

PROSPERO

Public Address and Voice Alarm System

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1 General information

The purpose of this configuration manual is to provide all the information needed to configure and program the product for the Bosch PROSPERO public address system. Step-by-step detailed instructions will be provided for new users as well as reference information for experienced users.

This manual does not describe hardware installation instructions unless required to configure the product.

Configuration manual contents

Before and during the configuration of the system, refer to the following sections:

- Chapter 1: General information - This chapter provides information about the intended audience, training, and available documentation, explains how to use this manual, and provides an overview of the Bosch PROSPERO public address system.
- Chapter 2: Product overview - This chapter provides an overview of the Bosch PROSPERO public address system products.
- Chapter 3: Getting started - This chapter provides instructions for installing the software and important steps that must be considered before and during configuration.
- Chapter 4: Logging in to the application - This chapter describes how to log in to the Bosch PROSPERO Public Address System server web page and the important steps that must be considered before and during the configuration of the login.
- Chapter 5: System configuration - This chapter describes various aspects related to configuring the Bosch PROSPERO public address system.
- Chapter 6: Troubleshooting - This chapter describes troubleshooting options for the Bosch PROSPERO public address system.
- Chapter 7: Failure event messages - This chapter provides information about system failure events generated by the Bosch PROSPERO public address system.

1.1 Intended audience

This configuration manual applies to all persons authorized to configure the Bosch PROSPERO public address system and related products.

1.2 How to use this manual

If you are new to the Bosch PROSPERO Public Address System or are starting to configure a new Bosch PROSPERO Public Address System, it is recommended that you read through this manual from beginning to end.

1.3 Related documentation

In order to meet the needs of different users, Bosch PROSPERO public address system technical documentation adopts a modular structure.

	Installer	System integrator	Operator
Product User Manuals: basic overview and description of each hardware product	X	X	

	Installer	System integrator	Operator
System Installation Manual: System overview, installation and wiring instructions for all hardware products.	X	X	
Software Configuration Manual: instructions for installation, configuration, diagnostics and operation of system software	X	X	X

1.4 Copyright notice

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1.5 Trademarks

Throughout this document trademark names may have been used. Rather than put a trademark symbol in every occurrence of a trademark name, Bosch Security Systems states that the names are used only in an editorial fashion and to the benefit of the trademark owner with no intention of infringement of the trademark.

1.6 Notice of liability

While every effort has been taken to ensure the accuracy of this document, neither Bosch Security Systems nor any of its official representatives shall have any liability to any person or entity with respect to any liability, loss or damage caused or alleged to be caused directly or indirectly by the information contained in this document.

Bosch Security Systems reserves the right to make changes to features and specifications at any time without prior notification in the interest of ongoing product development and improvement.

1.7 Document history

Release date	Document version	Reason
2024-10	V1.00	1 st edition

1.8 Software and tool release history

It is recommended to always use the latest version of the system software and device firmware.

Before operating the device for the first time, make sure you have installed the latest available software version. To ensure continued functionality, compatibility, security, and performance, update the software periodically over the life of the device. For software updates, follow the instructions in the product documentation.

Bosch PROSPERO Public Address System Package 1.0.25.zip

Release date	Version	Reason
2024-10	V1.0.25	Official release

1.9 System introduction

For detailed information on product and system descriptions/specifications, refer to the Bosch PROSPERO Public Address System Product Data Sheet and Installation Manual.

Introduction to Bosch PROSPERO Public Address System

The PROSPERO system is a public address system based on TCP/IP technology released by Bosch. All equipment components of the system can be directly connected to Standard Ethernet networks are used to transmit audio and control signals directly over the network. PROSPERO system has excellent scalability and flexibility, call stations and interface modules and other components support PoE power supply, which is suitable for both centralized system layout and distributed system topology requirements. PROSPERO system also has excellent compatibility, and can be used with various types of amplifiers and loudspeakers in Bosch's public address product line, so as to build a broadcasting and background music solution that meets the needs of various applications. The PROSPERO system is not only cost-effective with excellent sound quality, but also easy to install, integrate and use. In addition, the design is optimized for applications and scenarios in the education industry, including IP active speakers that can meet the needs of applications in the classroom.

1.10 Security precautions

- The Bosch PROSPERO system is an IP-networked public address system. To ensure that the intended functionality of the system is not compromised, special care and measures need to be taken during installation and operation to avoid tampering with the system.
- The Bosch PROSPERO Public Address System Configuration Manual and Installation Manual provides a number of measures related to the described products and activities. This section outlines considerations related to network security and system access.
- It is strongly recommended to run the PROSPERO system on a LAN dedicated to broadcasting and not to mix it with other devices for other purposes. Other devices may be accessed by unauthorized personnel, creating a security risk. This is especially true when the network is connected to the Internet. It is strongly recommended to lock or disable unused ports on the network switch to avoid device connection situations that may affect the system. This also applies to PROSPERO call stations connected via a single network cable, ensuring that the equipment's wire slot covers are properly secured in place. Other PROSPERO equipment should be installed in areas accessible only to authorized personnel to avoid tampering.

- In summary, the installer is responsible for security measures to prevent incorrect use of the system over the network and local wired or wireless networks. Please consider the following items to improve security:
 - Change default administrator password;
 - Preventing unauthorized access to PROSPERO server computers;
 - Prevent unauthorized physical and logical access to wired Ethernet connections on the PROSPERO network;
 - Place the PROSPERO network in a separate WLAN;
 - Use of firewalls;
 - Install the latest Windows security updates;
 - Install the latest virus scanning program;
 - Schedule Windows Updates to run when the system is not in use, such as 1:00 a.m. on Sundays. If updates are scheduled through Windows Task Manager, it can also be configured to automatically restart as needed after an update.

This system requires the following ports to be open:

Serial number	Port	Protocol
1	5672	TCP
2	15672	TCP
3	25672	TCP
4	1935	TCP
5	3306	TCP
6	6328	TCP
7	6329	TCP
8	6379	TCP
9	6380	TCP
10	7827	TCP
11	8080	TCP
12	8100	TCP
13	8300	TCP
14	8301	TCP/UDP
15	8302	TCP/UDP
16	8500	TCP
17	8600	TCP/UDP
18	9000	TCP
19	1883	TCP
20	17328	TCP
21	17428	TCP
22	18450	TCP

Serial number	Port	Protocol
23	19091	TCP
24	69	UDP
25	80	TCP
26	1936	TCP
27	7900	UDP
28	21527	UDP
29	21528	UDP

Whenever possible, use an intrusion protection system (IPS) with port security to monitor the network for malicious activity or policy violations.

**Notice!**

By default, the initial administrator has a username: admin, and a password: admin.

**Notice!**

Ordinary users, initial password: 123456.

**Notice!**

When logging in for the first time, please follow the prompts to change your password. Even if the system is on a closed LAN, users should change their initial passwords in time to ensure higher security.

**Notice!**

Be sure to use long and complex enough passwords; usernames must be between 5 and 16 characters, and passwords must be between 8 and 16 characters.

2 Product overview

The PROSPERO series contains the following products:

Product view	Ordering information Product name
	PRP-CST Call station
	PRP-LSSW System software license
	PRP-IM1A Interface module, 1 audio output
	PRP-IM2C1A Interface module, 2x2 control, 1x1 audio
	PRP-UC15L 15 W speaker cabinet

Product view	Ordering information Product name
	PRP-UC15L-IP Speaker, 15 W, IP

3 Getting started

- Configuration of the Bosch PROSPERO public address system is accomplished through a graphical user interface (GUI), which is provided by the system server's web server and can be accessed through a web browser.
- You will need to have a working knowledge of computers, Windows operating systems and Ethernet networks.

Before you begin configuring and operating the Bosch PROSPERO public address system, it is recommended that you perform the following actions:

1. Update the operating system.
2. Install the system software.
3. Check the network and web browser settings.
4. Configuration considerations.
5. Log in to the application.



Caution!

The PROSPERO public address system will only work properly if a USB software license is inserted. (In the absence of a USB software license, only emergency broadcasts will be allowed, all other broadcasts will not be allowed).

3.1 Installation of the system software

The PROSPERO system software installation process includes the following steps:

1. Check that the computer meets the minimum requirements for installing and running the PROSPERO system software, see PC Requirements.
2. Install the (required) software packages on the configuration computer.
3. Check network and web browser settings.
4. Log in to the application.

3.1.1 PC requirements

For computers running software services in the PROSPERO system, the minimum configuration requirements are:

Item	Minimum requirement
CPU	Intel Core i5 2.0GHz
Internal memory (RAM)	8 GB
Hard disk	256 GB SSD
Graphic card (GPU)	Supports DirectX 12 and WDDM 2.0 drivers
Screen resolution	Minimum 1280x720 resolution, 1920x1080 resolution recommended
Network connection	100 Mbps/1 Gbps Wired Ethernet
USB port	At least one USB 2.0 port
Operating system	Recommended for Windows Server 2012 and above, compatible with Windows 10 and Windows 11 operating systems

3.1.2

Required software

The following software is important for configuring and operating PROSPERO and must be installed in the computer used to configure and operate the PROSPERO system. Please always use the latest version available.

All PROSPERO software is only available online.

To install the system software:

1. Unpack the control software installation package.
2. Run the Bosch PROSPERO System V1.0.25.exe after the decompression is complete to install the control software.
Note: If a pop-up window is displayed on whether to allow the device to make changes, click **Yes** to proceed to the next step.
3. Read the User License Agreement carefully and accept it before clicking **Next**.
4. The installation directory path is: C:\Program Files\Bosch\PROSPERO.
5. Click the **Install** button to start the installation and wait for the installation to be completed.
6. When the installation is complete, restart your computer immediately.
7. Check the PROSPERO System Status Tray in the lower right corner of the screen, which should show a green light when the USB software license is inserted.
8. When the system is running normally, you can start broadcasting operations or log in to the web management interface.

