Advanced public address server and license

PRA-APAS | PRA-APAL

en User manual

Table of contents

1 Important product information

1.1 Safety information

1. Read and keep these safety instructions. Follow all instructions and heed all warnings.
2. Download the latest version of the applicable installation manual from www.boschsecurity.com for installation instructions.

Information
Refer to the Installation Manual for instructions.

3. Follow all installation instructions and observe the following alert signs:

Notice! Containing additional information. Usually, not observing a "notice" does not result in damage to the equipment or personal injuries.

Caution! The equipment or the property can be damaged, or persons can be injured if the alert is not observed.

Warning!
Risk of electric shock.

4. System installation and servicing by qualified personnel only, in accordance with applicable local codes. No user-serviceable parts inside.
5. System installation for emergency sound (except for call stations and call station extensions) in a Restricted Access Area only. Children may not get access to the system.
6. For rack-mounting of system devices, make sure that the equipment rack is of suitable quality to support the weight of the devices. Use caution when moving a rack to avoid injury from tip over.
7. The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.

Warning! To reduce the risk of fire and electric shock, do not expose this apparatus to rain or moisture.

8. Mains powered equipment shall be connected to a mains power outlet socket with a protective earthing connection. An external, readily operable, mains plug or all-pole mains switch shall be installed.
9. Only replace the mains fuse of an apparatus with a fuse of the same type.
10. The protective ground connection of an apparatus shall be connected to protective ground before the apparatus is connected to a power supply.
11. Amplifier outputs marked with ⚠ may carry audio output voltages up to 120 V_{RMS}. Touching uninsulated terminals or wiring may result in an unpleasant sensation.
    Amplifier outputs marked with ⚡ or ϟ may carry audio output voltages above 120 V_{RMS}. It requires a skilled person to strip and connect the loudspeaker wires in such a way that the naked conductors are inaccessible.

12. The system may receive power from multiple mains power outlet sockets and backup batteries.

Warning! To prevent a shock hazard disconnect all power sources prior to system installation.

13. Only use recommended batteries and observe polarity. Risk of explosion if an incorrect type of battery is used.
14. Fiber optical converters use invisible laser radiation. To prevent injury, avoid eye exposure to the beam.
15. Devices for vertical (wall) mounting supporting a user interface for operation shall only be mounted below 2 m height.
16. Devices installed above 2 m height may cause injury when falling down. Preventive measures must be taken.
17. To prevent hearing damage do not listen at high volume levels for long periods.
18. An apparatus may use a lithium coin battery. Keep away from children. If ingested, high risk of chemical burn hazard. Seek medical attention immediately.

Use latest software

Before operating the device for the first time, make sure that you install the latest applicable release of your software version. For consistent functionality, compatibility, performance, and security, regularly update the software throughout the operational life of the device. Follow the instructions in the product documentation regarding software updates.

The following links provide more information:

- General information: https://www.boschsecurity.com/xc/en/support/product-security/
- Security advisories, that is a list of identified vulnerabilities and proposed solutions: https://www.boschsecurity.com/xc/en/support/product-security/security-advisories.html

Bosch assumes no liability whatsoever for any damage caused by operating its products with outdated software components.

1.2 Disposal instructions

Old electrical and electronic appliances.

Electrical or electronic devices that are no longer serviceable must be collected separately and sent for environmentally compatible recycling (in accordance with the European Waste Electrical and Electronic Equipment Directive).

To dispose of old electrical or electronic devices, you should use the return and collection systems put in place in the country concerned.

1.3 Class A Notice for FCC and ICES 003

applies to U.S.A. and Canadian models only

Business Equipment

For commercial or professional use

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC and Canadian ICES-003 requirements. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in residential area is likely to cause harmful interference in which case the user will be required to correct the interference at their own expense. Intentional or unintentional changes or modifications not expressly approved by the party responsible for compliance shall not be made. Any such changes or modifications may void the user’s authority to operate the equipment.

2 General information

This Configuration manual is part of the PRA-APAS Advanced public address server delivery, describing the PRA-APAS device installation and configuration procedures.

2.1 Intended audience

This configuration manual is intended for everyone who is authorized to configure PRAESENSA and related products.

2.2 Listing of open source components

An up to date listing of open source licensed software which may accompany a PRAESENSA device is stored inside the device and can be downloaded by clicking the version number in the software.

Each of the components listed may be redistributed under the terms of their respective open source licenses. Notwithstanding any of the terms in the license agreement you may have with Bosch, the terms of such open source license(s) may be applicable to your use of the listed software.

To the extent permitted by applicable law, Bosch and its suppliers make no representations or warranties, express or implied, statutory or otherwise, with regard to the list or its accuracy or completeness, or with respect to any results to be obtained from use or distribution of the list. By using or distributing the list, you agree that in no event shall Bosch be held liable for any special, direct, indirect or consequential damages or any other damages whatsoever resulting from any use or distribution of this list.

2.3 Copyright statement

Unless otherwise indicated, this publication is the copyright of www.boschsecurity.com. All rights are reserved.

2.4 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.

2.5 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.

2.6 Software release history

Release date	Version	Reason
2021-07	1.00	Official release.

Release date	Version	Reason
2022-03	1.10	Official release.
2023-11	1.20	Official release.
2024-11	1.30	Official release.

3 Security precautions

PRAESENSA is an IP-connected, networked Public Address and Voice Alarm system. In order to ensure that the intended functions of the system are not compromised, special attention and measures are required during installation and operation to avoid tampering of the system. Many of such measures are provided in the PRAESENSA configuration manual and installation manual, related to the products and the activities described. This section provides an overview of precautions to be taken, related to network security and access to the system.

- Follow the installation instructions with respect to the location of equipment and the permitted access levels. Refer to the chapter *Location of racks and enclosures* in the PRAESENSA Installation manual for more information. Make sure that call stations that address very large areas and operator panels that are configured for alarm functions only have restricted access using a special procedure, such as being mounted in an enclosure with lockable door or by configuration of user authentication on the device.
- It is highly recommended to operate PRAESENSA on its own dedicated network, not mixed with other equipment for other purposes. Other equipment may be accessible by unauthorized people, causing a security risk. This is especially true if the network is connected to the Internet.
- It is highly recommended that unused ports of network switches are locked or disabled to avoid the possibility that equipment is connected that may compromise the system. This is also the case for PRAESENSA call stations that are connected via a single network cable. Make sure that the connector cover of the device is in place and properly fixed, to avoid that the second network socket is accessible. Other PRAESENSA equipment should be installed in an area that is only accessible by authorized people to avoid tampering.
- Use an Intrusion Protection System (IPS) with port security where possible to monitor the network for malicious activity or policy violations.
- PRAESENSA uses secure OMNEO for its network connections. All control and audio data exchange use encryption and authentication, but the system controller allows the configuration of unsecure Dante or AES67 audio connections as an extension of the system, both as inputs and as outputs. These Dante/AES67 connections are not authenticated and not encrypted. They form a security risk, as no precautions are taken against malicious or accidental attacks through their network interfaces. For highest security, these Dante/AES67 devices should not be used as part of the PRAESENSA system. If such inputs or outputs are needed, use unicast connections.
- For security reasons, by default the PRA-ES8P2S Ethernet switch is not accessible from the Internet. When the default (special link-local) IP-address is changed to an address outside the link-local range (169.254.x.x/16), then also the default (published) password must be changed. But even for applications on a closed local network, for highest security the password may still be changed. Refer to the *Ethernet switch* chapter in the PRAESENSA Installation manual for more information.
- To enable SNMP, for example to use the Bosch Network analysis tool OMN-DOCENT, use SNMPv3. SNMPv3 provides much better security with authentication and privacy. Select the authentication level SHA and encryption via AES. Refer to the *Ethernet switch* chapter in the PRAESENSA Installation manual for more information.
- From PRAESENSA software version 1.50 onwards, the PRA-ES8P2S switches and the CISCO IE-5000 series switches report their power fault and network connection status directly to the PRAESENSA system controller through SNMP. The switches can be daisy-

chained without an OMNEO device between them for connection supervision. The PRA-ES8P2S is preconfigured for this purpose from custom firmware version 1.01.05 onwards.

- The system controller webserver uses secure HTTPS with SSL. The web server in the system controller uses a self-signed security certificate. When you access the server via https, you will see a Secure Connection Failed error or warning dialog indicating that the certificate was signed by an unknown authority. This is expected and to avoid this message in the future you have to create an exception in the browser.
- Make sure that new user accounts for system configuration access use sufficiently long and complex passwords. The user name must have between 5 and 64 characters. The password must have between 4 and 64 characters.
- The PRAESENSA system controller provides an Open Interface for external control. Access through this interface requires the same user accounts as for the system configuration access. Use a dedicated account to connect to the PRA-APAS with limited user rights. In addition, the system controller generates a certificate to setup the TLS secure connection between the system controller and the Open Interface client. Download the certificate and open/install/save the crt-file. Activate the certificate on the client PC. Refer to *System security* in the PRAESENSA Configuration manual.
- System access to the devices of this system is secured via the OMNEO security user name and passphrase of the system. The system uses a self-generated user name and long passphrase. This can be changed in the configuration. The user name must have between 5 and 32 characters and the passphrase must have 8 to 64 characters. To update the firmware of the devices, the firmware upload tool requires this security user name and passphrase to get access.
- In case a PC for event logs is used (PRAESENSA logging server and viewer), make sure that the PC is not accessible by unauthorized persons.
- Use secure VoIP protocols (SIPS) whenever possible, including verification through VoIP server certificate. Only use non-secure protocols when the SIP server (PBX) does not support secure VoIP. Only use VoIP audio in the protected sections of the network, because the VoIP audio is not encrypted.
- Anyone with the ability to dial one of the extensions of the system controller can make an announcement in the PRAESENSA system. Do not allow external numbers to dial the system controller extensions.

Find all documentation and software related at www.boschsecurity.com in the **Downloads** section of the PRAESENSA products.

Whenever you think you have identified a vulnerability or any other security issue related to a Bosch product or service, contact the Bosch Product Security Incident Response Team (PSIRT): https://psirt.bosch.com.

4 Installation procedure

The initial installation of the PRA-APAS server is structured into the below steps which need to be followed.

