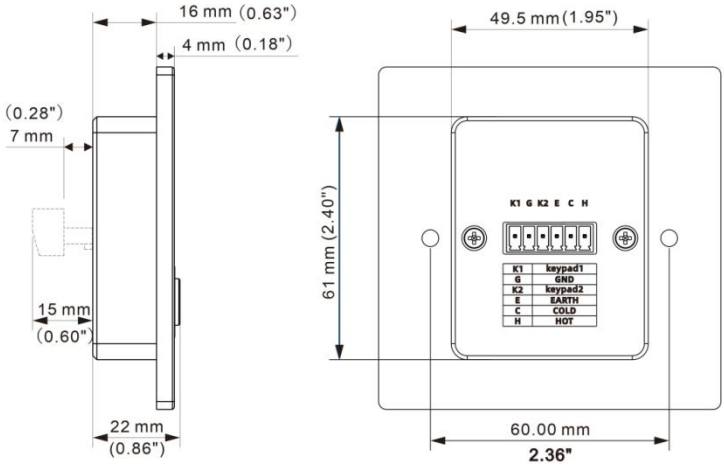


Wiring Terminal 1pcs(3.5-6P)

Quick Install Manual 1pcs


Certification 1pcs

### 4.2.7. Product Dimensions(Unit: mm)



# 5. Product Configuration

## 5.1. Web Page Parameter Configuration

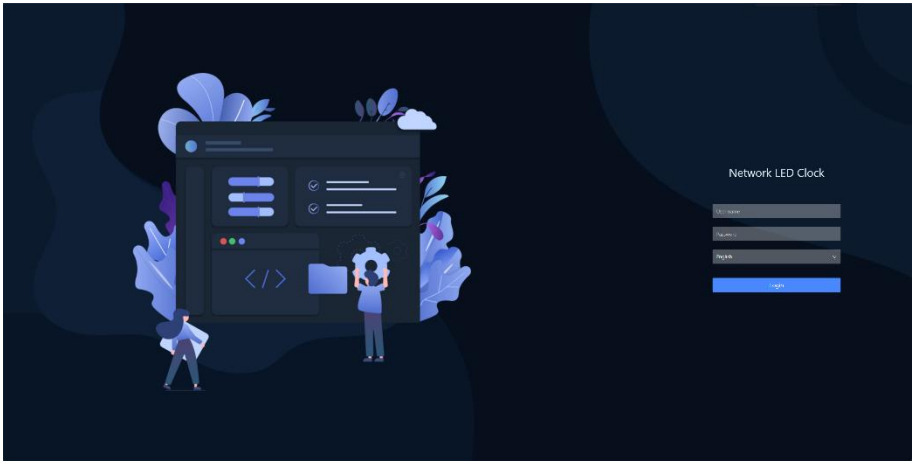
### 5.1.1. Login To Web Page

After connecting Network LED Clock to a standard local area network via the RJ45 Ethernet port, you can try to log in to the device's web interface.

(1) Please enter the IP address of the Network LED Clock in the address bar of web browser (the default IP address is 192.168.1.101), and then press enter.

(2) Enter the username, and password on the login page.

(3) Press login to enter the Devices web page.




Notes:

-Before accessing the device, make sure that the PC network and the device network can communicate with each other.

-Default Network Parameters:

IP address: 192.168.1.101; Subnet mask: 255.255.255.0; Gateway: 192.168.1.1

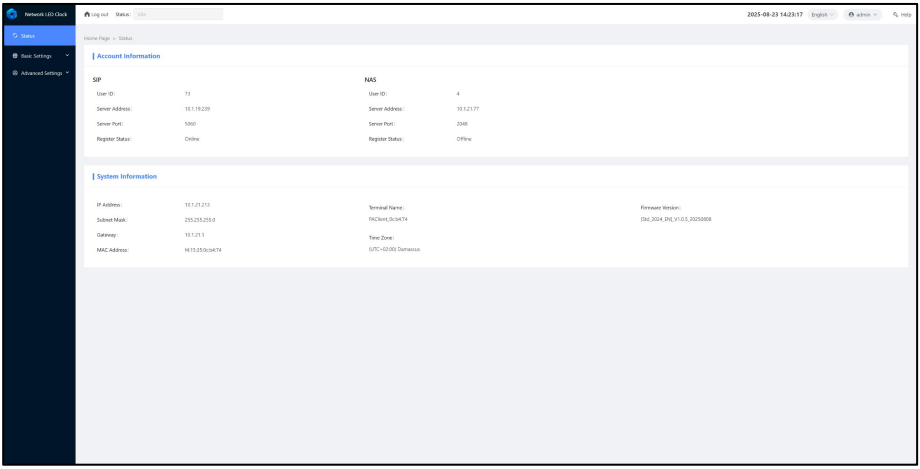
-Default username and password are both admin

-If the relevant parameter modification in the web page does not take effect after saving, please clear the cache and set them again.

-Avoid multiple PCs or multiple browsers accessing WEB at the same time, the new login will force the old access to quit. And the default logout timeout is 60s when the access has no operation.

### 5.1.2. Running Status

When the login to the WEB page is successful it will display the information of: Terminal ID, device IP address, default gateway, device MAC address and other information.