Update the software (Override the installed version)

1. Obtain the control software installation package and download it into the server to be deployed.
2. Unpack the control software installation package.
3. After the decompression is complete, run setup.exe to control the installation of the software, this time prompted to have the installed version V1.0.25 whether to override the installation of the new version, click **Yes** to enter the next step.
4. Read the User License Agreement carefully and accept it before clicking **Next**.
5. The installation directory path is: C:\Program Files\Bosch\PROSPERO.
6. Click the **Install** button to begin the installation process.
7. When the installation is complete, restart your computer immediately.
8. Check the PROSPERO System Status Tray in the lower right corner of the screen, which should show a green light when the USB software license is inserted.
9. When the system is running normally, you can start broadcasting operations or log in to the web management interface.

After the installation is complete, the following three shortcuts are generated on the desktop and in the Start menu:

- PROSPERO Web Management Interface.
- PROSPERO System Status Tray.
- PROSPERO Terminal Configuration Tool.

A shortcut to uninstall the software will also be generated in the Start Menu:

- Uninstall the PROSPERO system software.

Uninstall the software

1. Uninstall PROSPERO System Software by clicking the **Uninstall PROSPERO System Software** shortcut in the Bosch PROSPERO folder of the Start Menu or by running Uninstall Bosch PROSPERO System Software from the installation directory.

2. A pop-up window confirms whether to uninstall the system, click **Yes** to continue uninstalling.
3. Wait for the uninstallation to be completed.

3.2 Check the network and web browser settings

To ensure a successful network connection between the Bosch PROSPERO Public Address System server and the configuration PC, the settings described in the following sections must be checked/completed.

3.2.1 Ethernet adapter settings

It is recommended to set the TCP/IP v4 of the server NIC of PROSPERO system to **static IP address**, and the setting content includes **IPv4 address, subnet mask, gateway**, the specific settings need to be decided according to the local network conditions.



Notice!

Without this settings, the PROSPERO system server may not be able to obtain the correct IP address and will not function properly on the PROSPERO network.

Check/Setup (Windows 10 OS for example)

1. Right-click the **Windows Start** button and then click **Network Connections**. A new screen is displayed.
2. Click **Change Adapter Options**, select **Ethernet** and click **Properties**. A new screen display.
3. Click **Internet Protocol Version 4 (TCP/IP v4)** and click **Properties**. A new screen is displayed.
4. Enable (check) **Use the following IP address**.
5. Enter the correct configuration parameters according to the on-site network conditions (the IP address here is the server IP, e.g. 192.168.1.100, which is required for logging in to the PROSPERO Terminal Configuration Tool and remotely logging in to the PROSPERO system).

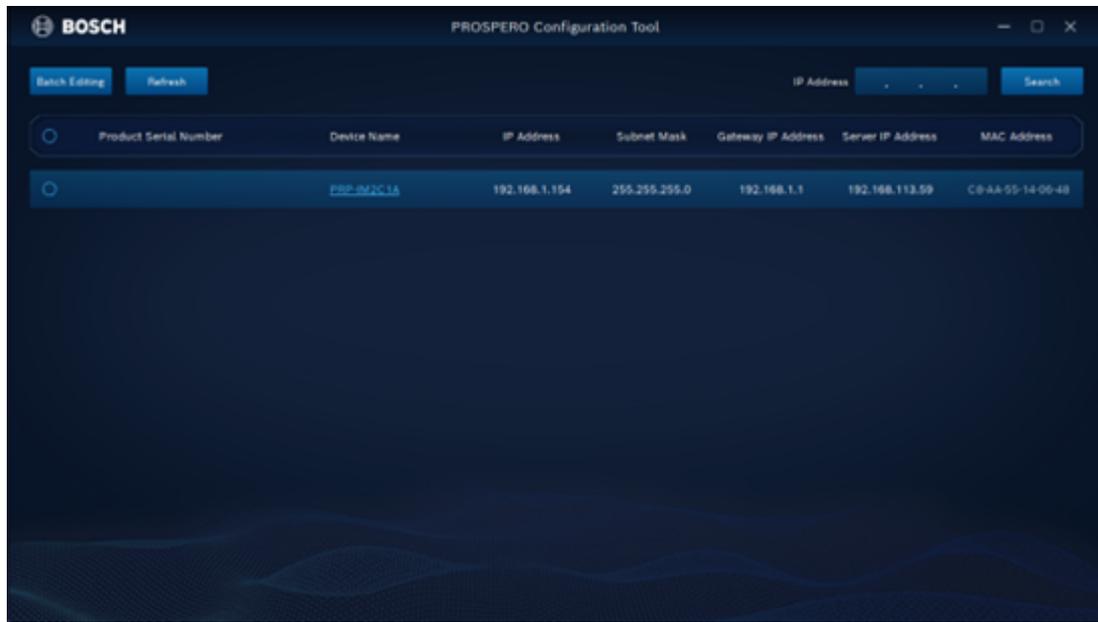
If the PROSPERO system will be part of your current local network or if you need to join an external/building Ethernet network, please consult your local IT department or Bosch technical support for information on how to set up the network.

PROSPERO Terminal Configuration Tool

Use this utility software to initially configure the device with basic parameters over Ethernet.

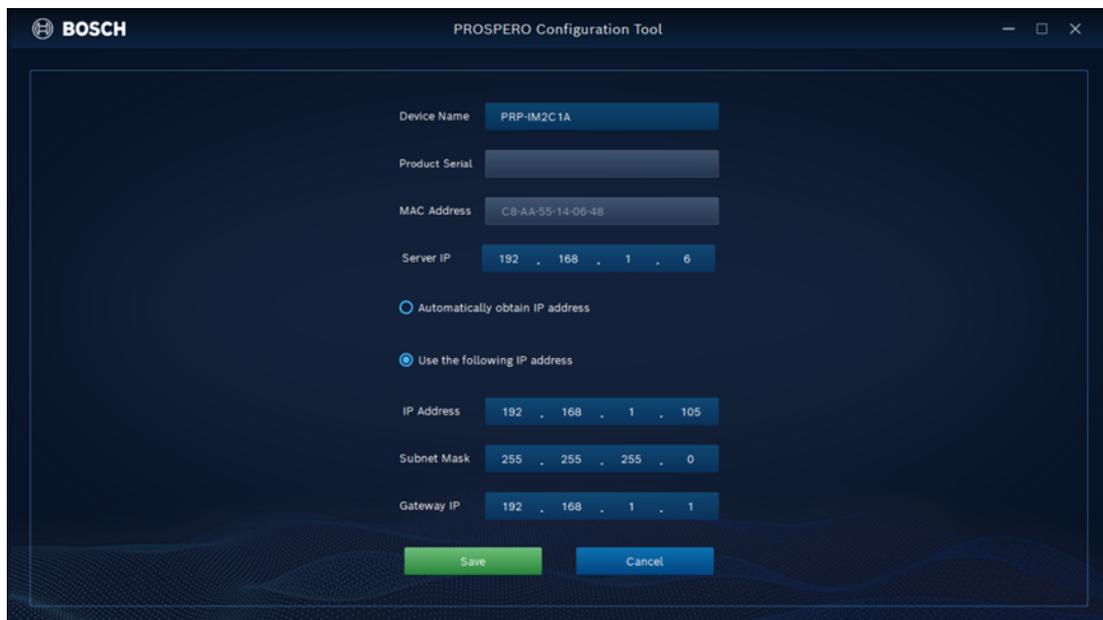
[Login]

Users with device management privileges log in to the PROSPERO terminal configuration tool using the user name, password, and server IP address of the PROSPERO system software, and can modify the configuration information of multiple devices in the batch modification pop-up window. The modified devices can be configured any number of times in the online state.



List fields: Serial number, Device name, IP address, Subnet mask, Gateway IP, Server IP, MAC Address

Operation: Double-click the list item to open the Device settings window.



Parameters that can be modified in the Device Settings window:

Device name, Server IP, [Obtain IP address automatically]/[Use the following IP address], IP address, Subnet mask, Gateway IP.

[Offline]

Offline login does not require entering the server IP address and user account, but can only configure devices that are in the factory state; devices with previously modified configurations are not allowed to be modified again in offline mode (you cannot click through to the details).

3.2.2 Web browser settings

The configuration of the Bosch PROSPERO public address system control can be accessed via a web browser. The web service of the system server is compatible with the latest versions of the following web browsers and has been optimized for these browsers:

- Firefox (version 52 and higher)
- Edge (version 40 and higher)
- Chrome (version 78 and higher)

3.3 Configuration considerations

The considerations described in this section are generally applicable to the Bosch PROSPERO public address system configuration.

3.3.1 Use of characters

- Enter the task name limit of 16 characters;
- Media file name modification is limited to 16 characters;
- User names are limited to 5-16 numbers and letters.

3.3.2 Use of unique names

When entering names of devices, users, partition groups, etc., make sure that the following conditions are met:

- All names entered cannot be duplicated, and the same name cannot be used for two items.
- Names may not be duplicated not only within a group of items (e.g., device names), but also throughout the system configuration (e.g., the name of a partition group cannot be the same as a partition.)
- If the media file name is duplicated, add (1), (2), (3) to the file name...



Notice!

Duplicate names can cause inconsistencies in the configuration database, which in turn can lead to unpredictable system problems.

3.3.3 Starting value

<None>: When the parameter value of a configuration item is **<None>**, it means that the parameter has not yet been assigned a value. For example, the first time you open the New Preset Task page, the Start Prompt Definition field has a value of **<No Prompt>**.

3.3.4 Enable/disable items (checkbox)

Configuration items can be enabled or disabled with checkboxes.

- **Enable**: If the configuration item is enabled (checked on), for example, users can listen in real time when the radio is playing.
- **Disable**: If the configuration item is disabled (unchecked off), e.g., the user cannot listen in real time while the broadcast is playing.

3.3.5 Undo changes

Most of the pages in the configuration section contain **Cancel** buttons. By clicking the **Cancel** button, any changes made on this page will be canceled and will not be saved.