1. *Network setup, page 12*.
2. *Initial power on, page 14*.

4.1 Network setup

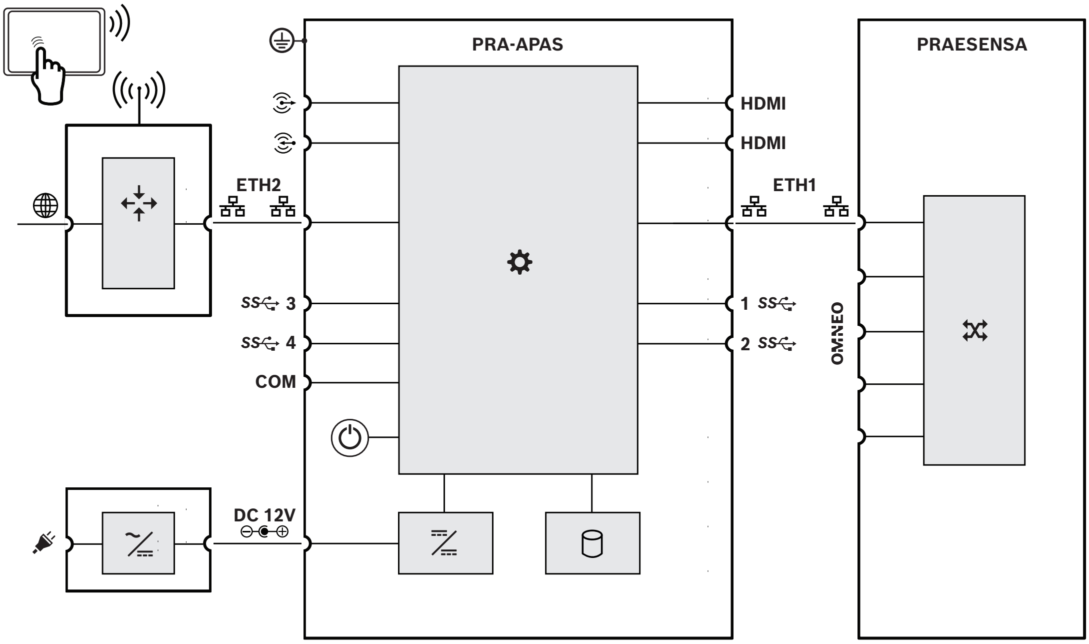
The PRA-APAS server needs to be connected to a LAN or corporate network and to the PRAESENSA network to which announcements should be sent from the PRA-APAS.

Notice!
Only one PRA-APAS device can be connected via ETH1 port to the PRAESENSA network.

Notice!
APAS is using internal network segment 172.18.0.0/16. Make sure that ETH1 and ETH2 ports do not use this segment either statically configured or by DHCP.

Notice!
The APAS web-server connection supports TLS 1.3. If third party servers, such as streaming music sources, do not support TLS 1.3, the PRA-APAS also supports lower TLS versions.

Connection and functional diagram



Private network connection

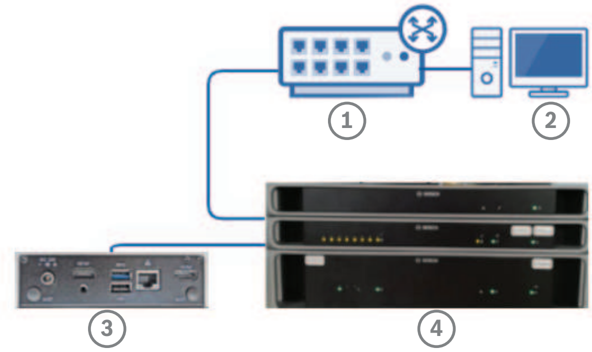


Figure 4.1: Private network connection

1	Switch and DHCP	**3**	PRA-APAS device
2	Client PC	**4**	PRAESENSA

The previous figure shows how to connect the PRA-APAS device via ETH1 to one common private network. The PRA-APAS connects to PRAESENSA,which is then connected to the switch and DHCP server.

Between PRA-APAS device and PRAESENSA there is heavy multicast traffic and you need a compliant Ethernet switch to handle such traffic.

Corporate network connection

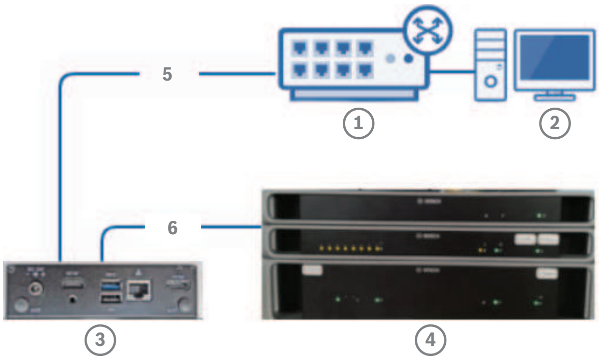


Figure 4.2: Corporate network connection

1	Switch and DHCP	**4**	PRAESENSA
2	Client PC	**5**	ETH2 (next to COM port)
3	PRA-APAS device	**6**	ETH1 (next to HDMI port)

This figure shows how to connect the PRA-APAS to a corporate network. The PRA-APAS connects to PRAESENSA via ETH1, and establishes the connection from the PRA-APAS to the corporate switch via ETH2.

The ETH1 port is on the side with the 12V DC power connection, between the USB and the HDMI ports.

The ETH2 port is on the side with the power button, between the USB and COM ports.

Notice!
The corporate network connection is preferred for security reasons and due to the higher network throughput.

4.2 Initial power on

After connecting the device to the network, you can power on the PRA-APAS server.

To do the initial power on:

1. Connect the device to the 12 V DC power supply.
2. Power on the PRA-APAS server.
   - The system plays an audible signal through the PC speakers when the system boots. It can take a couple of minute before the web interface is ready to receive requests.
   - Use the On/Off button for hard resets only.
3. On the PRA-APAS device label, find the MAC address of the ETH2 corporate port.
4. Find the hostname of the PRA-APAS, which is `praapas-<suffix_of_mac_address>-ctrl.local`.
   - The suffix of the MAC-address is the last 6 characters of the MAC address found in previous step without the colon.
5. Find the IP-address of the PRA-APAS using one of the following options:
   - Find it in the Switch/Router admin panel DHCP clients by its MAC address;
   - Open a command prompt screen, enter `dns-sd -Gv4 <praapas_hostname>`;
   - Open a command prompt screen, enter `ping <praapas_hostname>`
   - In the Dante controller, find recognizable PRA-APAS AES67 streams.

4.3 GUI Languages

As of release 1.10, the languages supported by the PRA-APAS user interface are:

- American English
- British English
- Danish
- German
- Spanish
- French
- Italian
- Hungarian
- Dutch
- Norwegian
- Polish
- Brazilian Portuguese
- Slovakian
- Finnish
- Swedish
- Turkish
- Czech
- Greek
- Russian
- Simplified Chinese

- Traditional Chinese
- Korean.

5 Configuration procedure

Use any Windows PC in the corporate or Public Address network to connect to the user interface for further configurations. The browsers Chrome and Firefox are supported.

1. Type `<hostname>` or `<ip_address>` in the browser to open the login webpage.
2. Enter the default credentials:

- **User**: admin.
- **Password**: admin.

Notice!
These credentials are used for initial configuration purposes of the PRA-APAS and should be changed for security reasons (refer to *Users, page 26*).

3. Click **Enter**.
   - The Welcome screen with the admin menu and individual tiles appears.

Notice!
You need to upload the License response file as described in *Licenses, page 19*. Without purchasing a license, the admin/admin credentials enable only limited access to the user interface. Get your Activation ID, download the license request file, and get your response file.

5.1 Settings

Use the **Settings** tile in the administration module to configure your network and time preferences

To configure the network:

1. In the **Settings** menu, click the **Settings** tile.
2. Enter the **Host name**.
   OR
   Enter the **Name servers**.
3. On **ETH1 - PA network**, select either **DHCP** or **Static**.
   - The icon turns green when a successful connection is made.
4. For **Static**, enter the **IP address**, **Netmask** and **Gateway** addresses.
   - For **DHCP**, these fields auto-populate.
5. On **ETH2 - corporate network**, select either **DHCP** or **Static**.
6. Click the **Save** button to save your settings.
   - **Note:** The button **Enable SSH for 24 hours** will enable SSH access for access for support in case of an accident for a day.
     Each time you change the IP address or the Host name, the settings for a new self-signed certificate will be generated with validity of 730 days. Refresh your browser and confirm you trust this self-signed certificate. The system will check the certificate daily and at each boot, and it will generate a new one if the IP address or Host name changes, or if its validity expires within next 24 hours.
7. In **Time settings,** select either **Manual** or **NTP**.
8. For **NTP**, enter the **NTP primary server** and the **NTP secondary server** addresses.
   OR
   For **Manual**, enter the date and time in **Server time**.

   - When the **NTP** settings are changed, the system will restart and be unavailable for a short period of time. Calls in progress can be dropped and background music can be interrupted while the changes take effect.
9. Select the proper time zone from the drop-down list in **Time zone**.
10. Click the **Save** button to save your settings.

Notice!
Creating a backup is not required for initial configuration. You can find more information in *Backup, page 25*.

5.2 PA Settings

To configure the PRAESENSA Public Address system:

1. Select the **PA Settings** tile.
2. In the **Controller IP address / Group IP address** field, enter the PRAESENSA system controller IP-address or its hostname. For example, 1.2.3.4.
3. In the **Secure Port** field, enter 9403, the default in PRAESENSA.
4. Find the **SHA-256 Fingerprint** in PRAESENSA: **Security** > **Open Interface** > **Fingerprints** > **SHA-256.**
5. In the **Username** field, enter the username of the PRAESENSA system controller. For example, admin.
6. In the **Password** field, enter the password of the PRAESENSA system controller. For example, admin.
7. Click the **Save** button to save your settings.
   - The page closes and the main administrative page appears. The **PA Settings** tile shows the PRAESENSA settings icon as green.
8. Select the **PA Settings** tile.
9. In the **Device type** field, select **SCL** if your system controller is large. Select **SCS** if your system controller is small.
10. From the drop-down list, select the priority for the **APAS Call priority** field. It must be the same as the PRAESENSA call priority.
    - **Note:** Higher values mean higher priorities. Calls with higher priority can interrupt calls with lower priority. This priority is used for paging calls from the PRA-APAS except for BGM, which has the BGM priority selected in PRAESENSA.
11. Enter the input port prefix in the **Input prefix** field, for example: System controller SCL 1-1.