### 5.1.3. Basic Settings

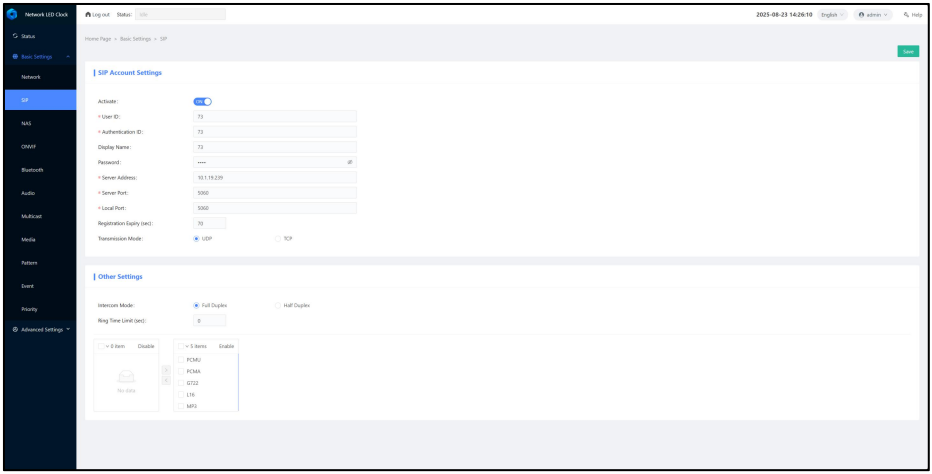
#### 5.1.3.1. Network

Please set the terminal network parameters according to the live environment. click on [save] button after setting, the parameters will take effect after reboot.


| Network | |
|---|---|
| DHCP | When DHCP is enabled, Obtain IP, DNS, and other parameters from the DHCP server. |
| IP Address | When set to a static IP can set the IP address of the device. Only private addresses can be entered. Initial setting: 192.168.1.101 |
| Subnet Mask | When set to a static IP can set the Subnet Mask of the device. Initial setting: 255.255.255.0 |
| Gateway | When set to a static IP can set the Gateway of the device. Initial setting: 192.168.1.1 |
| DNS1/2 | When set to a static IP can set the primary DNS server address and the secondary DNS server address. Modify these according to your actual situation when using the device. |
| Terminal Name | The host name carried in the request information after enabling DHCP. Valid only in a DHCP usage environment. The name will be displayed in the client list of the DHCP server. |

### 5.1.3.2. SIP

Set configuration parameters related to SIP.

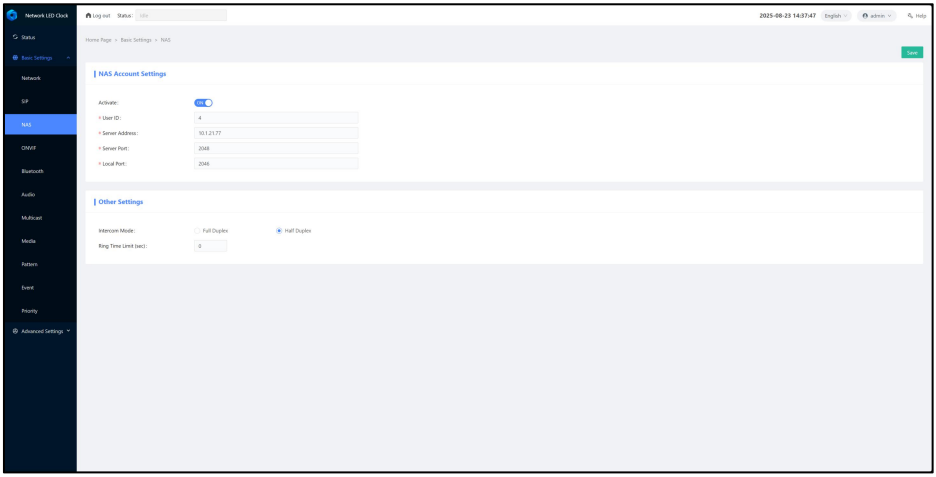



| SIP | |
|---|---|
| Activate | Enable account activation to send a registration request to the specified SIP server address. Enabled by default. |
| User ID | Configure the ID for registering with the SIP server;<br>The default ID is 2. |
| Authentication ID | Configure the authentication ID on the SIP server; by default, it is the same as the User ID. The default ID is 2. |
| Display name | The Display name of SIP account, it will be displayed on the terminal interface after setting. |
| Password | Password for terminal to login to SIP server, default is 1234. |
| Server Address | IP address of the SIP server that the terminal logs into. Please enter the correct IP address of the SIP server.<br>When the SIP server address is in domain name format, you need to modify the DNS server that can resolve this domain name. |
| Server Port | Configure the SIP Server port according to the actual situation, the default is 5060. |
| Local Port | Configure the port used for the device to register with the SIP server; default is 5060. |
| Registration Expiry(sec) | Configure the registration interval for the SIP server ID; the unit is seconds. The default value is 70. |
| Transmission Mode | Configure the transport protocol for registering with the SIP server; adjust according to your actual situation. The default is UDP. |
| Intercom Mode | Full-duplex intercom: Both parties can send and receive data simultaneously.<br>Half-duplex intercom: Both parties can exchange data, but not at the |

| | |
|---|---|
| | same time; transmission and reception must alternate. The default call release time for this device is 800ms.<br>The default is Half-duplex. |
| Ring Time Limit (sec) | The auto-answer duration when receiving a SIP call; the default is 0, which means the call enters the conversation immediately without ringing. |
| Audio Coding | Supports PCMU, PCMA, G722, L16, and MP3 encoding methods, with priority ordered from top to bottom. To adjust the audio coding priority, move the desired coding method to the left selection box and then select it to move to the right to complete the configuration.<br>NOTE: When establishing communication using L16 or MP3 encoding, the receiving end only receives (suitable for SIP broadcasting). For two-way SIP intercom, please select PCMU, PCMA, or G722 audio codecs. |

### 5.1.3.3. NAS

The NAS protocol is applicable to the SPON private protocol and can be adapted for use on both the XC-9000 server software and the built-in server software.