3.3.6

Deleting items

When a configuration item is **deleted**, all configuration items associated with the deleted configuration item are also deleted. For example, when a device is deleted from Device Management: the device is removed from the list.

3.3.7

New button

Control Software Most web browser pages contain a **New** button. This button should be clicked after making changes or the changes will be lost.

4 Log in to the application

After the (required) software is installed on the configuration computer, it must have a secure data connection to the PROSPERO system in order to transmit system data to each other and to other network devices in the PROSPERO system.

Login Method 1: Local Login

1. Click on the desktop **PROSPERO Web Management Interface** icon to enter.
2. Enter your user name and password to log in to the corresponding user interface.
(Initial administrator: user name: admin, password: admin)

Login Method 2: Remote Login

1. Open your browser and enter the server IP to enter.
2. Enter your user name and password to log in to the corresponding user interface.
(Initial administrator: user name: admin, password: admin)
 - PROSPERO systems are set by default to use secure connections between the system control software and other network devices.



Notice!

The default login will be automatically logged out if there is no operation for 15 minutes; the initial user account will automatically get the security configuration administrator privileges; the initial account "admin" cannot be deleted.

1. Click the **Login** button > A web browser page is displayed, containing the following:
 - Pop-up window prompts to change your password, enter the old password 1 time and the new password twice, click **Save**.

The top of the web management interface, from left to right: system information button, current login user name, fault alert icon, date/time, logo.

In the middle of the web management interface, from left to right: system overview, pre-recorded broadcasts, scheduled broadcasts, real-time listening, system log, system management (the items displayed are related to the current user's operating privileges).

Log in to the PROSPERO Terminal Configuration Tool:

1. Click **PROSPERO Terminal Configuration Tool** on the desktop after the software installation is completed.
2. After entering your user name and password, and server IP address within the login page, click the **Login** button.
3. After entering the Configuration Tool page select the device you want to configure and click on the device name to configure it:
 - Server IP address, enter the Ethernet IPv4 address of the server where the control software is deployed.
 - Device IP address, subnet mask, and gateway are configured according to the actual situation in the LAN.
4. Device authorization is performed in the Device Management page of the web management interface after the configuration is complete.
5. The device can be used normally after successful authorization.

PROSPERO System Status Tray Description:

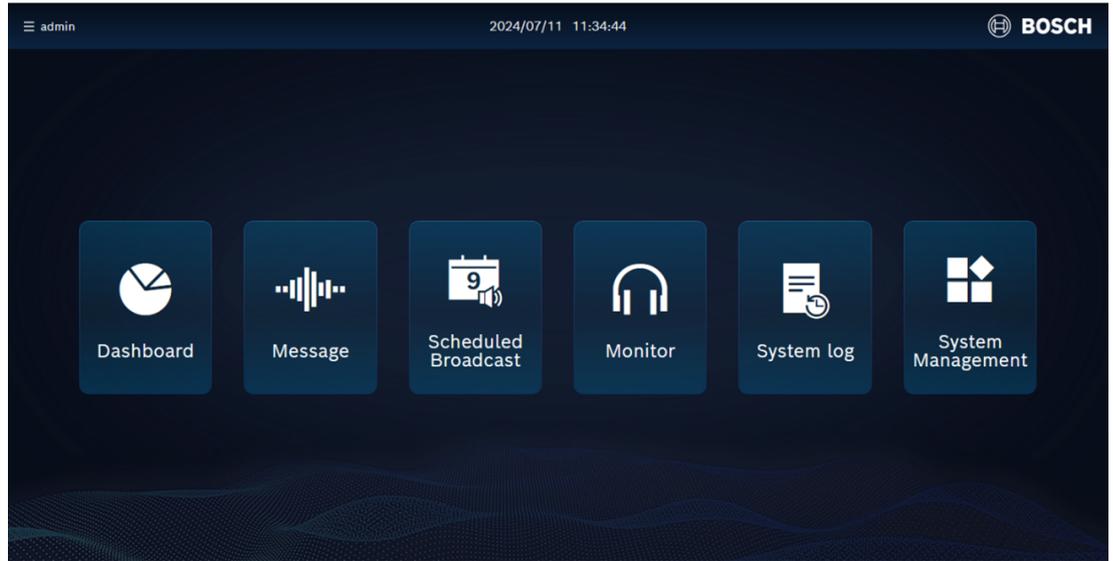
Operational state	Description	Procedure
Normal operation	The software icon is presented in the system tray location PROSPERO - Bosch Broadcast Systems. S/N: Serial number	Right-click to bring up the Restart system and Exit buttons. - Use the Restart system button in case of system failure; - When there is no fault, the Restart system button is grayed out.
Starting up	Show software system loading icons.	
System failure	Fault icon displayed and pop-up window prompted.	Can be ignored by clicking.

Call station login

Call stations are categorized into password login and no login required.

- **Password login:** login according to the user's PIN code preset by the server (PIN code is randomly generated)
- **No need to log in:** After the call station is online, you can directly enter the main interface to **set the login method of the call station:**
Home > System Management > Device Management > Setting up on the **Call Station Settings** page (password login is turned off by default).

5 System configuration

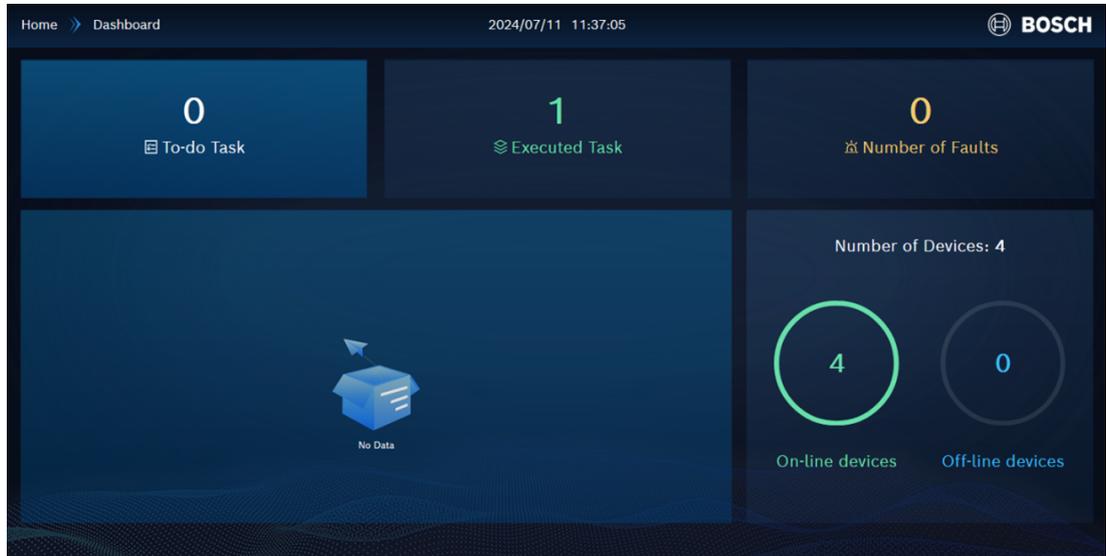


The main menu can provide 6 function entrances (according to user privileges):

Function	Description
Dashboard	Allow users to quickly understand the current broadcasting system equipment composition and working status to view the day's upcoming broadcasting tasks and the day's completed broadcasting tasks.
Message	View currently executing prerecorded broadcast tasks and quickly stop users can also create new prerecorded broadcast tasks.
Scheduled broadcast	Users can view and manage the scheduled tasks in the broadcast system through the scheduled tasks list. Multiple scheduled tasks can be attributed to a single plan, which is easier to manage.
Monitor	Select the partition that is listening to the broadcast task in progress.
System log	Displays a list of system logs, can be filtered by date range, and can export logs.
System management	Includes user management, partition group management, device management, media library, preset tasks, system settings, system backup, exam mode.

5.1 Dashboard

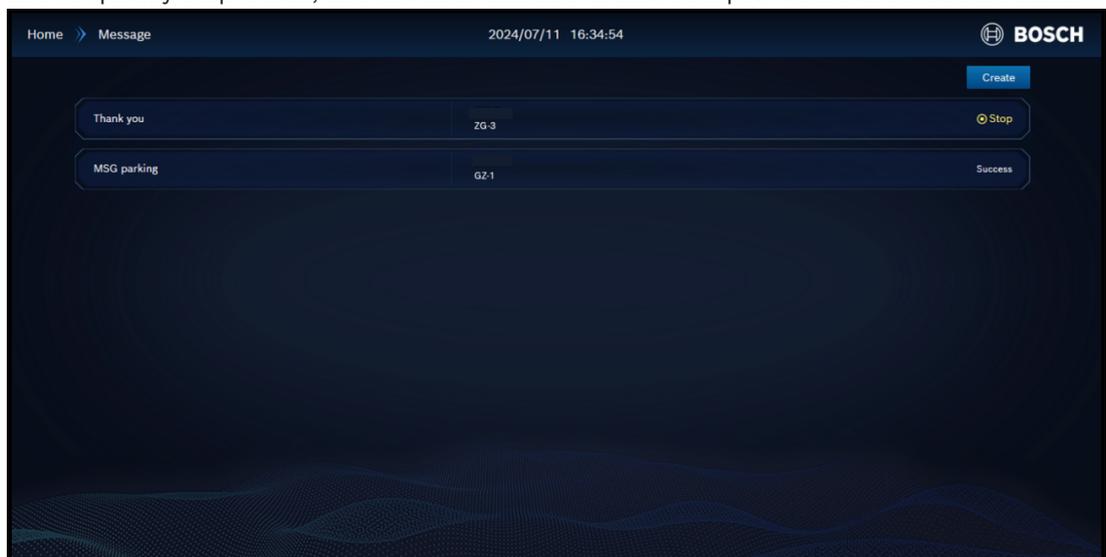
The dashboard allows users to quickly understand the equipment composition and working status of the current broadcasting system, view the upcoming broadcasting tasks of the day and the recently completed broadcasting tasks.