Notice!
The prefix must be exactly the same as the system controller name that can be found in the PRAESENSA web-browser: **Configure** > **User accounts** > **System composition**

12. In the **Audio input offset** field, enter the first number of the audio input (inclusive) from which the PRA-APAS device will use the inputs onwards.
    - The minimum value for **SCL** is **17**.
    - The minimum value for **SCS** is **9**.
13. In the **Channels count** field, enter the number of AES67 channels simultaneously active (starting from **Audio input offset**).
    - The maximum number of channels for **SCL** is **10**.

- The maximum number of channels for **SCS** is **8**.

14. Select the **Reserved channels for live paging** from the PRA-APAS device. These channels are never allocated for background music.
15. **In the Start chime** field, enter the name of the chime that plays before an announcements
16. In the **End chime**, field enter the name of the chime that plays after an announcement
    - The chime names must be the same as found in PRAESENSA **System Controller UI** > **Recorded messages**.

ⓘ

Notice!
The number of BGM sources with input types **HTTP URL** and **Recording** plus the number of reserved channels for live paging should be less or equal to the number of channels. With this type of configuration, however, there are no channels left for **Recording** or **TTS announcements**.
It is recommend to leave one reserved channel for live paging and at least one extra channel for Recording and TTS. This means having up to eight BGM sources from the PRA-APAS.

ⓘ

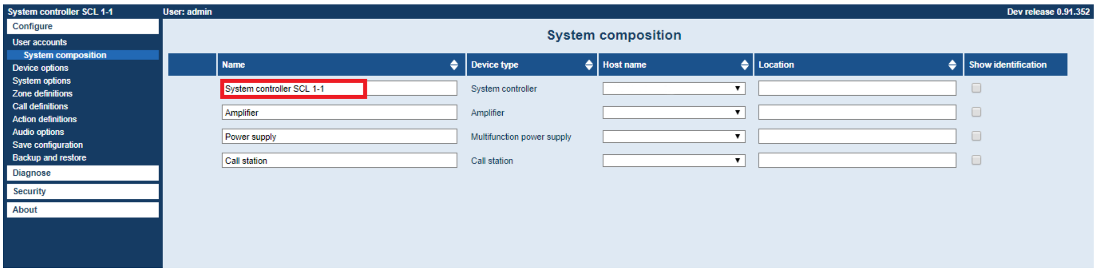
Notice!
The chime names in the PRA-APAS UI and in the System controller must be the same. If a text box is left empty, because a Start chime and/or End chime is not needed, make sure that chime1 and chime2 still exists in the System controller. The audio files of chime1 and chime2 shall be a 1s silent stream (you can find the file Silence_1s.wav for download in PRAESENSA Tones V1.0 on www.boschsecurity.com).

- **BGM channel prefix**: This prefix is used by the PRA-APAS device when constructing a BGM channel name. For example, for the prefix “APAS-BGM-” with **Audio input offset** set to 17 and **Input prefix** set to System controller SCL 1-1, you need to configure the following settings in PRAESENSA:
  - In the System controller, navigate to **Configure** > **Zone definitions** > **BGM routing** and create the BGM channels with corresponding **Input prefix** as shown in the table below.
    The number is added at the end of the prefix automatically in the PRA-APAS system. Start with the same number as entered in **Audio input offset** and make sure that these BGM channels are never configured to be used by the end user directly, for example, in the call station.
    Note: All fields are case sensitive.
  - Make sure that all used audio inputs are enabled in the PRAESENSA System controller as well:
    Go to **Configure** > **Device Options** > **System controller** > **Unencrypted virtual audio inputs (Dante/AES67)** and check that all used inputs are selected (in the example show in the table, it should be input *17 to *26).

17. Click the **Save** button to save your settings.
18. Click the **Home** button to exit.

Name	Input prefix
APAS-BGM-17	System controller SCL 1-1 (*17)
APAS-BGM-18	System controller SCL 1-1 (*18)

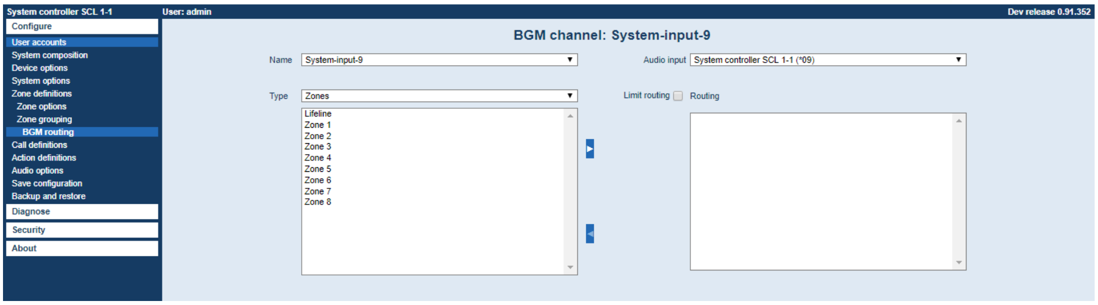
...	...
APAS-BGM-26	System controller SCL 1-1 (*26)



System composition

Name	Device type	Host name	Location	Show identification
System controller SCL 1-1	System controller	▾		□
Amplifier	Amplifier	▾		□
Power supply	Multifunction power supply	▾		□
Call station	Call station	▾		□

Figure 5.1: Input prefix



BGM channel: System-input-9

Name: System-input-9 ▾

Audio input: System controller SCL 1-1 (*09) ▾

Type: Zones ▾

Lifeline
Zone 1
Zone 2
Zone 3
Zone 4
Zone 5
Zone 6
Zone 7
Zone 8

Limit routing □ Routing

Figure 5.2: BGM channels

5.3 Licenses

In order to fully use the system, you must request your PRA-APAL license.

1. Order one or more licenses.
   – Each active user of the PRA-APAS server can use one license.
2. Receive your Activation ID by e-mail.
   – Each PRA-APAL license has its own Activation ID.
3. Click the tile **Licenses**.
   – The **Licenses** page opens.
4. Click the **Add license** button.
   – The **Add license** window appears.
5. Fill in the fields required for adding a new license:

– Under **Customer information** enter:
   – The **Location name**.
   – The **Customer name**.
   – The **Address**.
   – The **City**.
   – The **Country**, from the drop-down menu.

– Under **Activation information**, type in your **Activation ID** that identifies your installation.
   – The added IDs are visible under **Activation ID list**.

6. Click the **Next** button to go to the **Add license** window.
   – **Note:** Next time you click the **Add license** button, you will be redirected to this **Add license** window.

7. Click the **License request file** button to download the license Response request file.
8. Download the corresponding response request file from Activation website https://licensing.boschsecurity.com/StartPage.aspx.
9. Click the **Upload license response file** button to upload the Response request file in the **Add license** window.
10. Confirm the settings with the button **Activate** or abort the action with the **Cancel** button.

An error message will appear if something goes wrong.

If the PRA-APAL license file is valid, you will be redirected to the **Licenses** tile. There, under **Licenses**, you will see your licenses information:
- **Qty**: The allowed user quantity for the license.
- **Feature**: The features the license grants the user.
- **Activated**: When was the license activated.
- **Expires**: The expiration date of the license.

Note: Once a valid license appear in the table, you need to click on your username in the top left corner to log out and log in again to be able to access the license features.

For further updates of your license:
- After submitting the license return request file provided by Bosch sales, you can revoke your PRA-APAL license with the **Revoke license** button.

5.4 Update

Before configuring the settings, update your firmware to the latest version.

Notice!
Only use firmware provided by the manufacturer.

1. Download the update file from the following link: www.boschsecurity.com.
2. Click the tile **Update** in the administration module.
3. Click **Choose a file...**.
4. Select the appropriate Firmware file from the device to upload.
   - **Note:** The file type must be .swu.
5. Click the **Update device** button.
6. Wait for the progress to complete.
7. Click the **Reboot device** button.
   - The system plays an audible signal through the PC speakers when it is ready.
8. Refresh the page to login to a newly updated system.

To update the firmware of the application afterwards, the **Update** tile enables you to choose a Firmware file and either to reboot the device or to update it.

5.5 Dante controller setup

To set up the Dante controller:

1. Download the Dante controller from the Audinate website at https://www.audinate.com/products/software/dante-controller.
2. Set up the routing according to the Figure below.
   – Make sure to check the correct cross points according to your configuration of the PRA-APAS device and PRAESENSA.