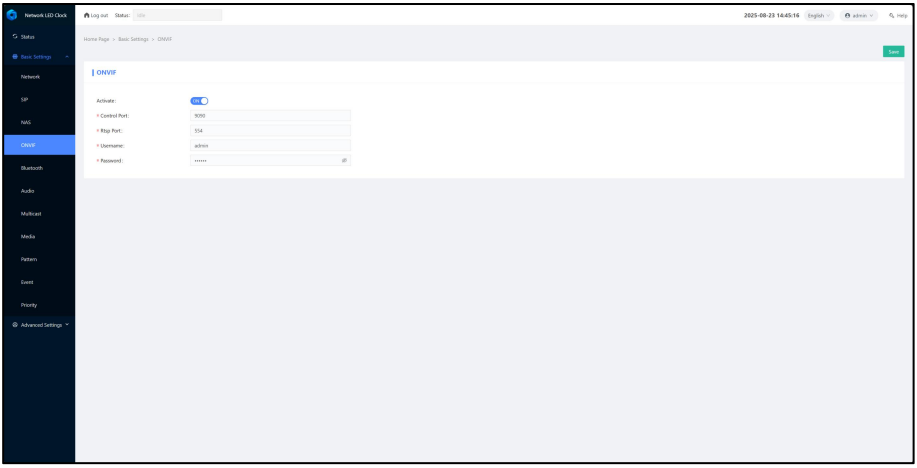



| NAS | |
|---|---|
| Activate | Enable account activation to send a registration request to the specified NAS server address. Enabled by default. |
| User ID | Configure the ID for registering with the NAS server; Default ID is 1. |
| Server Address | IP address of the NAS server that the terminal logs into. Please enter the correct IP address of the NAS server.<br>When the NAS server address is in domain name format, you need to modify the DNS server that can resolve this domain name. |

| | |
|---|---|
| Server Port | Configure the NAS Server port according to the actual situation, the default is 2048. |
| Local Port | Set the port used by the local device to log in to the NAS server. The default value is 2046. |
| Intercom Mode | Full-duplex intercom: Both parties can send and receive data simultaneously.<br>Half-duplex intercom: Both parties can exchange data, but not at the same time; transmission and reception must alternate. The default call release time for this device is 800ms.<br>The default is Half-duplex. |
| Ring Time Limit (sec) | The auto-answer duration when receiving a NAS call; the default is 0, which means the call enters the conversation immediately without ringing. |

#### 5.1.3.4. ONVIF

Set ONVIF related parameters for credentials used to connect to VMS, NVR.




| ONVIF | |
|---|---|
| Activate | When enabled, the terminal will support the ONVIF protocol and can perform bidirectional transmission of audio streams with the VMS platform. |
| Control Port | The port used for ONVIF protocol communication; the default is 9090. |
| RTSP Port | The port used for media data negotiation; the default is 554. |
| Username | The username used for ONVIF authentication. Default: admin |
| Password | The password used for ONVIF authentication. Default: 123456 |

### 5.1.3.5. Bluetooth

Configure the parameters related to Bluetooth connections.


| Bluetooth | |
|---|---|
| Bluetooth | Enable Bluetooth connection; default is disabled. |
| Name | Editable Bluetooth name for discoverable devices; by default, it includes the last six digits of the device's MAC address. |
| Password | The pairing code used for connecting Bluetooth devices; the default is 1234. |
| Current Paired Device | Display the name of the currently paired device. |
| Clear Paired Device | Click the button to clear paired remote devices. |
| Auto Reconnect | Enabled: When a paired device is detected, the audio Bluetooth will be automatically reconnected;<br>Disabled: When the audio Bluetooth is disconnected for more than 2 minutes, paired devices will be automatically cleared. |

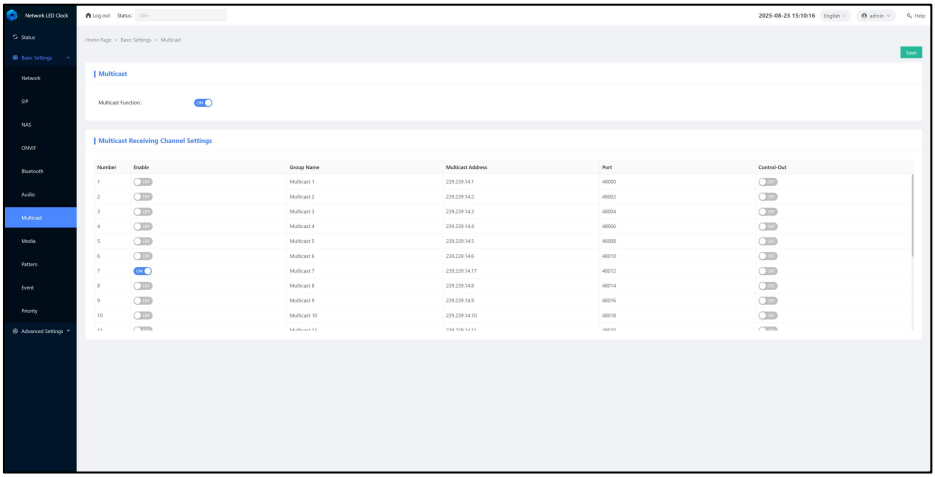
### 5.1.3.6. Audio

Configure the parameters related to input and output volume and channels.


| Audio | |
|---|---|
| MIC Input Volume | Used to adjust the local MIC input volume, including the built-in microphone and intercom panel (GEN-4101) parameters. Default is 9. |
| Audio Input Channel | Select the default type of audio input channel. |
| External Input Type | Select the external input type based on actual usage. When selecting a microphone, the input gain will be adjusted accordingly to match the input signal quality. |
| MIC Phantom Power | Enable or disable 12V phantom power supply for external microphones.<br>!!!Warning!!!Please carefully check and verify the wiring and microphone parameters when enabling. Mismatched power supply parameters may cause microphone damage!!! |
| Master Volume | Set the audio output volume for local tasks (does not take effect when Bluetooth or line audio source is active). |
| Offset Volume(dB) | Display the setting value of the master volume offset volume correction. Offset volume correction is set remotely by external devices and cannot be adjusted through a browser. |
| Equalizer | Equalizer: Optimizes sound quality by boosting or attenuating signals in specific frequency bands.<br>When enabled, supports six preset modes — Bass, Pop, Classic, Rock, Speech, and Custom — for switching. Changes are saved and take effect in real time. The Custom mode allows adjustment of ten frequency bands, each ranging from -20dB to +20dB. Other modes only display preset values and do not support custom adjustment. Default is disabled. |