- **To-do Tasks:** The number of upcoming tasks for the next 24 hours, with a sequential timeline of the tasks to be completed.
- **Executed Tasks:** The number of tasks that have been executed in the last 24 hours, with a reverse chronological timeline of the tasks that have been completed.
- **Number of Faults:** The number of faults that currently exist in the system.
- **Number of Devices:** Number of devices online/offline in the system.

5.2 Message

Message menu allow the user to view the currently executing pre-recorded broadcast tasks and to quickly stop a task, and the user can also create new pre-recorded broadcast tasks.



- The list of prerecorded radio tasks that are currently in play.
- The currently executing prerecorded broadcast task and can quickly stop it.

List fields: Pre-recorded broadcast task name, Media file type, Target partition group.
Operation: [Stop]

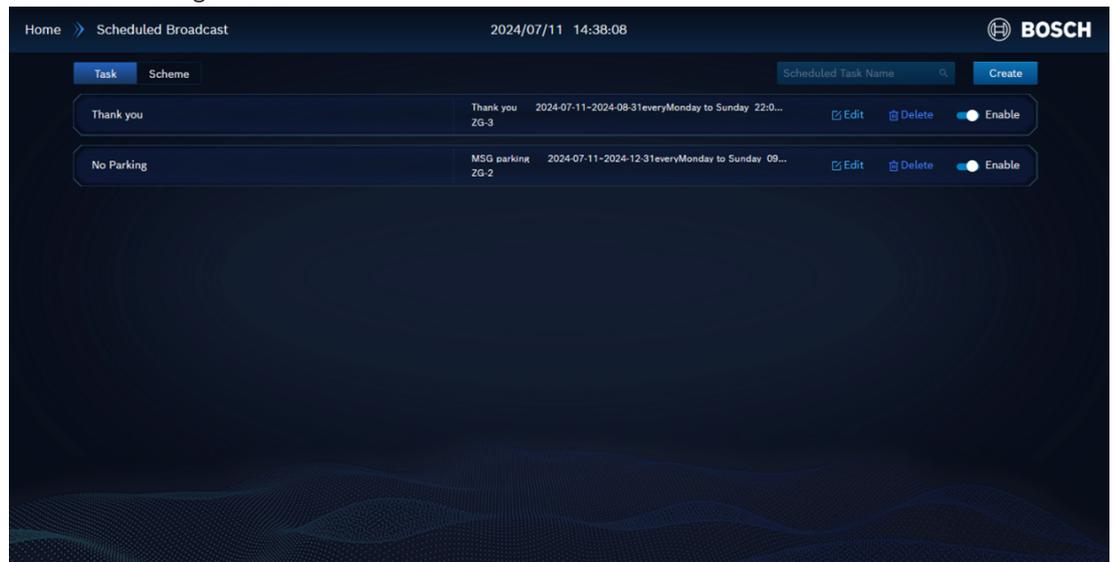
The following operations can be performed on Message page:

[New]

By **selecting a partition group** and **selecting a preset task**, you can quickly create a pre-recorded broadcast task for real-time playback, and click **Start Broadcast** to play the pre-recorded broadcast task.

5.3 Scheduled broadcast

Scheduled broadcast allows users to view and manage the list of scheduled tasks in the broadcast system. Multiple scheduled tasks can be attributed to a single scheduled scenario for easier management.



A scheduled task is defined as a broadcast task that executes at a specific time. Where a scheduled program is a special set of scheduled tasks, a collection of one or more scheduled tasks. Users can view and manage the scheduled tasks in the broadcast system through the Scheduled Tasks list.

List Fields: Scheduled task name, Preset task name, Broadcast date/time, Partition group name
Operation: [Edit], [Delete], [Enable]/[Disable], [Stop]

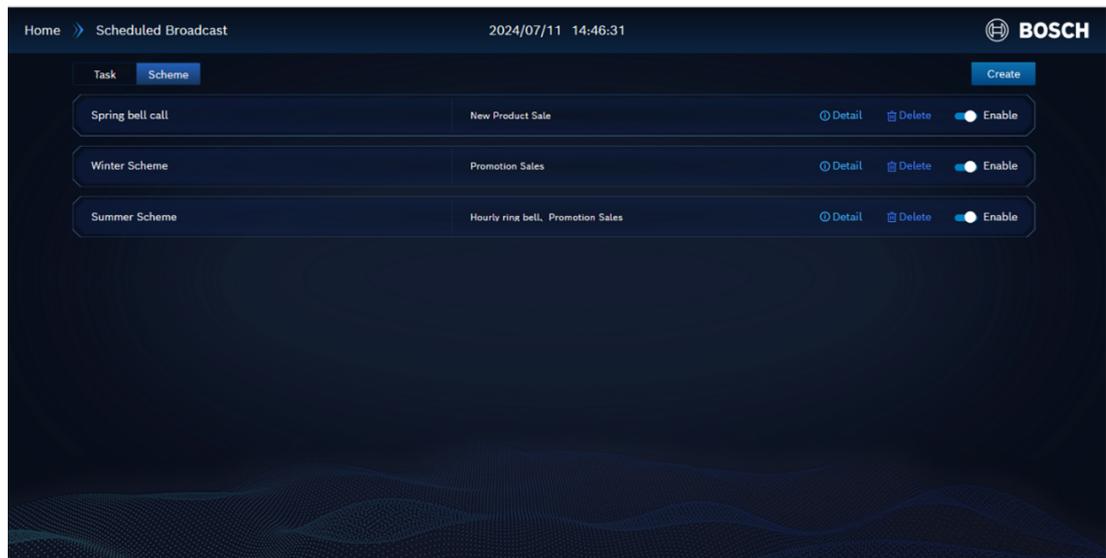
Listed in descending order of creation time:

- Scheduled tasks can be **created, edited, copied, deleted, enabled, disabled** (next execution);
- Scheduled broadcast deletion is confirmed by a pop-up box, and deletion of a scheduled broadcast that is being broadcast is not permitted;
- Users with schedule broadcasting privileges can click **[Stop]** when the scheduled task being broadcasted is listed at the top of the table;
- Scheduled broadcast tasks can be copied and need to be re-timed.

The following actions can be performed on the Scheduled broadcast page:

[New]

1. Enter the name of the scheduled task.
2. Select the playback strategy:
 - **One-time:** set broadcast date/time (to the second),
 - **Periodicity:** set broadcast date/time (accurate to seconds, multiple times can be selected), set cycle rules.
3. Optionally, this scheduled task can be grouped into one of the **scheduled scenarios**.
4. **Select the partition group** (multiple selections are possible).
5. **Select a preset task** (pre-recorded voice or background music, single selection only).
6. Click the **New Broadcast** button.



- A planned program can be defined as a collection of several specific planned tasks.
- Scheduled programs can be created, viewed in detail, deleted, enabled, disabled.
- When **deleting** a plan option, the user needs to **confirm** in the pop-up window.

List fields: Plan program name, Preset task name.

Operation: [Details], [Delete], [Enable]/[Disable]

The following operations can be performed on the Plan solutions screen:

[Details]

Displays a list of all scheduled tasks contained in this plan scenario

[New]

1. Enter the name of the plan program.
2. Set up scheduled tasks (multiple supported):
3. **New Program Tasks**
4. When editing a scheduled task, select the name of the corresponding scheduled program in the upper right, and click **Save Broadcast**.

[Enabled]

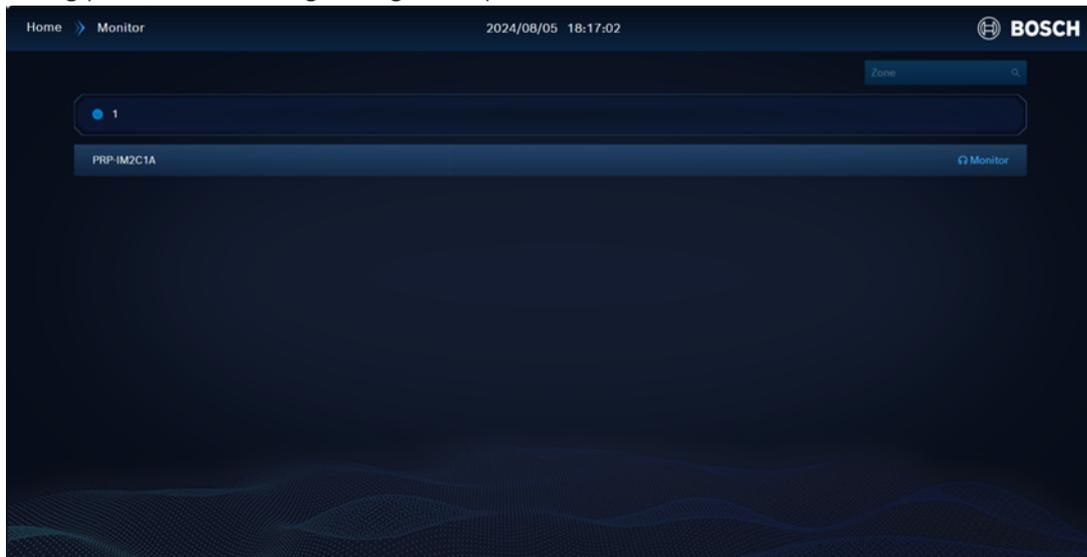
- Click **Enable** to enable all the scheduled tasks contained in this plan.

[Disabled]

- Click **Disable** to disable all the scheduled tasks contained in this plan.

5.4 Monitor

Monitoring allows the user to choose to listen to the partition where the broadcast task is taking place, broadcasting through the speakers of the current client device.



- A list of partition groups that are currently broadcasting.
- After expanding the partition group, click on a partition to control start/stop listening.
- Partition groups and offline devices that are not in the process of broadcasting are not displayed.

List Fields: Partition name, Preset task type, Preset task name

Operation: [Listen]/[Stop]

The Real-Time Listening page can perform the following actions:

[Listening]

1. Clicking on it immediately starts listening to the task currently playing in this partition, broadcasting it through the speakers of the current client device.
2. Other listening partitions will stop listening immediately.