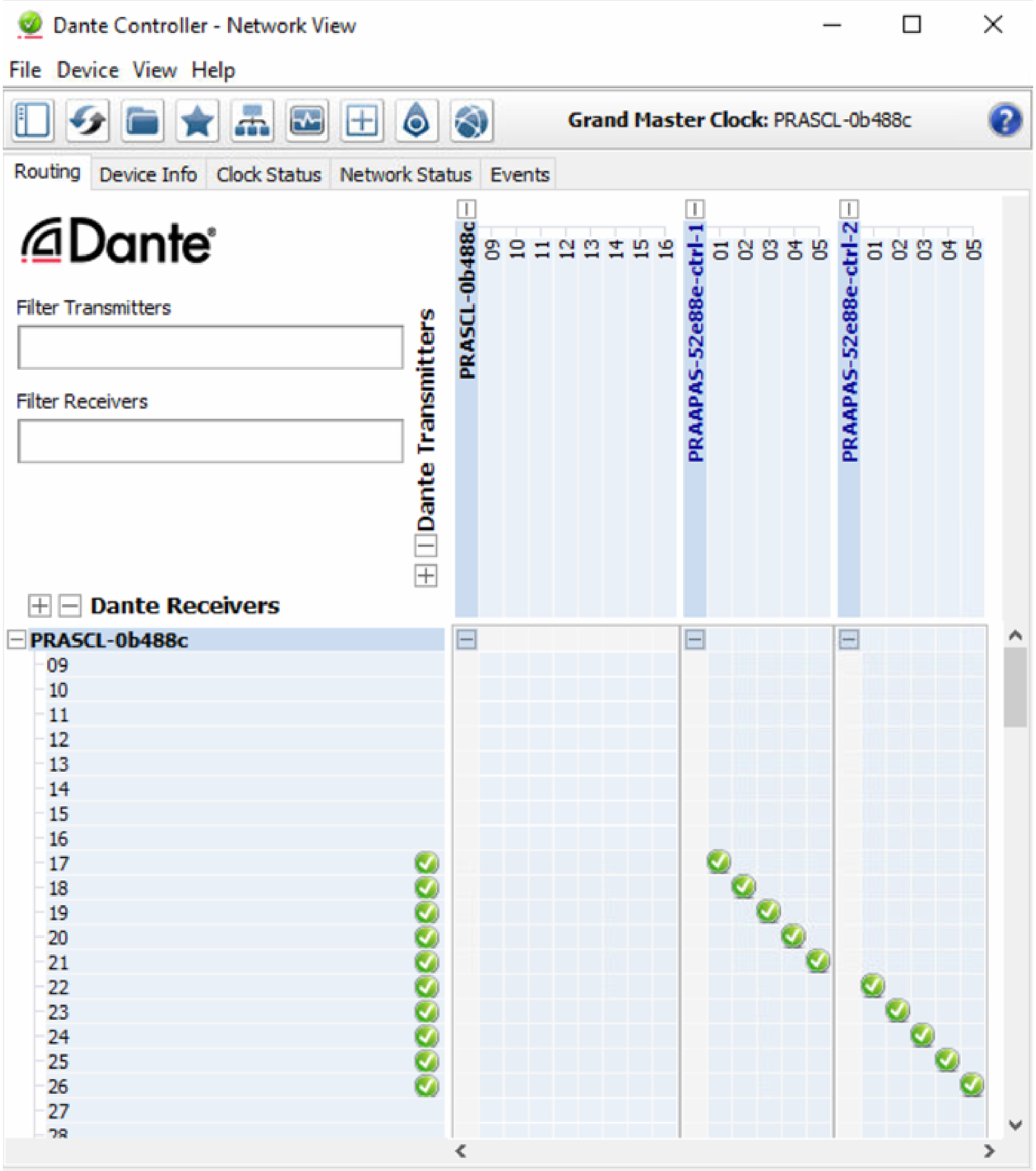


Figure 5.3: Routing example for PRAESENSA and PRA-APAS system

Refer to *Troubleshooting, page 43* for further information.

Refer to

– *Troubleshooting, page 43*

5.6 Further settings configuration

To make the PRA-APAS device operational, follow the instructions in the *Settings menu, page 25* configure the individual parts in the administration module:

- To create new users with the relevant authorization level refer to *Users, page 26*.
- To setup areas where the announcements will be played refer to *Areas, page 27*.
- To prepare different types of announcement inputs, like scripts, recordings, and BGM channels, refer to *Announcement Scripts, page 28*, *Recordings, page 29*, and *Music sources, page 30* respectively.

Navigation

- Access individual sections in the administration module by simply clicking on the respective tile.
- Leave a section with a simple click on the **Home** icon in the upper left corner.
- The section name is visible next to the **Home** icon in the upper left corner.

6 Logon to the application

Before starting, get the credentials for login and URL from your administrator.

1. Type the URL into a supported browser.
   - The login page is visible.
   - **Note:** Optionally change the UI language with the drop-down menu.
2. Type your **Username** and **Password** in the respective fields.
3. Click the **Log in** button.
   - You are logged in and the **User menu** is visible.

7 Application navigation

Two modules are available:

- The **User menu** for normal operations.
- The **Settings** menu for administrators.

The action tiles grouping system functionalities are in the middle of the screen.

Above it, the navigation bar is always available:

- The **admin** icon: Visible in the main pages. Click on this icon to log out. A confirmation window is shown.
- The **Home** icon: Returns the user to the main page.
  - **Note:** The **Home** icon leaves works unsaved.
- The section name and/or workflow information are visible after clicking an action button on the main page.

On the **Home** screen, you can also see the release version of the system. Click on it to see a detailed version of the Server and UI, including the OSS software used with its license.

8 Settings menu

Use the **Settings** menu to perform different administrative tasks such as device configuration, firmware updates, licensing, resets, and user management.

ⓘ **Notice!**
Only users assigned the Integrator role have full access to the **Settings** menu. Users with the Manager role have partial rights to the **Voice** configuration tiles. For more information, refer to *Users, page 26*.

The modules in the **Settings** menu are:

- *Settings, page 25*: includes network, time, and backup settings.
- *PA Settings, page 26*: includes PRAESENSA configuration.
- *Users, page 26*: includes user administration.
- *Areas, page 27*: includes section and area configuration for voice transmission.
- *Announcement Scripts, page 28*: includes creation of message templates.
- *Recordings, page 29*: includes audio file upload and voice recordings.
- *Music sources, page 30*: includes background music channel configuration.
- *Text to speech, page 32*: includes TTS license configuration.
- *History, page 34*: includes an overview of all actions configured in the device.
- *Logs, page 35*: includes an overview of the logs.
- *Licenses, page 19*: includes license maintenance.
- *Update, page 20*: includes firmware updates.
- *Factory reset, page 36*: includes device reset, which deletes all data.

8.1 Settings

If you are logged in as an Integrator, you can use the **Settings** tile to configure the network settings, the time settings, and create a system backup or import it.
The initial device configuration must be done during installation, after the PRA-APAS device is connected to the network. For more information refer to Installation procedure.
To configure the network settings and the time settings, refer to *Settings, page 16*.

8.1.1 Backup

Backup files safeguard against system outages by making a copy of the system. Once the backup is created, you can download it or delete it. Backups show their size and date of creation.

To create a backup file:

1. In the **Settings** menu, click the **Settings** tile.
2. Scroll down and click the **Create backup** button.
   - A confirmation message appears. Backup duration is dependent on how much data needs to be backed up.
3. Click **Create** to confirm or **Cancel** to abort the backup file creation.

To import a backup file:

1. In the **Settings** menu, click the **Settings** tile.
2. Click the **Import backup** button.
3. Click **Choose a file...**.
4. Navigate to the desired backup file.

5. Click **Import** to confirm or **Cancel** to abort the import.

8.2 PA Settings

If you are logged in as an Integrator, you can use the **PA Settings** tile to configure the Public Address system.
The initial configuration of PA settings must be performed once the PRA-APAS device is connected to the network. For more information, refer to *PA Settings, page 17*.

8.3 Users

Use the **Users** tile to:

- Create new system users
- Assign roles, including permissions and rights to the system.
- Edit existing profiles.
- Delete profiles.

Notice!
You must have a valid license to create new user profiles. For more information, refer to *Licenses, page 19*.

There are three authorization levels:

Integrator	Has full access rights to the administration module, which includes: – **Settings** menu – **User menu**

Manager	Has limited rights in the administration module:
	– **Settings** menu
	  – **Users**
	  – **Areas**
	  – **Announcement Scripts**
	  – **Recordings**
	  – **Music sources**
	  – **History**
	– **User menu**: all tiles and functions available

User	Has rights for the **User menu** only. Access to the **Settings** menu is not visible. – Able to access only the tiles for which permission has been granted by the Integrator

8.3.1 Add a new user account

To add a new user account:

1. Click the **Users** tile.
2. Click the **Add User** button.
   - The **Add user** window opens.
3. In the **Username** field, enter your username.
4. In the **Password** field, enter your password.

Notice!
Make sure that the user accounts for system access use sufficiently long and complex passwords.

5. In the **Confirm password** field, enter your password.
6. From the **Role** drop-down menu, select the desired role for the new account.
   - Select the permission for the User role using the check boxes.
7. Click **Save** to activate the new user account.

8.3.2 Edit a user account

To edit an existing user account:

1. Click the **Users** tile.
2. Click the **Edit** button next to the item you want to edit.
   - The **Edit user** window opens.
3. Edit the user account.
4. Click the **Save** button to save your settings.

8.3.3 Delete a user account

To delete a user account:

1. Click the **Users** tile.
2. Click the **Delete** button next to the user account you want to delete.
   - A confirmation window appears.
3. Click the **Delete** button to confirm.
   - The account is permanently deleted.

8.4 Areas

Use the **Areas** tile to define the audio zones where announcements play. The area is a specific PRAESENSA zone to which audio files are sent. Additionally, you can create sections (individual groupings) within areas.

8.4.1 Add a new section

Notice!
At least one section is required. There is no limit to the number of sections created.

To add a new section:

1. Click the **Areas** tile.
   - The **Areas** page opens.
2. Click the **Add section** button.
   - The **Add new section** window opens.
3. In the **Section title** field, enter the name of the section.
4. Click the **Save** button to save your settings.
   - The new item is visible in the main page.

8.4.2 Add a new area

To add a new area:

1. Click the **Areas** tile.
   - The **Areas** page opens.
2. Click the **Add area** button.
   - The **Add area** window opens.
3. Enter a name in the **Area title** field.
4. From the drop-down menu, select the **Praesensa zon**e.
   - The zones are configured in **Configuration** > **Zone definitions** > **Zone groups**.
5. From the **Section** drop-down list, select the section into which the new area is grouped.
6. Grant the following rights to the area by checking the check boxes:
   - **Allow page**: Enables announcements to the area.
   - **Allow change BGM source**: Enables music channels to the area.
   - **Allow change volume**: Enables volume changes to the area.
   - **Allow change volume in selected sub-zones**: If the area represents a PRAESENSA Zone Group you can narrow down which sub-zones the user can change volume. Select the sub-zone from the drop-down list and click **+ Allow sub-zone** to add it to the allowed list. Click on the **Trash** icon next to the sub-zone name in the list to remove it.
7. Upload an image to represent the area.
8. Select an icon to represent the area from the drop-down list.
   - **Note:** It is possible to have an icon, an image, or both, for an area.
9. Click the **Save** button to save your settings.
   - The new item is visible in the main page.