### 5.1.3.7. Multicast

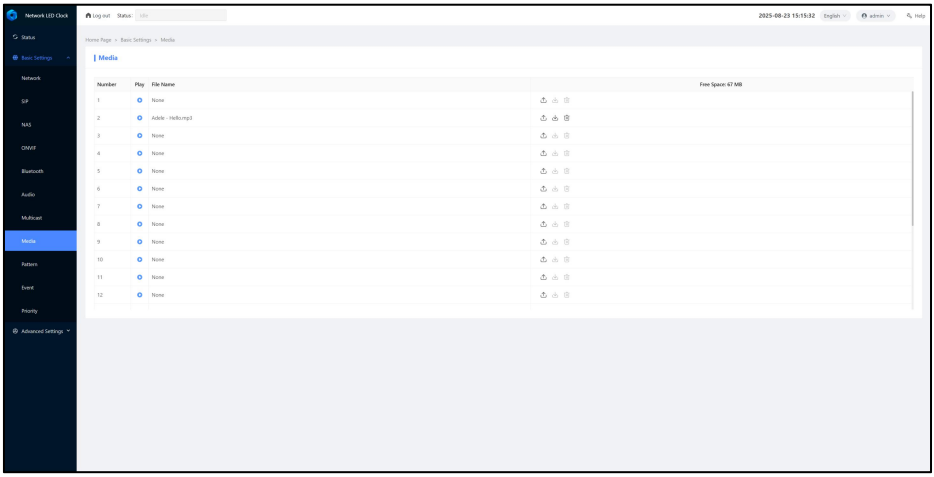
Set the terminal Receive multicast parameters, click on [save] button after setting, the parameters will be applied immediately.




| Multicast | |
|---|---|
| Multicast Function | Enable or disable multicast reception function. |
| Enable | Enable or disable single channel multicast reception. |
| Group Name | Set the name of the multicast reception address for quick identification of the target type or area. Users can modify this according to their needs. Default multicast 1~20. |
| Multicast Address | Multicast reception address, which follows the Class D IP Address Range. Default parameters: 239.239.14.1 ~ 239.239.14.20. |
| Port | Multicast reception port, default parameters: 48000 ~ 48038. |
| Control-Out | Enable or disable linkage alarm output. |

### 5.1.3.8. Media

Upload media files to be played when the corresponding task is triggered.Maximum supported storage space is 80MB.

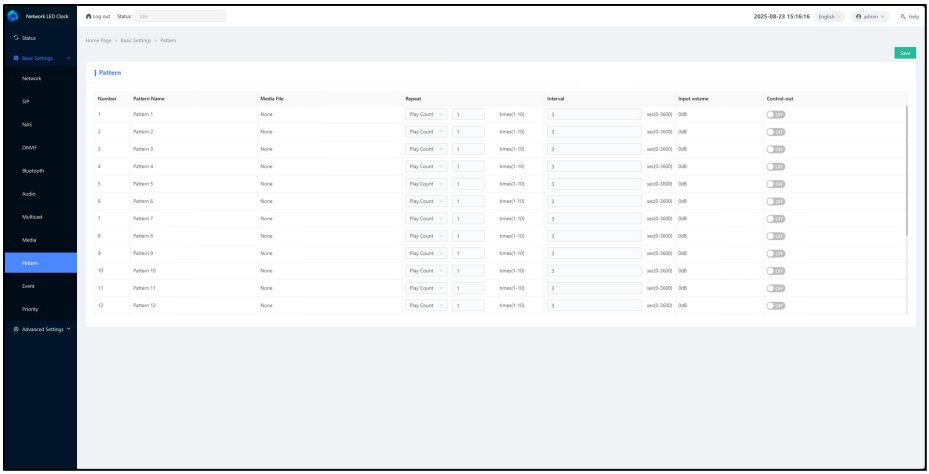



| Media | |
|---|---|
| Play | Play uploaded media files via the WEB page (recommended to use Chrome browser for operation) |
| File Name | The name of the currently uploaded media file, cannot be modified on the web page. |
|  | -Upload: Upload audio media files (supports mp3, wav)<br>-Download: Download audio media files from the terminal device via the current WEB<br>-Delete: Delete audio media files from the terminal device via the current WEB |
| Free Space | Display the remaining media storage space on the device. This will be recalculated and shown each time a file is uploaded. Maximum supported storage space is 80MB |

Notes: Supported file formats: WAV (8/16/22/44.1/48 kHz sampling rate, 8/16 bits, mono/stereo), MP3(32/44.1/48 kHz sampling rate, 64-320 KBPS, CBR/VBR, mono/stereo).
-Maximum file size: no more than 50mb for a single file and no more than 80MB for total storage.

### 5.1.3.9. Pattern

Set the configuration for the broadcast file playback mode. When external signals, buttons, timers, or other operations trigger an event, the corresponding broadcast operation will be executed.



| Pattern | |
|---|---|
| Pattern Name | Used for modifying the name of the broadcast mode, facilitating the management of different broadcasting methods. |
| Media File | Matches the media file that needs to be played. Detailed configuration needs to be done in the Media section. |
| Repeat | Play Count: The number of times to play is the loop count of the Media File.<br>Duration: The duration is the total playback length of the playlist.<br>Timer: Set up a scheduled task to run periodically within the time range of specific days and hours each week. |
| Interval | The time interval before playing the next list after the current list of files has finished playing.<br>The maximum Interval for file playback is 3600 seconds. |
| Input Volume | Adjust the output gain for the playback of media files. |
| Control-out | When the corresponding broadcast mode is triggered, simultaneously switch the short-circuit output state. |

Notes:

This unit supports Remote Control by external devices.