[Stop]

- Click to stop listening to this partition immediately.

5.5 System log

System Logs allows users to view a list of system logs, filter by date range, and export logs.



- Log entries displayed in a reverse chronological timeline.

List fields: Date, Time, Log type, Log content

- **Default display range:** last 6 months, display can be filtered by start/end date.
- **Log storage:** 6 months ago, after every 10,000 logs are recorded, a storage file is automatically generated in the backend.

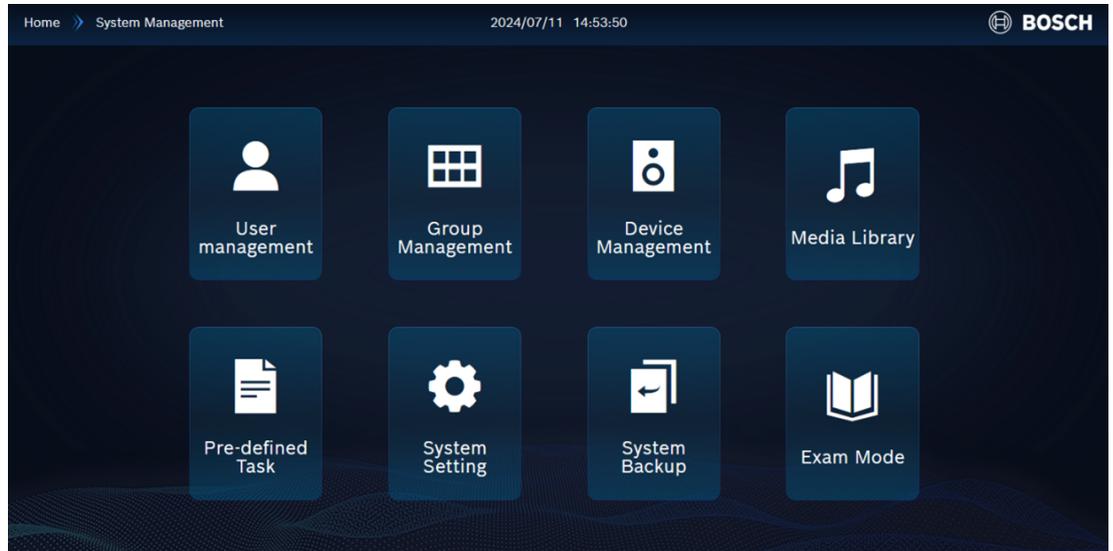
Log types: all logs, broadcast logs, device logs, user logs, system logs:

- **Broadcast log content:** Each broadcast action performed by the system will be recorded in a log.
(Broadcast start, broadcast end, broadcast manual stop, broadcast failure)
- **Device log content:** Device online/offline, firmware upgrade success/failure, modify device information.
- **User log content:** Logging action records of users.
- **System log content:** System failure issues (USB software license unplugged, device offline, media file corruption, etc.).

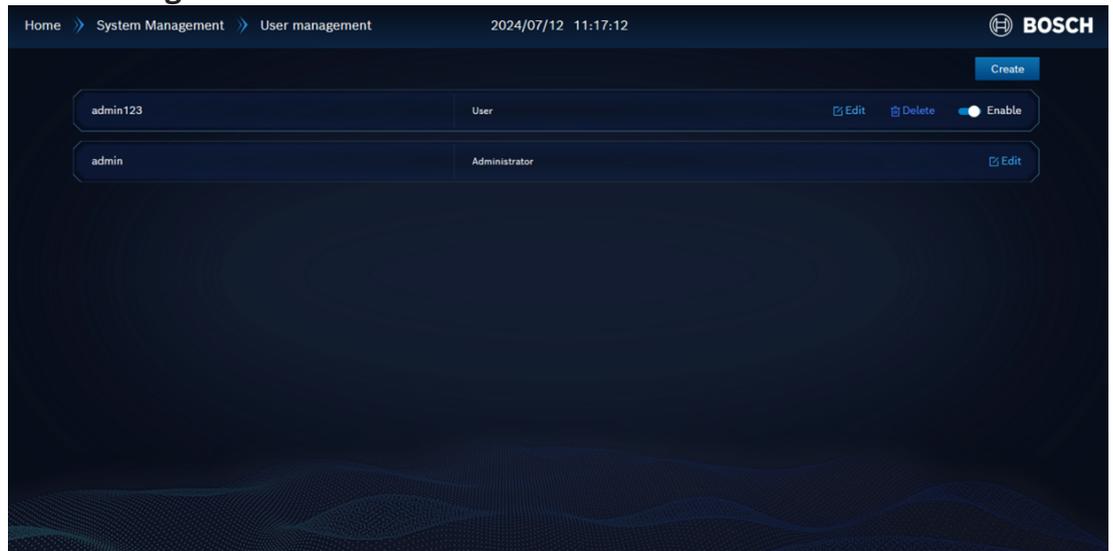
Export logs: can be filtered according to the log type, time (select the time period, limited to 6 months), the generated log file is in CSV format, automatically downloaded to the local through the browser.

5.6 System management

System management includes user management, partition group management, device management, media library, preset tasks, system settings, system backup, and exam mode.



5.6.1 User management



List of user accounts created in the system.

List fields: User name, User role.
Operation: [Edit], [Delete], [Enable]/[Disable]

- To gain access to the PROSPERO system, an account needs to be created in advance.
- Account parameters include username, password, and user role.
- **Initial administrator account:** username admin, password admin, change the password after the first login.

User account	Authorization level
Administrator	(All privileges) System overview, Pre-recorded broadcasts, Scheduled broadcasts, Real-time listening, System log, System configuration, Emergency tasks.

User account	Authorization level
Regular user	System overview, Pre-recorded broadcasts, Scheduled broadcasts, Real-time monitoring, System logs.

The following operations can be performed on the user management screen:

[New]

To add a new user (i.e. create a new account), follow the instructions below:

1. Click the **New** button.
2. In the User name box, enter the new user's username: 5-16 letters or numbers.
3. Select user **role**: administrator or normal user, set menu and operation privileges.
Note: Initial user password: 123456.
4. Click the **New** button to activate the new user account, and the new user will appear in the list.

[Editor]

- User name: cannot be modified.
- Editable user roles and user permissions.
- Administrators can reset the login passwords of all users except themselves.
- Administrator can manage all users (including other administrators and admin).

[Deleted]

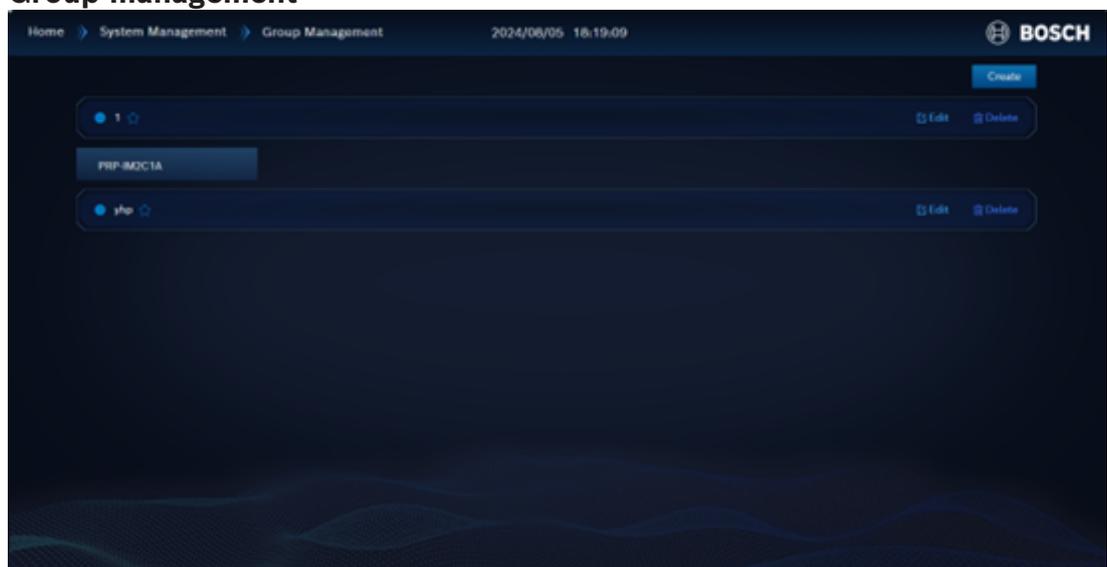
- Users cannot delete themselves.
- The initial account "admin" cannot be deleted.
- Accounts with user management privileges can delete other administrators and regular users.

[Enable] / [Disable]

- Once enabled, you can use your account to log into the PROSPERO system.
- Disabling the account will immediately force the account to be logged out and you will no longer be able to log in to the PROSPERO system.

5.6.2

Group management



The list of partition groups created in the system, click to expand to see the partition group's subordinate partitions. Partition groups refer to one or more collections of partitions, a partition can be attributed to multiple partition groups.

List Fields: Partition group, Name, Partition name.
Operation: [Edit], [Delete]

The following actions can be performed on the partition group management screen:

[New]

- Enter the partition group name.
- Add partition: select partition, multiple selections available.