8.5 Announcement Scripts

Use the **Announcement Scripts** tile to create Text to speech announcements for the **Text to speech** tile. Use the TTS announcements in the library or create new TTS announcements.

8.5.1 Add a new announcement script

To add a new announcement script:

1. Click the **Announcement Scripts** tile.
   - The **Announcement Scripts** page opens.
2. Click the **Add script** button.
   - The **Add script** window opens.
3. In the **Script title** field, enter the name of the announcement.
4. In the **Script text** field, enter the text for the announcement.
5. Click the **Save** button to save your settings.
   - The new item is visible in the main page.

8.5.2 Edit an announcement script

To edit an existing announcement script:

1. Click the **Announcement Scripts** tile.
2. Click the **Edit** button next to the item you want to edit.
   - The **Edit script** window opens.
3. Edit the announcement script.
4. Click the **Save** button to save your settings.

8.5.3 Delete an announcement script

To delete an announcement script:

1. Click the **Announcement Scripts** tile.

2. Click the **Delete** button next to the item you want to delete.
   – A confirmation window appears.
3. Click the **Delete** button to confirm.
   – The deleted item is no longer visible in the main page.

8.6 Recordings

Use the **Recordings** tile to upload audio files and record new audio files. The audio files supported are .mp3, .wav, .flac, .m4a, .wma, .aac, and .ogg, and can be up to 24 hours long. In the **User menu**, the **Messages** and **Scheduler** tiles are able to access any recordings from this tile.

Use the **Preview** button to listen to any of the audio recordings.

When adding or editing a recording, its volume will be analyzed based on EBU R128 and ITU BS.1770 standards. The resulting gain will be used when playing the recording to PRAESENSA. Make sure that the uploaded recordings are in high quality with low noise. If the gain required to play back the audio at standard loudness is too high, an information message will appear in the corner.

8.6.1 Add a new recording

To upload a new recording:

1. Click the **Recordings** tile.
   – The **Recordings** page opens.
2. Click the **Add recording** button.
   – The **Recording editor** window opens.
3. Check the **Upload file** check box.
4. Click in the **Choose a file...** field.
   – The file browser window opens.
5. Select an audio file.
   – The file name appears in the fi **Recording name** field.
6. Click the **Save** button to save your settings.

To record a new file:

1. Click the **Recordings** tile.
   – The **Recordings** page opens.
2. Click the **Add recording** button.
   – The **Recording editor** window opens.
3. Check the **Record new** check box.
   – A new **Recording editor** window expands for announcement recording.
4. In the **Recording name** field, enter the name of the new announcement.
5. Click the **Record announcement** button.
6. Using the device’s microphone, record your announcement.
   – The **Library** button shows predefined scripts that can serve as guidelines. The **Choose prepared script** window opens with a list of scripts. If no scripts are defined, the window is empty. Once a script is selected, it appears above the recording screen.
7. Click the **Press to stop** button to finish the recording.
   – The timer stops and **Recording complete** appears above it.
8. Select one of the following options, if needed:

   - **Prelisten**: This button plays the recorded message back through the loudspeakers. To stop listening to the message, click the **Prelisten** button again.
   - **Discard**: Click this button to delete the recording without saving it.
9. Click the **Save** button to save your settings.

8.6.2 Edit a recording

To edit an already existing recording:

1. Click the **Recordings** tile.
2. Click the **Edit** button next to the item you want to edit.
   - The **Recording editor** window opens with different information depending on the recording type. The recording type cannot be changed.

- **Record new**: Record a new file to replace the existing one. Click the **Preview** button to listen to the original recording.
- **Upload file**: Upload a new file to replace the existing one.
  - The file names can be edited.

3. Click the **Save** button to save your settings.

8.6.3 Delete a recording

To delete a recording:

1. Click the **Recordings** tile.
2. Click the **Delete** button next to the item you want to delete.
   - A confirmation window appears.
3. Click the **Delete** button to confirm.
   - The deleted item is no longer visible in the main page.

8.7 Music sources

Use the **Music sources** tile to add BGM channels, web radio URLs, or existing recordings. These sources are used in the Music toolbox and Scheduler/Music. You can configure a limited number of recording or web radio URL source types depending on how many channels are reserved for live paging/TTS.

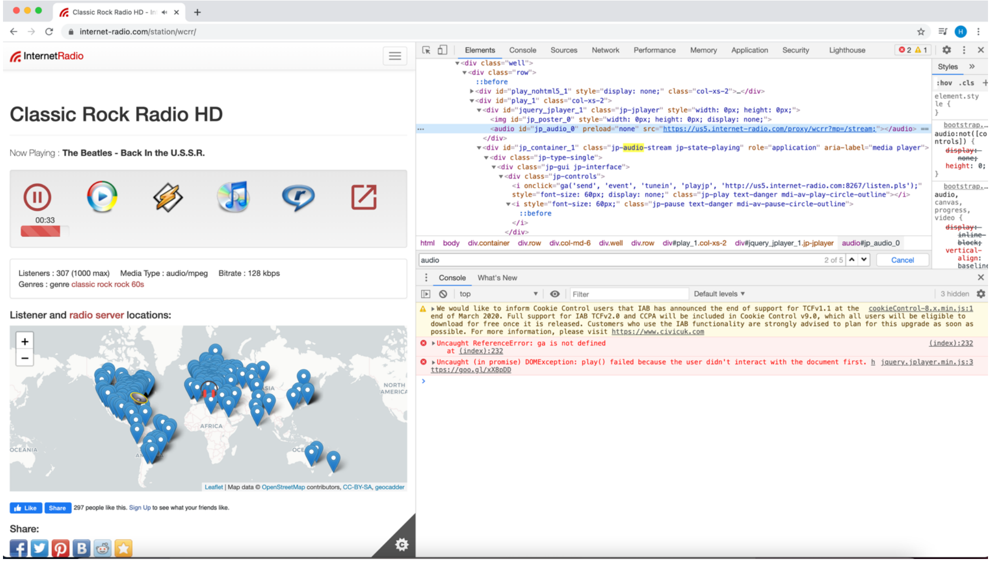
When adding or modifying a music source, its volume will be analyzed based on EBU R128 and ITU BS.1770 standards. The resulting gain will be used when playing the music source to PRAESENSA. If the music source is a radio stream, the first 0.5 MB of the stream will be downloaded and computed. The replay gain will be used whenever this music source is played. If the gain required to play back the audio at standard loudness is too high, an information message will appear in the corner.

8.7.1 Add a new music source

To add a new music source:

1. Click the **Music sources** tile.
   - The **Music sources** page opens.
2. Click the **Add** button.
   - The **Add music source** window opens.
3. In the **Name** field, enter the name of the music source.
4. Select the **Input type**:
   - **BGM channel**: Choose a preconfigured **Praesensa BGM channel** from the drop-down list.

- **HTTP URL**: Type a web radio URL into the field below. It needs to be an exact URL of an audio media file. Click **Prelisten** to preview the audio file.



Classic Rock Radio HD

Now Playing : **The Beatles - Back In the U.S.S.R.**

Listeners : 307 (1000 max) Media Type : audio/mpeg Bitrate : 128 kbps
Genres : genre classic rock rock 60s

Listener and radio server locations:

297 people like this. Sign Up to see what your friends like.

Share:

```
▼<div class="well">
  ▼<div class="row">
     ::before
   ▶<div id="play_nohtml5_1" style="display: none;" class="col-xs-2">…</div>
   ▼<div id="play_1" class="col-xs-2">
     ▼<div id="jquery_jplayer_1" class="jp-jplayer" style="width: 0px; height: 0px;">
        <img id="jp_poster_0" style="width: 0px; height: 0px; display: none;">
        <audio id="jp_audio_0" preload="none" src="https://us5.internet-radio.com/proxy/wcrr?mp=/stream;"></audio> ==
      </div>
     ▼<div id="jp_container_1" class="jp-audio-stream jp-state-playing" role="application" aria-label="media player">
       ▼<div class="jp-type-single">
         ▼<div class="jp-gui jp-interface">
           ▼<div class="jp-controls">
              <i onclick="ga('send', 'event', 'tunein', 'playjp', 'http://us5.internet-radio.com:8267/listen.pls');"
              style="font-size: 60px; display: none;" class="jp-play text-danger mdi-av-play-circle-outline"></i>
             ▼<i style="font-size: 60px;" class="jp-pause text-danger mdi-av-pause-circle-outline">
                ::before
              </i>
            </div>
```

html body div.container div.row div.col-md-6 div.well div.row div#play_1.col-xs-2 div#jquery_jplayer_1.jp-jplayer audio#jp_audio_0

audio

```
element.sty
le {
}
bootstrap.…
audio:not([co
ntrols]) {
  ~~display:
    none;~~
  height: 0;
}
bootstrap.…
audio,
canvas,
progress,
video {
  ~~display:
    inline-
    block;~~
  vertical-
    align:
    baseline
```

```
▶We would like to inform Cookie Control users that IAB has announced the end of support for TCFv1.1 at the  cookieControl-8.x.min.js:1
end of March 2020. Full support for IAB TCFv2.0 and CCPA will be included in Cookie Control v9.0, which all users will be eligible to
download for free once it is released. Customers who use the IAB functionality are strongly advised to plan for this upgrade as soon as
possible. For more information, please visit https://www.civicuk.com
▶Uncaught ReferenceError: ga is not defined                                                                                (index):232
    at (index):232
▶Uncaught (in promise) DOMException: play() failed because the user didn't interact with the document first. h  jquery.jplayer.min.js:3
ttps://goo.gl/xX8pDD
```

- **Recording**: Click the **Choose recording** button. The **Choose recording** window opens where you can select an existing audio file from the **Recordings**.