**①Command format**

http://admin(username):admin(password)@<IP_address>/api/v1/<Command_type>/<Com

mand>?<Parameter1=value1>&<Parameter2=value2>

**②Command list**

| Command Type | Command | Parameter1 | value1 | Parameter2 | value2 |
|---|---|---|---|---|---|
| control | pattern/play | pattern_number | 1-20 | destination | speaker |
| control | pattern/stop | pattern_number | 1-20 | | |
| control | reboot | | | | |

**③Command Example**

Basic info. Username=admin, password=admin, IP address=192.168.1.101

- Example1: Play pattern5;

http://admin:admin@192.168.1.101/api/v1/control/pattern/play?pattern_number=5&destination=speaker

- Example2: Stop pattern9;

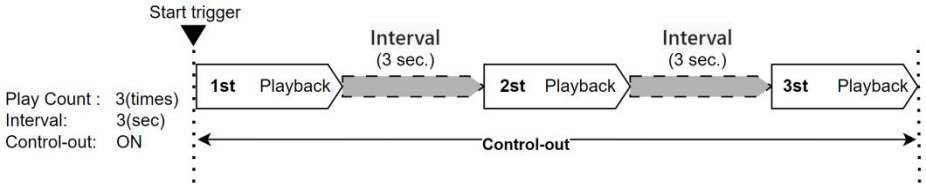
http://admin:admin@192.168.1.101/api/v1/control/pattern/stop?pattern_number=9

- Example4: reboot the unit;

http://admin:admin@192.168.1.101/api/v1/control/reboot

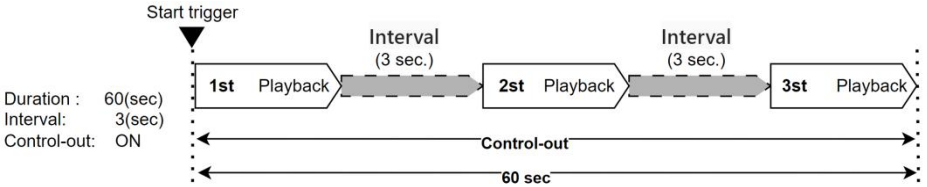
**[If Play Count is selected]**

Designate the number of times the sound source playback will be repeated. The following operation is performed when **Edge** is selected as the Signal Mode and the start trigger is a control input, or if the receiving device is externally controlled by remote API.



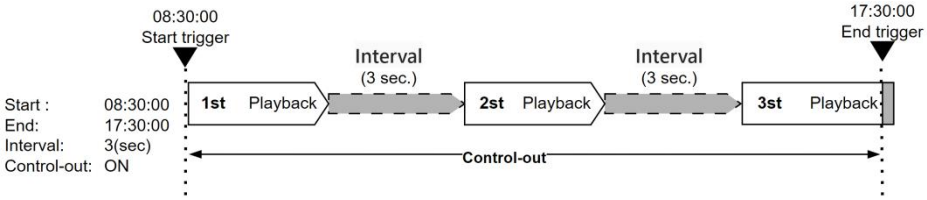

**[If broadcast duration is selected]**

Designate the duration of repeated play. The following operation is performed when **Edge** is selected as the Signal Mode and the start trigger is a control input, or if the receiving device is externally controlled by remote API.




**[If Timer is selected]**

Designate the repetition start time and end time for the sound source.




Note:

Pattern numbers set to Timer will not be enabled, even if set as event actions on the Event Settings screen. Nor can they be externally controlled by Remote API. Instead, to control the pattern by event action or Remote API, set it to Play Count or Duration. Patterns set as Timer are only enabled as determined by the timer settings.

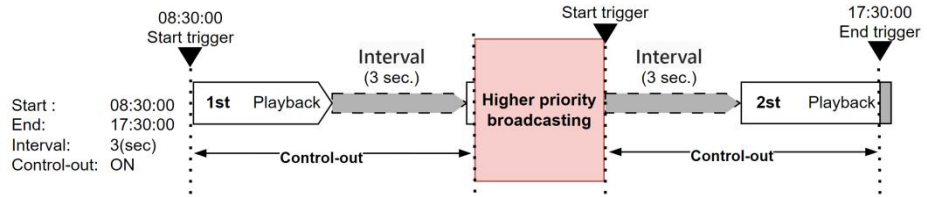
• The start time and end time cannot be set to the same value.

**Tips:**

The broadcast execution time cannot be executed across days, for example, if you need to set up a broadcast task that starts at 17:00 PM and ends at 6:00 AM the next day, you need to configure two time points: first, configure 17:00:00~23:59:59; then, configure 0:0:0~6:0:0

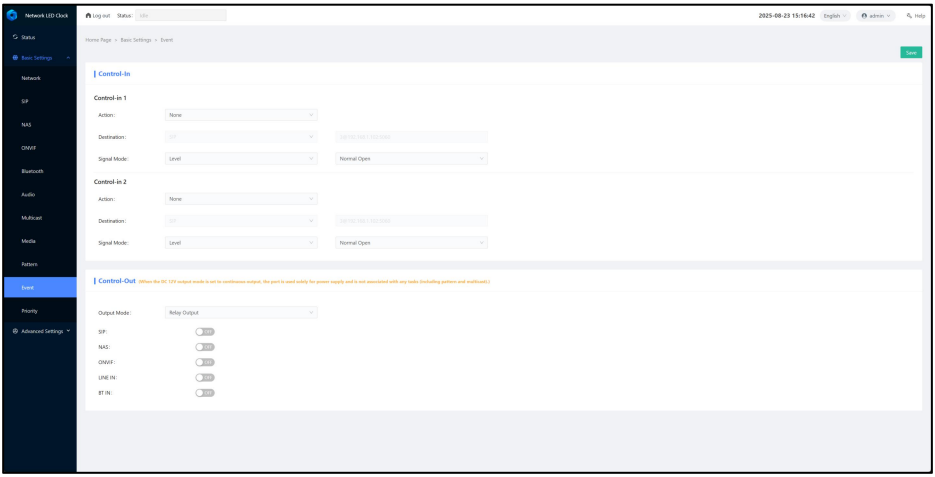
• To play the sound source only once, without performing repeat play, set an end time based on the length of the sound source play.