[Editor]

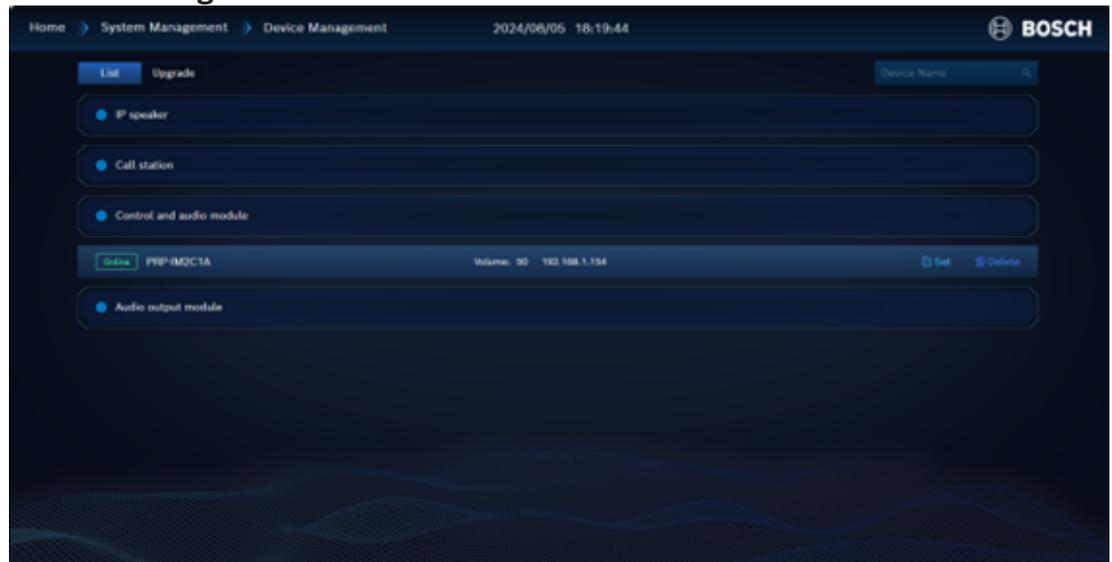
- Editable partition group name.
- Selected partitions can be added or deleted.

[Deleted]

- When deleting a partition group, it checks to see if there are any associated preset tasks.
- If there is one, it shows which preset tasks are associated with it and prompts that it cannot be deleted.

5.6.3

Device management



List of devices currently connected to the network, categorized by device type.

List Fields: Device status, Device name, Initial volume, IP address, Serial number
Operation: [Set], [Delete]

The following operations can be performed on the Device Management screen:

[Authorization]

- Unauthorized devices need to click Authorize to bring the device online in the system.
- Unauthorized devices cannot be added to a partition group.

[Replacement]

- Authorized devices that can be replaced with unauthorized devices (of the same type).
- Only two types of device replacements are supported: audio output modules and network speakers.

Example:

There are authorized **Network Speaker A** and unauthorized **Network Speaker B**, click **Replace** in the action bar of unauthorized **Network Speaker B**, and select the replaced **Network Speaker A**.

After successful replacement:

1. **Network Speaker A** becomes unauthorized.
2. The **Network Speaker B** is changed to the authorized status, and online or offline is displayed on the page according to the actual status.
3. **Network Speaker A** is no longer displayed in the partition group that originally contained **Network Speaker A**, and **Network Speaker B** is displayed instead.
4. The original broadcast task containing **Network Speaker A** is broadcast by **Network Speaker B** when it arrives at the specified broadcast date, time, or is triggered.
5. **Network Speaker A** can be replaced in any state, and if **Network Speaker A** is busy when it is replaced, the current task will not be switched or interrupted.

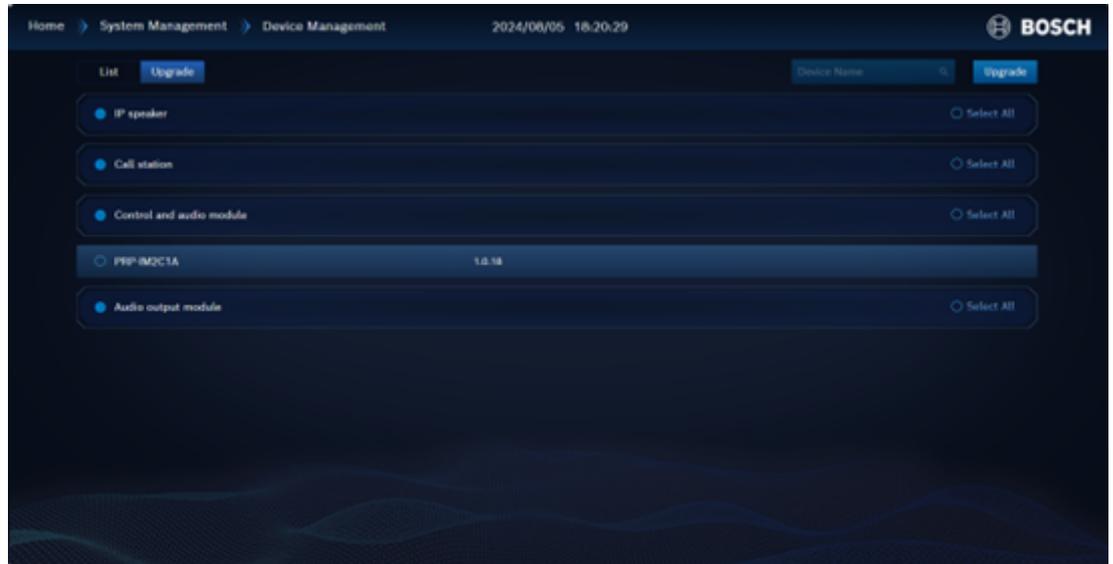
[Settings]

Set the initial parameters of the device:

Device type	Setting content
Network speaker	Device name; Output volume: 0 – 100 (default 50).
Control and audio modules	
Audio output module	
Call station	Device name; Password login: On, Off (default); Screen off time: 1 – 10 minutes (default 5 minutes); Number of logs displayed: 0 – 100 (default 50); Button mode: long press paging (default), click Paging ; Monitor volume: 0 – 100 (default 50).

[Delete]

- Busy devices and devices with preset tasks are not allowed to be deleted, clicking **Delete** will pop up a prompt "The device has a preset task associated with it, please cancel the corresponding associated task first".
- Deleted devices that are still connected to the system network will become unauthorized again.



List of devices currently connected to the network, categorized by device type.

List Fields: Device name, Firmware version number, Upgrade status.

The Device Upgrade page allows you to perform the following actions:
[Single Choice]/[All Choice]

Select the devices that need to be upgraded with firmware, you can only select more than one device of the same type at a time.

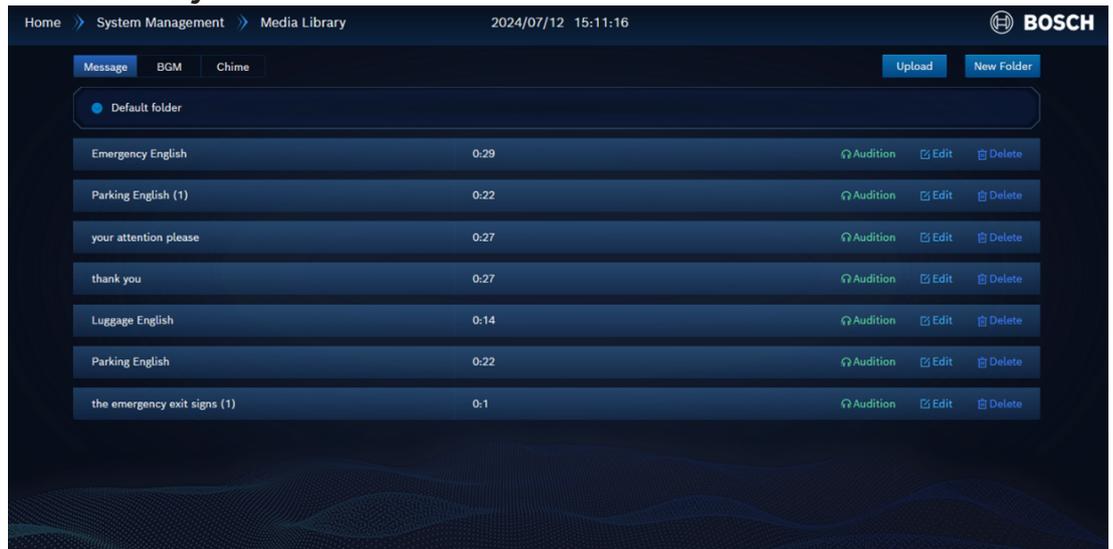
[Upgrade]

A device that is working can be upgraded with firmware, and the device does not play audio during the upgrade process

1. Select the firmware file (.upg file) that corresponds to the device model.
2. Click **[Open]** to start the upgrade.
3. The device list displays the upgrade process until "Upgrade complete" is displayed.
4. If the firmware file does not match the device model, "Upgrade Failed" will be displayed.

5.6.4

Media library



- The media library folder has been created in the system, click on it to expand it to view and manage the media files in the folder.
- Every four hours, the system checks the integrity of the media library files.

List Fields: Media file name, Duration / Upload status

Operation: [Audition], [Edit], [Delete].

The Media library page allows you to perform the following actions:

[New Folder]

- Enter the name of the media folder.

[Upload]

- Selecting a media folder.
- Supports single or multiple file uploads, select up to 30 files at a time.
- Media file type should be MP3 file, the system will automatically transcode it.
- If a media file name is duplicated, it is automatically followed by (1), (2), (3)...
- Requirements for file name: English, numbers, Chinese characters and spaces of 1 – 255 characters in length, with no spaces before or after the file name.
- Uploading files with empty names is not allowed.
- Limit the duration of the uploaded beep to 10 s.

[Audition]/[Stop]

- Click **Audition** to start playing this media file immediately, through the speakers of the current client device.
- Click **Stop** to stop playback immediately.