5. Click the **Save** button to save your settings.
   - The new item is visible in the main page.

Notice!
For example, at www.internet-radio.com there is a radio station, “Classic Rock Radio HD”, with sources in the in-place HTML player, in a wma m3u playlist, in a winamp playlist, and in a real media player playlist.
For the in-place HTML player, you need to find an audio file given as an src attribute of the <audio/> HTML5 tag, as you can see if you right-click a page in the Chrome browser and select **Inspect Element,** opening the developer section (https://us5.internet-radio.com/proxy/wcrr?mp=/stream; in this case).
For wma a m3u playlist, you need to Download it from this website, open the file as text file in a text editor and copy one of the lines (http://us5.internet-radio.com:8267/, in this case).
It should be analogical for any other Internet radio input. You need to find the audio media URL of the stream.
The ports used to obtain the Internet radio depend on the URL. For example, the radio source https://rozhlas.stream/dvojka_aac_128.aac will use only HTTPS (the TCP 443 port) to obtain data from the Internet. Other sources could use different ports that need to be accessible from the PRA-APAS.

8.7.2 Edit a music source

To edit an already existing music source:

1. Click the **Music sources** tile.
   - The **Music sources** page opens.
2. Click the **Edit** button next to the item you want to edit.
   - The **Edit music source** window opens.
3. Edit the music source.
4. Click the **Save** button to save your settings.

8.7.3 Delete music source

To delete a music source:

1. Click the **Music sources** tile.
   – The **Music sources** page opens.
2. Click the **Delete** button next to the item you want to delete.
   – A confirmation window appears.
3. Click the **Delete** button to confirm.
   – The deleted item is no longer visible in the main page.

8.8 Text to speech

Before configuring of the **Text to speech** settings, select either Amazon or Azure as your TSS provider depending on the languages you need.
Refer to https://docs.aws.amazon.com/polly/latest/dg/SupportedLanguage.html for an overview of the languages provided by Amazon Polly.
Refer to https://learn.microsoft.com/en-us/azure/cognitive-services/speech-service/language-support?tabs=tts for an overview of the languages provided by Azure.
The credentials and voices are not stored if you change to another provider.

8.8.1 Amazon settings

The PRA-APAS device supports the Text to speech (TTS) services provided by Amazon Polly: https://aws.amazon.com/polly. To get started with Amazon Polly, create an account. A credit card is required. Amazon charges a one-time payment of 1 USD to create the account.
Example:
A request of 300 events of 30k characters each results in a TTS duration of about 42 minutes and a price around 0.60 USD. This means that the TTS cost for 9 million characters is around 0.60 USD. The average length of a phrase in a Public address announcement is 100 characters.
For actual pricing information, check https://aws.amazon.com/polly/pricing/.

Notice!
Make sure the port TCP 433 is accessible from the PRA-APAS, as the Amazon Polly service uses the HTTPS endpoint.

How to gain access to the Amazon settings

1. Go to https://aws.amazon.com/polly.
2. Create a Root user and login.
3. Go to **My Security Credentials** > **Access keys** (access key ID and secret access key).
4. Create a new access key.
   – You can download your key file in Excel format.

This information is up to date as of March, 2023.

How to use your Amazon credentials

1. In the APAS main page, click **Settings**.
   The Settings page opens.
2. Click the **Text to speech** tile.
   The **Text to speech** page opens.
3. Select **Amazon settings**.

4. Enter the ID provided in the **Access key ID** field.
5. Enter your Amazon password in the **Secret access key** field.
   - If you do not enter a password, the last password stored will be used.
6. Select the **Region** from the drop-down list.

Refer to *Create a new TTS language, page 34*.

8.8.2 Azure settings

The PRA-APAS device supports the Text to speech (TTS) services provided by Azure: https://azure.microsoft.com/en-us/services/cognitive-services/text-to-speech/#overview. To get started with Azure, you need a Microsoft account.

How to gain access to the Azure settings

1. Sign into your Microsoft account.
2. Go to https://azure.microsoft.com.

Notice!
The next steps only describe how to configure the TTS services provided for free by Azure. For more details on the available business models, refer to https://azure.microsoft.com/en-us/pricing/details/cognitive-services/speech-services/#pricing.

3. Click **Start free**.
   - The **Azure - Sign up** page opens.
4. Fill the necessary fields to create your Azure account.
5. Sign into your Azure account through https://portal.azure.com.
6. Search for and click **Cognitive Services**.
7. Under **Speech service**, click **Create**.
8. The field **Subscription** is automatically filled.
9. Enter or create a **Resource group**.
10. Select a **Region** from the drop-down list.
11. Enter a **Name**.
12. Select a **Pricing tier** from the drop-down list.
13. Click the **Review + create** button.
    - The message **Validation Passed** appears. You see a summary of the information you filled in the tab **Review + create**.
14. Click **Create**.
    - The message **Your deployment is complete** appears.
15. Under **Next steps**, click **Go to resource**.
    - The **Keys and Endpoint** page opens.
16. Next to the **Manage keys** field, click **Click here to manage keys**.
17. Click the **Show Keys** button.
    - You have gained access to your Azure credentials.

How to use your Azure credentials

1. In the APAS main page, click **Settings**.
   The Settings page opens.
2. Click the **Text to speech** tile.
   The **Text to speech** page opens.
3. Select **Azure settings**.

4. To enter the **KEY 1**, go to the **Keys and Endpoint** page and copy and paste the content of the field **KEY 1**.
5. To enter the **Location/Region**, go to the **Keys and Endpoint** page and copy and paste the content of the field **Location/Region**.

Refer to *Create a new TTS language, page 34*.

8.8.3 Create a new TTS language

To create a new text to speech language configuration:

1. Click the **Text to speech** tile.
   - The **Text to speech** page opens.
2. Click the **Add** button under the **Languages** list.
   - The **Add language** window opens.
3. Select the language from the drop-down list.
   Note: If you have chosen the **Amazon settings**, your list of languages includes both standard and neural TTS options. Neural TTS is a powerful speech synthesis capable of converting text to more lifelike speech. For best quality, select a neural voice.
4. Enter the language name.
   - This name will be visible on the TTS announcement creation.
5. Click the **Save** button to save your settings.
   - The new item is visible in the main page.

8.8.4 Edit a TTS language

To edit an already existing TTS language:

1. Click the **Text to speech** tile.
   - The **Text to speech** page opens.
2. Click the **Edit** button next to the item you want to edit.
   - The **Edit language** window opens.
3. Edit the language.
4. Click the **Save** button to save your settings.

8.8.5 Delete a TTS language

To delete a TTS language:

1. Click the **Text to speech** tile.
   - The **Text to speech** page opens.
2. Click the **Delete** button next to the item you want to delete.
   - A confirmation window appears.
3. Click the **Delete** button to confirm.
   - The deleted item is no longer visible in the main page.

8.9 History

The **History** tile provides a list of played or in progress announcements, including detailed information about each announcement. The list is ordered chronological, with the newest announcement on the top.

The list includes all announcements triggered from the tiles:

- **Voice**, in the **User menu**.
- **Text to speech**.
- **Messages**, in the **User menu**.

- **Scheduler** > **Messages**, in the **User menu**.

Notice!
BGM action announcements are not visible in the **History** tile.

For each announcement, you can see:

- The time and date it is playing.
- The status, as a colored circle above the timeline:
  - **Waiting to be processed:** The dark blue circle means the announcement is waiting to be played to the configured areas.
  - **Processing**: The blue circle means the announcement is currently being played to the configured areas.
  - **Done**: The green circle means the announcement was played successfully to the configured areas.
  - **Cancelled:** The orange circle means the announcement was cancelled and did not play to the configured areas.
  - **Expired:** The yellow circle means the time and date of them announcement have passed, so it will not play to the configured areas.
  - **Interrupted:** The white circle means the announcement was only partially played, for example, the announcement was not played to all configured areas.
  - **Failed:** The red circle means the announcement failed to play due to the PA settings or overlapping announcements.
- An icon identifying the type of announcement.
- The scheduled message, with its name above the announcement details.
- The announcement details:
  - Its name.
  - The user triggering it.
  - Areas where it was played.
  - The time it was triggered.

8.9.1 Cancel an announcement playing

To cancel an announcement in progress:

- Click the **Cancel** button next to the item you want to stop playing.

8.10 Logs

To view the log files:

- Click the **Logs** tile.
  - The **Logs** page opens in a different tab.

The logs are in tables that can be downloaded. The following information is available for each file:

- **Type** of file.
- **Name** of the file.
- **Time** of the file.
- **Size** of the file.

Click the **Refresh** button to update the log files.

8.11 Factory reset

Use the **Factory reset** tile to reset the device to factory defaults.

⚠ **Caution!**
Doing a factory reset deletes all data from the system. This action is irreversible.

To do a factory reset:

1. Click the **Factory reset** tile.
   - The **Factory reset** page opens.
2. Check the checkbox **I know what I am doing** to make sure that the action is not done accidentally.
3. Check the checkbox **I have a backup**.
4. Enter your password in the **Password** field.
5. Click the **Reset to factory defaults** button.

9 User menu

Users only have access to the **User menu**. For more information, refer to *Users, page 26*.

9.1 Voice

The **Voice** tile enables the push to talk option where the user can record custom messages using the device’s microphone.
The **Voice** page is organized into sections. Collapse these by clicking the button next to the section name. Each section is divided in its various **Areas**. Refer to *Areas, page 27* for more information.

Notice!
A confirmation window appears when first using the device’s microphone.

To record and play a custom announcement:

1. Click the **Voice** tile.
   - The **Voice - Areas** page opens.
2. Click the area picture or name to select one or multiple **Areas** where you want the announcement to play.
   - The rectangular button turns from blue to green.
   - Check the number of selected Areas in its corner.
3. Click the green button.
   - A new window appears.
4. Click the **Record announcement** button to start a new recording.
5. Click the **Library** button to select a predefined script that can serve as guidelines.
6. Record your announcement.
   - The recording time is visible above the time counter.
7. Click the **Press to stop** button to stop recording.
   - The recording timer stops and the message **Recording complete** appears above the counter.
8. Select one or more of the following options:

- **Prelisten**: Play the recorded message via the device’s speakers. To stop it, click the **Prelisten** button again. The time counter starts and the message **Playing** appears above it.
- **Discard**: The recorded message will be deleted without being played to any area.
- **Press to page**: The recorded message will be played to the **Areas** selected.

9. Click the blue arrow to go back to the main page.

Error messages
An error message, **Enqueue failed**, appears if the selected areas are not connected. The announcement is marked as failed in the **History** tile. Refer to *History, page 34* for more information.