• If another higher priority broadcast is enabled between the start time and end time, the broadcast will behave as follows:



### 5.1.3.10. Event

Set the tasks to be triggered when the terminal alarm input interface is activated. These tasks can include initiating a SIP call, triggering a pattern, broadcast Disable, and other operations to meet different usage scenarios.




| Event | |
|---|---|
| Control Input | Configure to trigger the operation of the corresponding target task when a change in a particular short-circuit input signal occurs. |
| Action | The actions support triggering the following types: Pattern, SIP Call and Broadcast Disabled.<br>Select Pattern to be triggered for playback tasks on the local machine only.<br>Call is a call task type that requires specifying a SIP terminal destination, formatted as: 3@192.168.1.102:5060.<br>Broadcast Disabled is a mute operation that only becomes effective when the signal trigger mode is set to level type. Upon being triggered, it will shut down all audio output channels on the device without affecting other task statuses. |
| Destination | The trigger task destinations support and SIP Call destinations. |
| Signal Mode | Trigger signals include level signals and edge signals.<br>Level signals are of the type that requires continuous triggering, such as using a self-latching switch to trigger.<br>Edge signals are for instantaneous trigger detection, like using a push-button switch to trigger.<br>Normally open/Normally closed detection is for judging changes in alarm states. When setting a Normally open alarm, it is necessary to ensure that the corresponding short-circuit input's |

| | |
|---|---|
| | initial state of the device is closed, and an alarm will be triggered when it opens. Conversely, the same principle applies. |
| Output Mode | The alarm output signal supports relay dry contact output and DC 12V voltage output. When DC 12V is selected, this port will power the connected device. Please ensure correct connection and use to prevent damage to the equipment. |
| SIP/NAS/ONVIF/LINE IN/BT IN to Control-Out | When the device receives a SIP, NAS, ONVIF, LINE IN, or BT IN task, it adjusts the alarm output interface state based on the task type. |

#### 5.1.3.11. Priority

Set the task priority, ranked from high to low. Users can drag the icon on the right side of the table to freely sort the tasks.


| Priority | |
|---|---|
| Priority | Priority ranking starts at 1 as the highest, decreasing sequentially. |

**Recommendations for use:**

**-**High priority tasks: such as emergency broadcasts or alarm signals, should always be executed first.

-Low priority tasks: such as background music or timed broadcasts, can be executed when there are no higher priority tasks.

-High-priority tasks will override low-priority tasks. Once the high-priority task is completed, the low-priority task will resume execution.

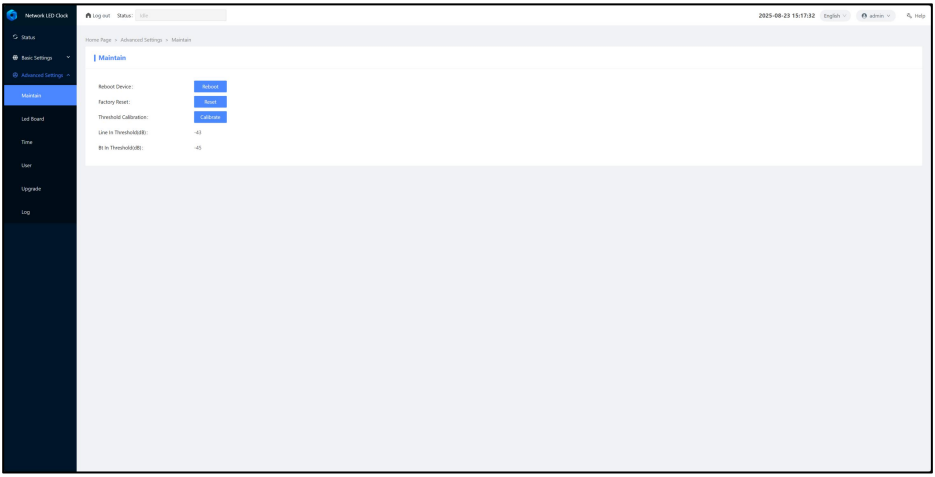
### 5.1.4. Advanced Settings

#### 5.1.4.1. Maintain

**Reboot:** Restarts the device. Use this button when applying setting changes or performing other operations that require restart.

**Return to Factory:** Resets all of the device's settings to their initial status as shipped from the factory. Internally saved sound source files will also be deleted.

**Threshold calibration:** Click this button to calibrate the line and Bluetooth input threshold. Please ensure that there is no audio input during calibration. Line input and Bluetooth input activate based on audio signal amplitude. If tasks don't start or stop correctly, recalibrate.



#### 5.1.4.2. LED Board

**Brightness:** Set the brightness of LED board.

**Query Led Board Version:** Click on the "Query" button, and the information screen will display the version number and update time of the Led Board program. After five seconds, the Led Board will turn off and return to the initial screen-off state.

(Note: If the device has already published text information, the published information will not be redisplayed after the Led Board version is inquired. It is necessary to republish the task through the server software.)

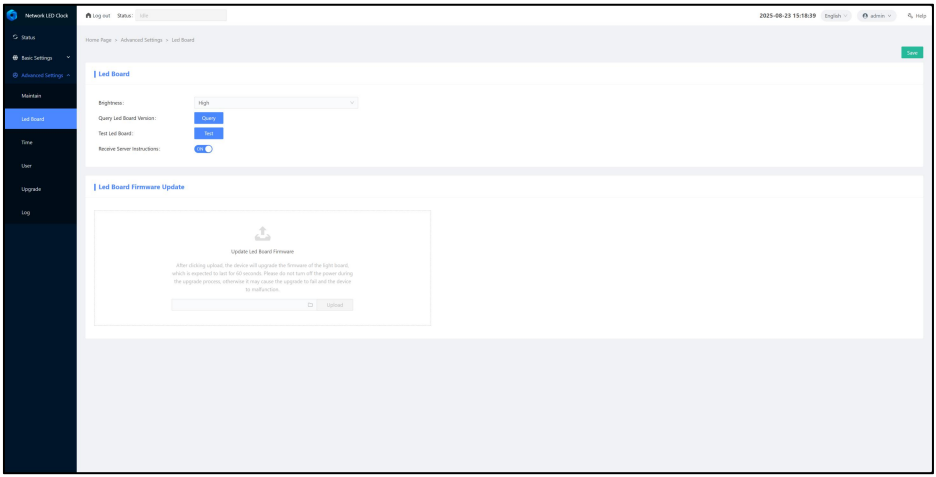
**Test Led Board:** Clink on the “Test” button, The screen of the Led Board will be fully lit, allowing you to check the display status of the Led Board. After 15 seconds, it will flash slowly for 4 times and return to the initial screen-off state.