[Editor]

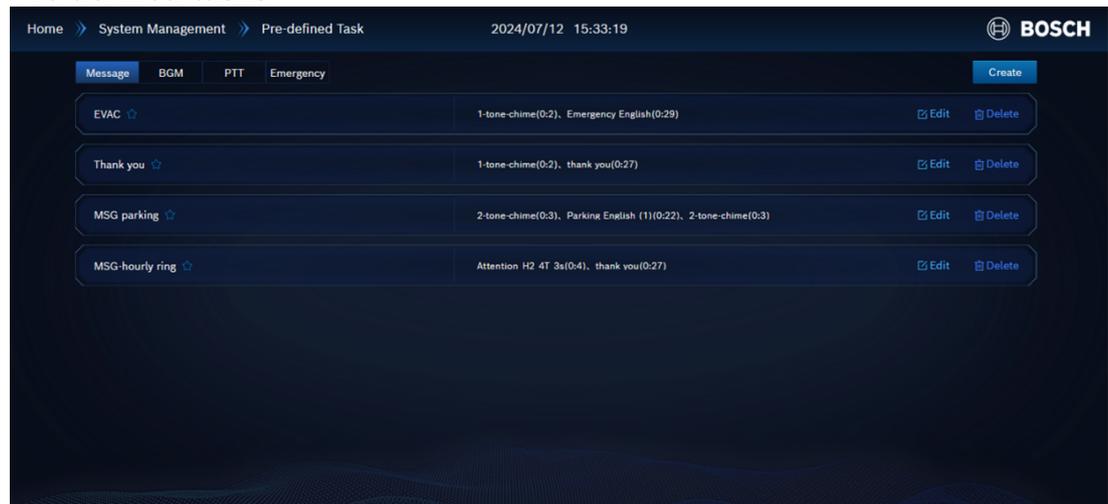
- Rename this media file (the length of the renamed name will be limited to 16 characters).

[Deleted]

- Deleting a media file will be confirmed with a pop-up prompt.
- When deleting a media file, the system checks to see if there is a preset task associated with the file. If it does, it displays which preset tasks are associated with it, and the user needs to delete this media file from the corresponding preset tasks before deleting this media file.

5.6.5

Pre-defined tasks



- Preset tasks are tasks that are preset for specific audio files according to different task types.
- These preset tasks can be selected for playback in the web management interface and in the pre-recorded and scheduled broadcasts of the call station.

Four types of preset tasks: pre-recorded voice, background music, paging tasks, emergency tasks

Pre-set tasks	Definition	Procedure
Pre-recorded voice	Pre-recorded voice is an already-recorded voice. The MP3 audio files of the pre-recorded broadcast in the web management interface and scheduled broadcast for playback. Also, it can be selected on the call station touch screen Play .	<p>[New], [Edit], [Delete] New pre-recorded voice</p> <ol style="list-style-type: none"> 1. Enter the task name. 2. Select start beep, end beep (no beep by default). 3. Select audio files in the media library (multiple selections possible). 4. Set playback volume (default 50). 5. Set the number of times to play (default 1 time, maximum 1000 times). 6. Set task priority (default 32, maximum 223).

Pre-set tasks	Definition	Procedure
Background music (BGM)	The background music is a combination of a set of music files selected from the media library or an external audio source fed from the lines of the call station, control and audio modules. It can be played in the web administration interface in pre-recorded and scheduled broadcasts, or it can be selected for playback on the call station's touch screen.	<p>[New], [Edit], [Delete] New Background Music</p> <ol style="list-style-type: none"> 1. Enter the task name. 2. Select the playback mode: <ul style="list-style-type: none"> - Selecting audio files in the media library (multiple selections possible). - Selection of audio input device: call station or control interface module. 3. Setting the playback volume (default 50). 4. Select the playback strategy:

Pre-set tasks	Definition	Procedure
		<ul style="list-style-type: none"> - Loop playback, this option is only available when playing an audio file. - Set the number of playbacks (default 1, maximum 1000). - Time-limited broadcast. <p>5. Set task priority (default 0, maximum 31).</p>

Pre-set tasks	Definition	Procedure
Paging task	The paging task is a manual announcement triggered by the PTT button of the call station and picked up by the microphone; or it is triggered by the control input #1 port of the control and audio module and played by the audio signal accessed by the audio input #1 port of the control and audio module.	<p>[New], [Edit], [Delete]</p> <p>New paging task</p> <ol style="list-style-type: none"> 1. Enter the task name. 2. Select the device type: <ul style="list-style-type: none"> - Call station. - Control Interface Module. <p>(The list only shows devices that are not configured for paging tasks, are not occupied by background music audio inputs, and are not configured for emergency tasks)</p> 3. Select start beep, end beep (no beep by default). 4. Select audio files in the media library (no audio files by default). 5. Setting the playback volume (default 50). 6. Set task priority (default 32, max 223). <p>When the device type is Call station:</p>

Pre-set tasks	Definition	Procedure
		<ul style="list-style-type: none"> - Option to turn on the emergency call. - Select start beep, end beep (no beep by default). - Setting the playback volume (default 100). - Set task priority (default 255, minimum 224). <p>When the device type is Control interface module:</p> <ul style="list-style-type: none"> - Add partition group (multiple selectable).

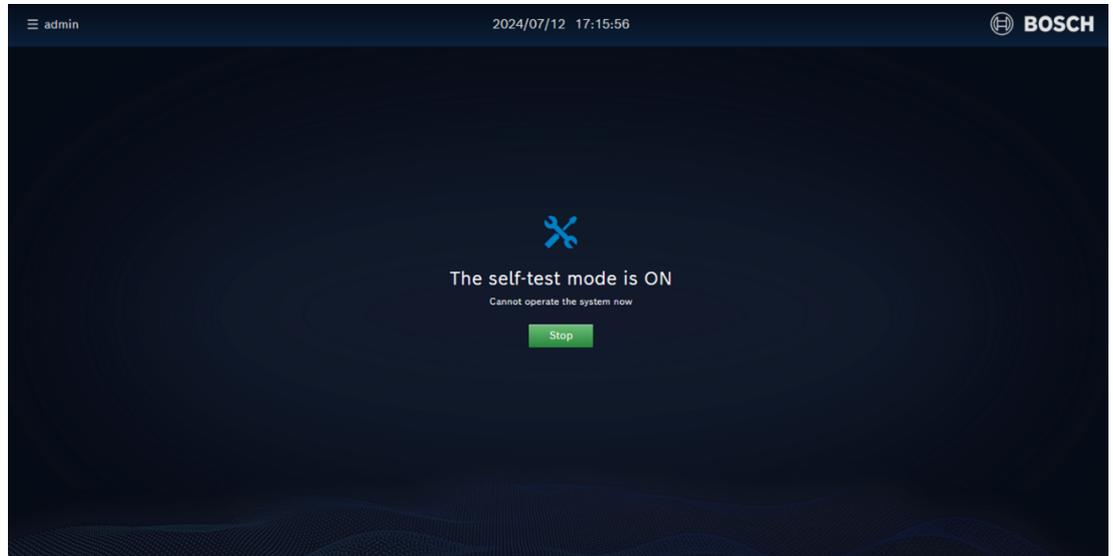
Pre-set tasks	Definition	Procedure
Emergency task	<p>The Emergency Task is a high priority task defined as a broadcast notification issued in an emergency situation, which can be triggered by the Emergency Task button of the call station, as well as by the control input signal of the control and audio modules.</p> <p>Playback mode: keeps broadcasting until the manual stop and control input signals disappear. Emergency tasks can be stopped and reset from the web management interface (users need to have emergency task privileges), or they can be stopped by a call station with emergency task operation privileges.</p>	<p>[New], [Edit], [Delete] New emergency task</p> <ol style="list-style-type: none"> 1. Enter the task name. 2. Select the device type: <ul style="list-style-type: none"> - Call station. - Control interface module, Select trigger port (The list shows only devices that are not occupied by a paging task and whose port numbers are not fully occupied by an emergency task). 3. Select the trigger action: <ul style="list-style-type: none"> - Publicize. - Control output 4. Select start beep, end beep (no beep by default). 5. Select audio files in the media library (no audio files by default). 6. Setting the playback volume (default 50). 7. Set task priority (default 224, maximum 255).

Pre-set tasks	Definition	Procedure
		<p>8. Add partition group (multiple selectable).</p> <p>When the control output is selected for the trigger action:</p> <ul style="list-style-type: none"> - Adding an output port <ul style="list-style-type: none"> - Selection of control output module. - Select output port number (only unused output ports can be selected).

5.6.6

System settings

- **[On]/[Off]** Self-test Mode.
- Setting the login validity time.
- View task types and corresponding priority ranges.



[On]/[Off] Self-test Mode

- Verify that the devices in the network have been controlled by the control system software, when the self-test mode is turned on, the authorized devices will enter the self-test state. (Power indicator and fault indicator flashing).
- No self-test mode for network speakers.
- Emergency tasks can interrupt the self-test mode and are not resumed after the emergency task is over.

Setting the login validity time

Selection: 15 minutes – 24 hours.

(default 15 minutes, optional 30 minutes / 1 hour / 4 hours / 8 hours / 24 hours)

Priority range

Type	Priority range	Default option
Emergency task	224 – 255	224
Emergency call	224 – 255	255
Paging task	32 – 223	32
Pre-recorded voice	32 – 223	32
Background music	0 – 31	0

When there is an overlap in the target partition of the broadcast:

- **Rule 1:** Same priority broadcast tasks, if there are overlapping partitions, the second task is not executed.
 1. If the second task is Pre-recorded broadcast or Paging broadcast, the user is prompted with the message "Partition <partition name> is working and Pre-Recorded Broadcast/ Paging Broadcast cannot be enabled".
 2. If the second task is a scheduled or emergency task, the startup fails and a record is made in the log (including the reason for the failure).
- **Rule 2:** Different priority broadcast tasks are handled according to the type of broadcast if overlapping partitions exist.