9.2 Text to speech

The **Text to speech** (TTS) tile allows you to either write the desired message or select an existing message from the **Library**.

ⓘ **Notice!**
The available TTS languages depend on the configuration.

To play a TTS message:

1. Click the **Text to speech** tile.
   - The **Text to speech** page opens.
2. Enter a custom message in the **TTS Message** field. Skip steps two and three.
   OR
3. Click the **Library** button.
   - The **Choose prepared script** window opens with a list of predefined scripts.
   - The rectangular button turns from blue to green.
4. Click a message to select it.
   - The selected message appears in the **TTS Message** field.
5. If required, edit the message in the **TTS Message** field.
6. Select the **TTS Language** from the drop-down menu.
7. Click the **Prelisten** button to verify that the message is played correctly.
8. Click the green button.
   - The **Text to speech - Areas** page opens.
9. Click the area picture or name to select one or multiple **Areas** where you want the announcement to play.
10. Click the **Page announcement** button to start playing the message to the selected zones.
    - Check the number of selected Areas in its corner.
11. Click the blue arrow to go back to the main page.

Error messages

An error message, **Enqueue failed**, appears if the selected areas are not connected. The announcement is marked as failed in the **History** tile. Refer to *History, page 34* for more information.

9.3 Messages

The **Messages** tile provides a list of pre-recorded messages, audio files, and sounds/melodies that can be paged to selected areas without any further modification.

To play a pre-recorded message:

1. Click the **Messages** tile.
   - The **Messages library** page opens.
2. Click a message to select it.
   - Only one message can be selected at a time.
   - The rectangular button turns from blue to green.
   - Click the **Prelisten** button to hear the message.
3. Click the green button.
   - The **Messages** - **Areas** page opens.
4. Click the area picture or name to select one or multiple **Areas** where you want the announcement to play.

5. Click the **Page announcement** button to start playing the message to the selected zones.
   - Check the number of selected Areas in its corner.
   - A confirmation appears that the message was played.
6. Click the blue arrow to go back to the main page.

Error messages
An error message, **Enqueue failed**, appears if the selected areas are not connected. The announcement is marked as failed in the **History** tile. Refer to *History, page 34* for more information.

9.4 Music

The **Music** tile allows to setup background music for a specific area/zone. Each area can have a different music source configured. The selected music source plays in a loop.

The music settings of an area are visible below the area picture:

- The **Music source** name. If the source selected is BGM not managed by the PRA-APAS device, its name is **Unknow source**.
- The scheduler icon indicates that the affected area has a BGM music schedule.

To set up music for an area, or edit already existing music settings:

1. Click the **Music** tile.
   - The **Music - Areas** page opens.
2. Click the relevant **Area**.
   - A new window opens with the name of the selected area.

Notice!
All changes made on this window happen immediately with no confirmation needed.

3. Select the **Music source** from the list.
4. Set the **Volume** using the slider
   Or
   Click the loudspeaker button to mute the music.
5. Click the **Close** button.
   - The changes are visible in the main page.

Notice!
Users with the **Manager** role or higher can click **Save standard settings** to save the current selected music source and volume as a preset. Other users can click **Apply standard settings** to recall this preset later.

9.5 Scheduler

The **Scheduler** tile enables you to plan messages or music playing at a future point of time through the subtitles **Messages** and **Music**.

The schedules can be planned:

- Once.

- Multiple times.
- Each x minutes/hours.
- Daily at a specific time.
- Weekly at a specific time.

Schedule definition

Regarding the time, you can choose:

- To play at a specific time.
- To repeat every x minutes in a time interval.

Regarding the date, you can choose to play:

- On one specific day of the calendar.
- Every day.
- On specific week days.

9.5.1 Messages

To add a new message schedule:

1. Click the **Scheduler** tile.
2. Click the **Message** subtile.
   - The **Scheduler** - **Messages** page opens.
3. Click the **Create new** button.
   - The **Scheduler** - **Messages - Areas** page opens.
4. Click the area picture or name to select one or multiple **Areas** where you want the announcement to play.
   - The rectangular button turns from blue to green.
5. Click the green button.
   - Check the number of selected Areas in its corner.
   - The **Messages library** page opens.
6. Click a message to select it.
   - Click the **Prelisten** button to hear the message.
   - The rectangular button turns from blue to green.

Notice!

Only one message can be added to one schedule, but multiple schedules can be planned.

7. Click the green button.
   - The **Scheduler editor** page opens.
8. Enter the **Event name** that will be visible on the list of scheduled message items.
9. Select the frequency of the event in the **Type of event** drop-down menu.
10. Fill the required settings depending on the frequency of the event.
11. Click the **Schedule** button.
    - The new item is visible in the main page.

To edit a message schedule:

1. Click the **Scheduler** tile.
2. Click the **Message** subtile.
   - The **Scheduler** - **Messages** page opens.
3. Click the item you want to edit.

4. Click the **Edit** button next to the item you want to edit.
   – The **Scheduler editor - Areas** page opens.
5. Select or deselect areas as necessary.
6. Click the green button.
   – The **Messages library** page opens.
7. Edit the message as necessary.
8. Click the green button.
   – The **Scheduler editor** page opens.
9. If necessary, edit the **Event name** that will be visible on the list of scheduled message items.
10. If necessary, edit the frequency of the event in the **Type of event** drop-down menu.
11. If necessary, fill the required settings depending on the frequency of the event.
12. Click the **Schedule** button.

To pause a message schedule:

1. Click the **Scheduler** tile.
2. Click the **Message** subtile.
   – The **Scheduler** - **Messages** page opens.
3. Click the item you want to pause.
4. Uncheck the **Active** checkbox next to the item you want to pause.
   – The icon of the item changes to **Pause**.

Follow the same procedure and select the **Active** checkbox to resume the message schedules.

To delete a message schedule:

1. Click the **Scheduler** tile.
2. Click the **Message** subtile.
   – The **Scheduler** - **Messages** page opens.
3. Click the item you want to delete.
4. Click the **Delete** button next to the item you want to delete.
   – A confirmation window appears.
5. Click the **Delete** button to confirm.
   – The deleted item is no longer visible in the main page.

9.5.2 Music

Volume and BGM configurations need to be allowed for the area.

To add a new music schedule:

1. Click the **Scheduler** tile.
2. Click the **Music** subtitle.
   – The **Music** - **Areas** page opens.
   – Each area can only have one BGM configuration.
3. Click the relevant **Area**.
4. Click the **Create new** button.
5. If applicable, check the **Set source** checkbox. If not applicable, skip to step 7.
   – The rectangular button turns from blue to green.
6. Choose the source from the drop-down list.
7. If applicable, check the **Set volume** checkbox. If not applicable, skip to step 9.
   – The rectangular button turns from blue to green.

8. Use the slider to set the volume.
9. Click the green button.
   - The **Scheduler editor** page opens.
10. Enter the **Event name** that will be visible on the list of scheduled message items.
11. Select the frequency of the event in the **Type of event** drop-down menu.
12. Fill the required settings depending on the frequency of the event.
13. Click the **Schedule** button.
    - The new item is visible in the main page.

To edit a music schedule:

1. Click the **Scheduler** tile.
2. Click the **Music** subtitle.
   - The **Music** - **Areas** page opens.
   - Each area can only have one BGM configuration.
3. Click the relevant **Area**.
   - A new window opens listing the schedules of that area.
4. Click the item you want to edit.
5. Click the **Edit** button next to the item you want to edit.
6. Select the configurations you want to edit.
   - The rectangular button turns from blue to green.
7. Make the necessary changes.
8. Click the green button.
   - The **Scheduler editor** page opens.
9. If applicable, edit the fields you want to change. If not applicable, skip to step 13.
10. Enter the **Event name** that will be visible on the list of scheduled message items.
11. Select the frequency of the event in the **Type of event** drop-down menu.
12. Fill the required settings depending on the frequency of the event.
13. Click the **Schedule** button.

To delete a music schedule:

1. Click the **Scheduler** tile.
2. Click the **Music** subtitle.
   - The **Music** - **Areas** page opens.
   - Each area can only have one BGM configuration.
3. Click the relevant **Area**.
   - A new window opens listing the schedules of that area.
4. Click the item you want to delete.
5. Click the **Delete** button next to the item you want to delete.
   - A confirmation window appears.
6. Click the **Delete** button to confirm.
   - The deleted item is no longer visible in the main page.

10 Troubleshooting

10.1 Find the IP address of the device

Refer to *Initial power on, page 14*.

10.2 Unable to connect to the device after misconfiguring network settings

If you set the wrong static network settings for ETH1 or ETH2, there is a chance the other port will still use DHCP, as that is configured by default. Try to put the cable to the other port instead, and repair the configuration.
For example, if you set the wrong static network settings for ETH1, try to put the cable to the ETH2 port.

1. Connect an Ethernet cable from the PRA-APAS device ETH2 port to the computer.
2. Let OS auto-configure the network.
3. Find the IP address of the PRA-APAS device as described in *Initial power on, page 14*.

Or

1. Connect an Ethernet cable from the PRA-APAS device ETH1 port to the computer.
2. Change your computer network settings to a different host in the same network segment as configured for ETH1 port in the PRA-APAS.
   - The PRA-APAS device appears.
3. Go to the **Settings** tile in the administrator module to repair the network settings.

10.3 Unable to connect to the device with the browser

- Check if the TLS certificate has changed.
- Try to refresh the page (CTRL+R) in the browser.
- Check if the device is powered on.
- Check if the Ethernet cable is connected to the network interface.
- Try to power off and on the PRA-APAS device.

If none of these steps worked, check if you see some other device from the same network. If you do not, restart your network connection. Check if the PRA-APAS device is seen from a different computer on the same network, and try to ping it.

If the PRA-APAS device is connected to both networks (PA and corporate), try to connect with the PA network using its IP-address. If you succeed, the root cause must be with the corporate network connection.

1. Select the **Settings** tile in administrator module.
2. Check the semaphore status of the ETH2 network interface.

If the semaphore status is red, the root cause of the problem is a faulty network connection.

- Check if an Ethernet cable in the network interface is disconnected.
- Check if the network settings for the corporate network are misconfigured.
- Check if a cable on the other side of the network switch is disconnected.