(Note: If the device has already published text information, the published information will not be redisplayed after the Led Board version is inquired. It is necessary to republish the task through the server software.)

**Receive Server Instructions:** Set whether to receive server instructions.

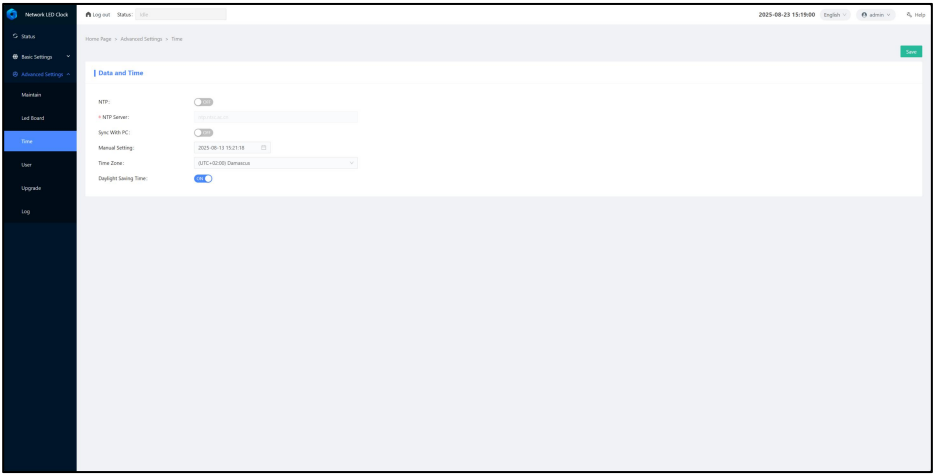
**Led Board Firmware Update:** Click on the " " button, select the Led Board's firmware file, and click "Upload" to begin update Led Board firmware version.

Note: Do not power off during the 120-second process to avoid failure or device malfunction. The device and web page will restart automatically after completion. (Upgrade only if necessary.)



### 5.1.4.3. Time

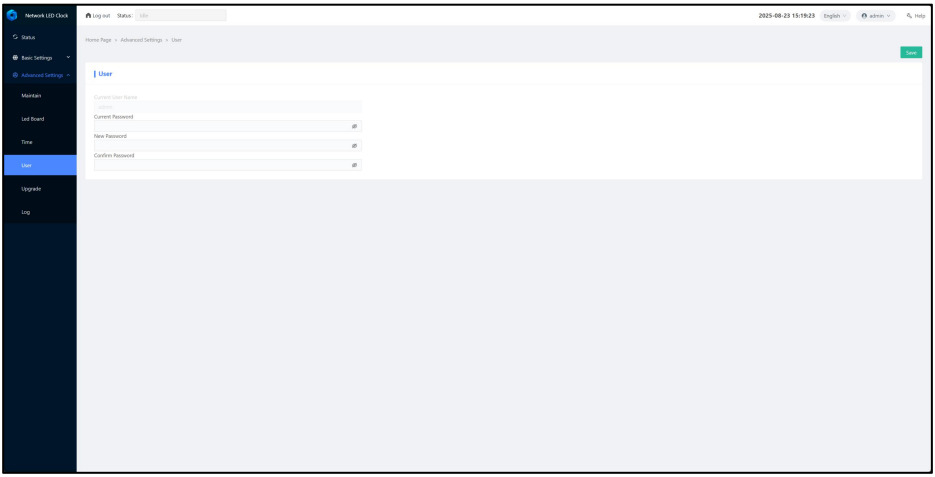
Set the device time. Click on [save] button after setting, the parameters will be applied immediately.




| Time | |
|---|---|
| NTP | When NTP is enabled, the system will request time from the specified NTP server; if you need to set the time manually, you should disable this option. |
| NTP Server | The NTP server address can be an IP address or a domain name. If you set a domain name, you need to configure the correct DNS address accordingly. |
| Sync With PC | Synchronize the time with the PC currently accessing the web based on actual needs. |
| Manual Setting | Users can set the time zone and time according to their needs. |
| Time Zone | Users can set the time zone for their current region according to their needs. |
| Daylight Saving Time | Users can set the daylight saving time (DST) configuration for their current region according to their needs. When enabled, the system will calculate the DST time based on the DST rules. |

#### 5.1.4.4. User

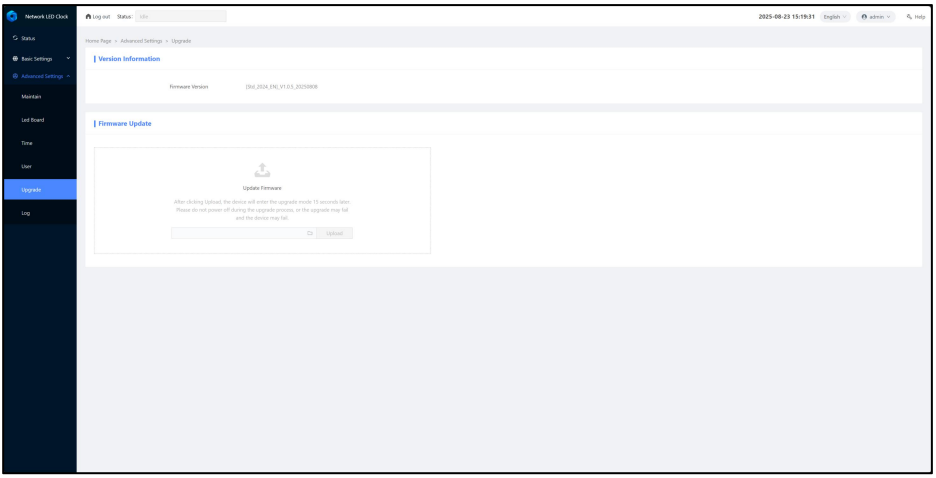
You can change the password for logging into the web page. After saving the password change, restart the web page to take effect. (Advised to change passwords periodically to ensure security).