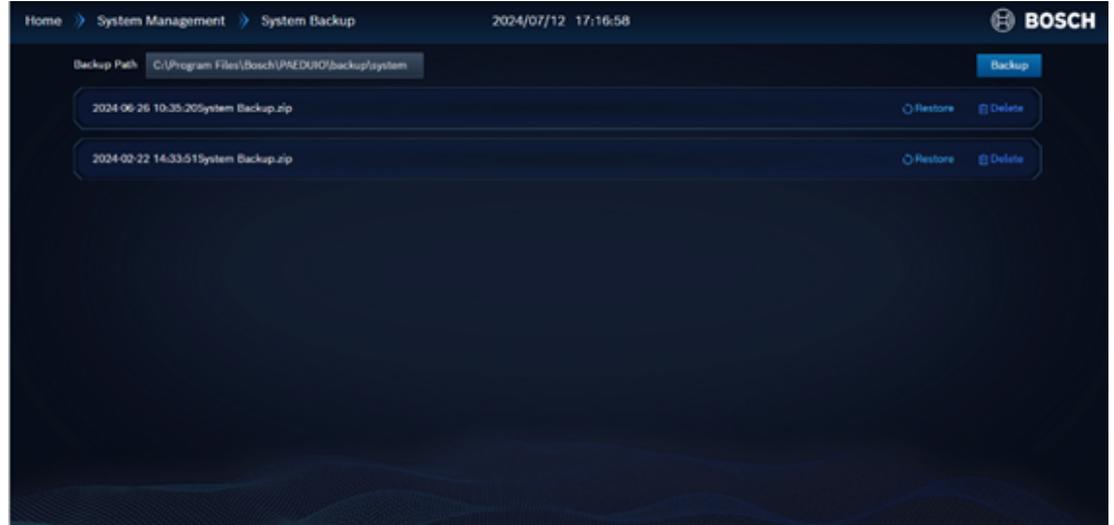
1. If the first broadcast task has a higher priority than the second broadcast task, the second broadcast task cannot be enabled or fails to start, refer to Rule 1.
2. The first broadcast task priority is lower than the second broadcast task priority
 - a) If the first broadcast task is a non-emergency broadcast and the second broadcast task is an emergency broadcast, the first broadcast task stops broadcasting.
 - b) The first broadcast task is background music, if the second broadcast task is not an emergency broadcast, the first broadcast continues to play, the overlapping partition in the first broadcast task plays the content of the second broadcast, and the non-overlapping area continues to play the content of the first broadcast until the end of the second broadcast, and the overlapping partition continues to broadcast the content of the first broadcast. If the second broadcast is an emergency broadcast, refer to a).
 - c) The first broadcast task is a prerecorded voice, if the second broadcast task is not an emergency broadcast, the first broadcast continues, the second broadcast content is played in the overlapping partitions of the first broadcast task, and the first broadcast content continues to be played in the non-overlapping areas until the second broadcast is finished, and the first broadcast task is replayed, regardless of whether or not the first broadcast task is completed. If the second broadcast is an emergency broadcast, refer to a)
 - d) The first broadcast task is a paging task directly interrupting the first broadcast task.
 - e) The first broadcast task is an emergency task: the first broadcast continues, the second broadcast content is played in the overlapping partitions of the first broadcast task, and the first broadcast content continues to be played in the non-overlapping areas until the end of the second broadcast, and the first broadcast task is replayed regardless of whether the first broadcast task is completed or not.
 - f) The first broadcast task is an emergency paging, which directly interrupts the first broadcast task.
 - g) The second broadcast task is emergency paging with priority 255, if the first broadcast task is priority 255, refer to Rule 1.
 - **Rule 3:** The second broadcast task is an emergency paging with priority 255: If the first broadcast task is lower than the second broadcast task priority, refer to Rule 2-2; if the first broadcast task priority is 255, the second broadcast task is treated as 256, refer to Rule 2-2.
 - **Rule 4:** Rules 1/2/3 can be nested, when there are multiple layers of nesting, the last broadcast task is considered as the second broadcast task, and the other broadcast tasks are considered as the first broadcast task, then refer to rules 1/2/3.

**Notice!**

Up to 10 broadcasts are concurrent in the system, with up to 6 non-emergency broadcasts and 4 reserved for emergency broadcasts.

5.6.7

System backup



- Backup folder path.
- List of created system backup files.

List Fields: Backup date/Time/Filename.

Operation: [Restore], [Delete]

The System Backup page allows you to perform the following operations:

[Backup]

- Packages the relevant database and media files of the system into a backup file, which is saved in a predefined folder on the server **(C:)\Program Files\Bosch\PROSPERO\backup\system**.
- User account information is not backed up when the system is backed up.
- When the system is restored, user account information is not overwritten, i.e. all user accounts before restoration are retained.
- The system will verify the integrity of the backup file during backup.

[Recovery]

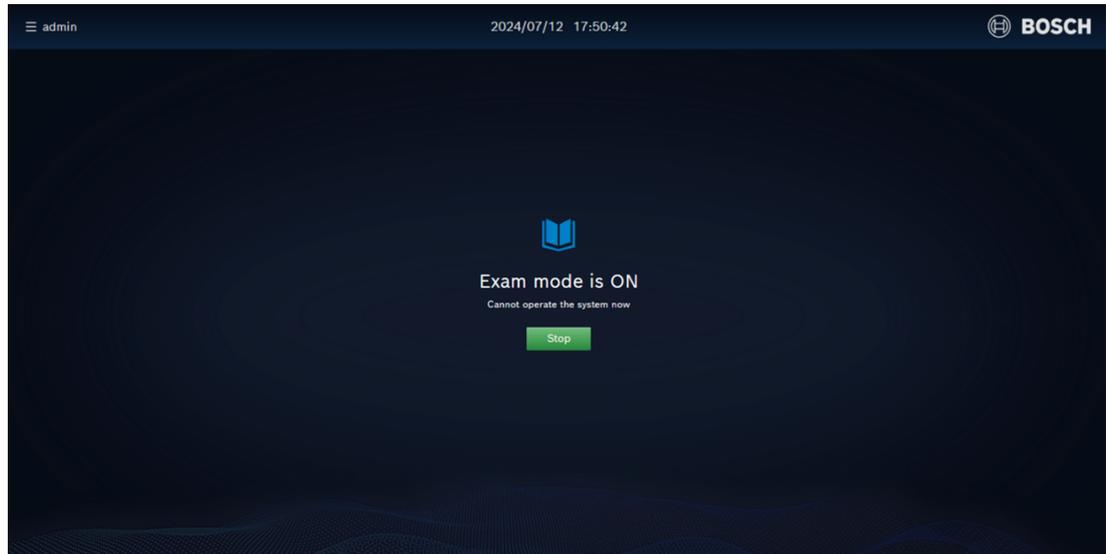
Restore one of the backup files in the backup list to the system, a confirmation box will pop up for confirmation.

[Deleted]

Delete a backup file in the backup list, a confirmation box pops up for confirmation.

5.6.8

Exam mode



– **[Confirmation]/[Cancellation]** to open the examination mode.

– **[Stop]** Exam Mode.

After turning on the exam mode:

1. Online (idle, busy) network speakers are switched to an external 100 V analog signal input, which stops the original task if the network speaker was originally performing a broadcast task.
2. When a call station that is online (idle, busy) switches to the Exam Mode page, it prompts "Exam Mode is on, cannot operate the system at this time", and if the call station device was originally paging or initiating a preset task, it stops the original task.
3. The web management interface of all clients switches to the Exam Mode page, prompting "Exam Mode is on, and the system cannot be operated for the time being".
[Stop] You can exit the test mode.
4. Emergency tasks can interrupt the exam mode and are not automatically resumed at the end of the emergency task.
5. Unauthorized network speakers that do not change.
6. When the network speaker is offline or malfunctioning, it is unable to receive commands issued by the system software and does not change.
7. The control and audio modules and the audio output module do not support the exam mode.

After stopping the exam mode, all interrupted broadcasts will not be renewed.

5.6.9

Emergency task

When the system initiates an emergency task, a red emergency task button will appear at the top of the web management interface, click this button to enter the emergency task management interface.



- A list of emergency broadcasting assignments currently live.

List Fields: Emergency task name, Trigger device name, Output device name, Target partition group.
Operation: [Stop and Reset] [Stop]

The following actions can be performed on the Emergency Tasks page:
[Stop and reset]

- Stop and reset operations for all emergency broadcasting tasks (users must have emergency task privileges).
- Stopping an emergency broadcast task (user must have emergency task privileges).

6 Troubleshooting

If a network device and/or configuration indicates a fault/error, you can find the fault/error through several troubleshooting methods:

- Network diagnosis.
- View System Logs.
- Refer to the Fault Event Messages section of this manual.

If you are unable to solve the problem, please contact your supplier or system integrator, or consult Bosch technical support directly.

Critical

With our experience and based on data provided by our service centers, we know that problems in the field are often application-related (cabling, setup, etc.) and not related to the performance of individual devices. Therefore, it is important to read the documentation (manuals) associated with the product, as doing so will save you valuable time and help us deploy quality Bosch products.

Tip: Always refer to the latest release of the Bosch PROSPERO public address system software version to ensure that the correct system software and product firmware are installed.

7 Fault event messages

7.1 System failure events

Event: USB software license unplugged

Occurrence: USB software license is not properly connected to the broadcast server

Recommended Action:

- Check if the dongle is plugged into the server's USB port.
- Check if the dongle is damaged.
- Inserting or replacing USB software licenses.

Event: Backend service stops

Occurrence: The background software service of the broadcast server fails to operate properly

Recommended Action:

- Restart the broadcast server.
- Upgrade the latest version of system software.
- If the problem persists, please contact technical support.

Event: Media file corruption

Occurrence: The audio file stored in the broadcast server is corrupted

Recommended Action:

- Check for and delete corrupted media files.
- Re-upload this media file.

Event: Hard disk space occupied more than 90%

Occurrence: Insufficient space remaining on the hard disk of the broadcast server

Recommended action: Clean up or expand hard disk space.

Event: System memory usage exceeds 90%

Occurrence: Insufficient free memory space on the broadcast server

Recommended action: Clean up or expand memory space.

Event: Device offline

Occurrence: The device fails to establish a connection with the broadcast server, and the device's fault indicator lights yellow to

Recommended action:

- Check the device's network connection to the switch.
- Check the power connections to the device.
- Check the IP address configuration of the device.

System Failure Alert Method:

- Windows tray pop-up message on the broadcast server.
- Fault indicators are displayed in the top bar of the client's web management interface, and fault information pops up on mouse-over.
- Record time and fault information in the system log in the client's web management interface.
- The call station illuminates the fault indicator and displays the number of faults in the upper right corner of the fault information icon on the main interface.

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