If the semaphore status is green, the Ethernet cable is well connected and the Ethernet connection between both sides is working correctly. In that case:

1. Check if you have set your DHCP/static network settings correctly.

2. Try to restart the network in the **Settings** tile in administrator module.

If everything related to the PRA-APAS is working correctly, check the Ethernet managed switch/router for its configuration of VLAN, routing, NAT, etc.

If you are still unable to connect to the device with the browser, refer to *Unable to connect to the device after misconfiguring network settings, page 43*.

10.4 Unable to prelisten on Apple PC using Safari

1. Check that PRA-APAS website is listed in **Safari** > **Preferences** > **Websites** > **Auto-Play**.
2. Select **Allow All Auto-Play**.

10.5 Unable to hear anything in any area

- Verify that the AES67 channels are properly routed to the PRAESENSA inputs.
  - Check, for example, the Figure in *Dante controller setup, page 20*.
- Make sure that no other device is using the following multicast addresses:
  - 239.69.2.11;
  - 239.69.2.12.
- Verify in the Dante controller that the device/AES67 Config/RTP Multicast Address Prefix is configured to 69 (239.69.xxx.xxx).

You can also try to remove the routing and add it again, or:

1. Route the inputs to the outputs of the PRAESENSA.
2. Route them back to PRA-APAS channels.

10.6 The device has no Internet connection

- Check if the Ethernet cable is connected to the network interface.
- Try to power off and on the PRA-APAS device.
- Check if the remote server is visible from a different computer on the same network, and try to ping it.
- Check the Ethernet managed switch/router for its configuration of VLAN, routing, NAT, etc.

If none of the previous steps solve the problem:

1. Select the **Settings** tile in administrator module.
   - Check the semaphore status of the ETH2 network interface if you are using the corporate network.
   - Check the semaphore status of the ETH1 network interface if you are using the private network.

If the semaphore status is red, the root cause of the problem is a faulty network connection.

- Check if an Ethernet cable in the network interface is disconnected.
- Check if the network settings for the corporate network are misconfigured.
- Check if a cable on the other side of the network switch is disconnected.

If the semaphore status is green, the Ethernet cable is well connected and the Ethernet connection between both sides is working correctly. In that case:

1. Check if you have set your DHCP/static network settings correctly.

2. Try to restart the network in the **Settings** tile in administrator module.

When using ETH1 and ETH2 configured as Static or DHCP, and both of them have default a route/gateway with connected internet uplink, the ETH2 gateway has precedence over the ETH1.
How to disable ETH1:

– Unplug the Ethernet cable

Or

– Set some static settings without gateway.

If your device still does not have an Internet connection, you might be using some other network topology than the ones shown in *Network setup, page 12*.

10.7 Unable to hear web radio Music source in any area

If the problem only happens with some music sources, the cause is probably a malformed HTTP URL source:

1. Check the URL in your browser if there is some audio.
2. Check if you are using an audio file media type present in *Music sources, page 30*.
3. Check if the remote server IP address is not “banned” by pinging from a different computer on the same device.

If your Internet connection is working well, you might be trying to use an unsupported audio file media type:

– Try to use a different audio type, a different codec or bitrate.

10.8 Unable to hear Text to Speech announcements in any zone

Check if the problem is only with Text to Speech or if it happens with every feature that needs an Internet connection. If that is the case, refer to *The device has no Internet connection, page 44*.

If the problem is really only with TTS, check your Amazon Polly service access key and secret access keys and region:

1. Go to the Amazon service status website: https://status.aws.amazon.com/.
2. Check if their TTS service is up.

Check if the language you selected is still available from their service. Test with another actor from the same language, or choose a different language.

10.9 Unable to sync PTP clock with PRAESENSA master clock

Verify that the PTP clock is synchronized:

1. Check the log in the **Logs** tile.
2. Download the ptpclock.log.

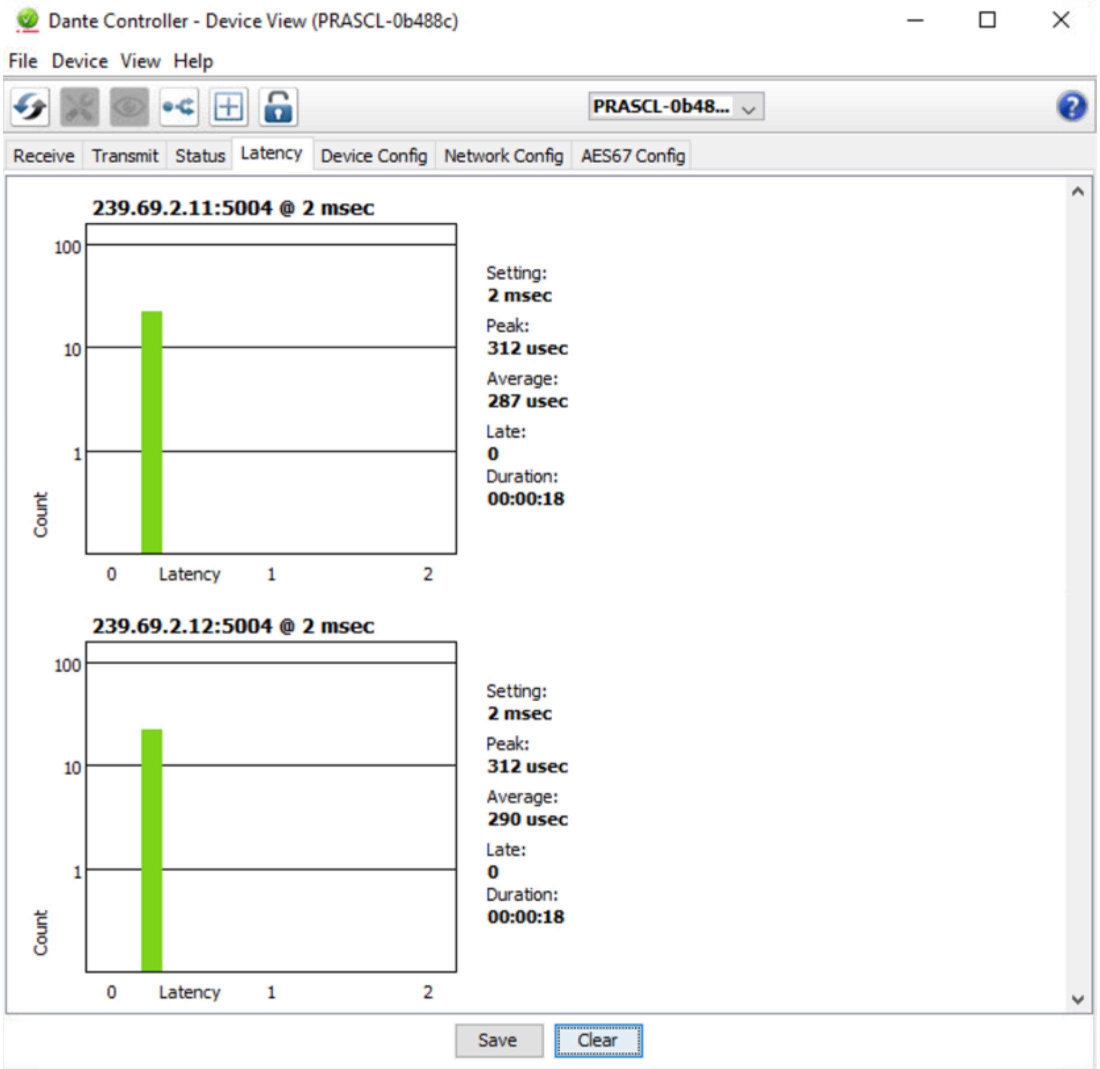
The last lines in the log should show an offset from the master clock that is reasonably close to the typical rms 20-2000.
Verify you selected the proper master clock. The PRA-APAS device support only PTP domain 0.

In this example, the master clock device has the MAC address 001c440b488c:

```
praapas-ctrl ptp4l: [63.586] selected best master clock 001c44.fffe.0b488c
```

```
praapas-ctrl ptp4l: [63.586] port 1: LISTENING to UNCALIBRATED on RS_SLAVE
praapas-ctrl ptp4l: [64.360] port 1: UNCALIBRATED to SLAVE on
MASTER_CLOCK_SELECTED
```

You can also check the latency histogram in the Dante controller. For example:



239.69.2.11:5004 @ 2 msec

Setting: 2 msec
Peak: 312 usec
Average: 287 usec
Late: 0
Duration: 00:00:18

239.69.2.12:5004 @ 2 msec

Setting: 2 msec
Peak: 312 usec
Average: 290 usec
Late: 0
Duration: 00:00:18

The latency scattered around it could be caused by an improperly configured switch in the path between the PRA-APAS and PRAESENSA or between the clock master.

1. Connect the PRA-APAS device closer to the PRAESENSA.
2. Make sure that the switch is properly configured for IEEE1588-2008:
   - All QoS DiffServ have DSCP marking AF41(34).
   - EF(46) is properly configured to the correct queues.

10.10 Dante controller

In case of any irregularities and connection issues:

1. Disconnect and reconnect the cables of your network.
2. Restart the connected devices to refresh the system.

10.11 Firefox does not allow to login anymore

When you try to access the page of the PRA-APAS in the Firefox browser for login, the fault message **Secure connection failed** appears.

This issue is related to a particular installation of Firefox. It usually happens when Firefox internal certificate trust store is corrupted.

To fix this issue:

1. Open Firefox.
2. Click the Firefox **Open menu** button.
3. Select **Help**.
4. Select **Troubleshooting Information**.
   – The **Troubleshooting Information** page opens in a new window.
5. Under the **Application Basics** section, in the **Profile Folder** line, click the **Open Folder** button.
   – Your profile folder opens.
6. Click the Firefox **Open menu** button.
7. Select **Exit** to close Firefox.
8. In your profile folder, right-click the file named **cert9.db**.
9. Select **Delete**.
10. Restart Firefox

11 Support services and Bosch Academy

Support

Access our **support services** at www.boschsecurity.com/xc/en/support/.

Bosch Security and Safety Systems offers support in these areas:

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