### 5.1.4.5. Upgrade

On the upgrade page, click on" " button, select the firmware upgrade file provided by the manufacturer, and click on "Upload" button to start the upgrade.

Note: Please do not power off during the upgrade process, otherwise it may lead to upgrade failure and device malfunction. The upgrade process is about 120s, and the device and web page will restart automatically after the upgrade is completed. (Do not upgrade the firmware unless you have special needs)



#### 5.1.4.6. Log

Record the system logs and web logs of the current device for maintenance personnel to check and verify operation records.

# 6. Troubleshooting

## 6.1. Common Issues and Solutions

| Issue | Possible Causes | Solutions |
|---|---|---|
| **Unable to log in via the Web Interface** | - The device and PC are not on the same network segment.<br>- IP address conflict.<br>- Network connection issues or interruption.<br>- Firewall blocking Web access. | - Ensure the device and PC are on the same local network and check if the network connection is stable.<br>- Use tools like ping to test if the device's IP address is reachable.<br>- Verify the device's IP address settings to ensure there is no conflict.<br>- Temporarily disable the firewall or add an exception rule to allow access to the device's Web interface. |
| **Unable to connect to the SIP server** | - Incorrect SIP server address or port configuration.<br>- Network connectivity issues preventing communication with the SIP server.<br>- The SIP server is not running or is unreachable.<br>- Firewall blocking the SIP port (default 5060). | - Check the SIP server's IP address and port settings in the device's Web interface to ensure they are correct.<br>- Use ping or telnet to test the connectivity to the SIP server.<br>- Confirm that the SIP server is running and accessible.<br>- Check firewall settings to ensure the SIP port is not blocked. |
| **Device Cannot Connect via Bluetooth** | - Bluetooth is not enabled.<br>- Bluetooth device is not paired.<br>- Bluetooth device is too far away or obstructed. | - Log in to the web page, go to the "Bluetooth" page, and ensure Bluetooth is enabled.<br>- Ensure the Bluetooth device is paired; the default pairing code is 1234.<br>- Ensure the Bluetooth device is within range of the GEN-3001 and there are no significant obstructions. |
| **Low or High Audio Input Volume** | - Input volume settings are incorrect.<br>- External input device volume settings are incorrect.<br>- Cable connection issues. | - Log in to the web page, go to the "Audio" page, and adjust the "MIC Input Volume" and "Local Output Volume" settings.<br>- Check the volume settings of the external input device (e.g., microphone).<br>- Check the audio input cable connections to ensure they are secure and undamaged. |

| Issue | Possible Causes | Solutions |
| --- | --- | --- |
| **Poor Audio Output Quality** | - Audio codec settings are incorrect.<br>- Unstable network environment.<br>- Output device issues. | - Log in to the web page, go to the "Audio" page, and adjust the "Equalizer" settings to suit the current network environment.<br>- Check the network environment to ensure a stable connection and avoid network fluctuations.<br>- Check the audio output device (e.g., speaker) to ensure it is functioning correctly and properly connected. |
| **Incorrect Multicast Address Configuration** | - Multicast address settings are incorrect.<br>- Multicast address conflict. | - Log in to the web page, go to the "Multicast" page, and check the multicast address settings to ensure they are within the Class D IP address range (239.0.0.0 - 239.255.255.255).<br>- Ensure the multicast address does not conflict with other devices, and each multicast address should be unique. |
| **Control Input Signal Fails to Trigger Task** | - Control input signal settings are incorrect.<br>- Signal mode settings are incorrect.<br>- External device connection issues. | - Log in to the web page, go to the "Event" page, and check the control input signal settings to ensure the signal mode (level signal or edge signal) is set correctly.<br>- Check the external device (e.g., switch) to ensure it is functioning correctly and properly connected.<br>- Check the control input port for damage and replace or repair if necessary. |
| **High-Priority Tasks Not Executing** | - Task priority settings are incorrect.<br>- High-priority tasks are being overridden by low-priority tasks. | - Log in to the web page, go to the "Priority" page, and check the task priority settings to ensure high-priority tasks are placed at the top.<br>- Ensure no other tasks are occupying high-priority positions and adjust the task order if necessary. |
| **System Time Not Synchronized** | - Incorrect NTP server settings. | - Log in to the web page, go to the "Time" page, and check the NTP |

| Issue | Possible Causes | Solutions |
|---|---|---|
| | - Inaccurate manual time settings. | server settings to ensure the address is correct and accessible.<br>- If manually setting the time, ensure the time is set accurately and synchronize with the PC time if necessary. |
| **Failed to Upload Media Files** | - Unsupported file format.<br>- Insufficient storage space.<br>- Network connection issues. | - Ensure the media files are in the supported formats (WAV or MP3).<br>- Check the device's remaining storage space to ensure there is enough space for media files.<br>- Check the network connection to ensure stability during file upload. |
| **Settings Lost After Device Reboot** | - Settings not saved.<br>- Storage medium failure. | - Ensure settings are saved by clicking the "Save" button after making changes and wait for the device to confirm the save.<br>- Check the device's storage medium for proper functioning and contact technical support if necessary. |
| **Forgot password** | -Press and hold the reset button for about 5 seconds to release the device | -After the device triggers the reset, all parameters are initialized and the device automatically restarts. After the reset, the IP address is 192.168.1.101. WEB User name and password: admin/admin. |
| **Forgot IP address** | -Use the IP scanning and configuration tool on the LAN | -After the terminal is detected, you can select and change the IP address based on the terminal model and MAC address.<br>-You can also directly connect the device network port to the computer network port to forcibly configure an IP address for the terminal. |

#### 6.1.1.1. Summary

The above table lists additional faults and their troubleshooting solutions, which can help customers conduct a comprehensive analysis of product issues. If problems persist, customers are advised to contact SPON Communications' technical support for further assistance. We hope this information is helpful to you!

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