Electro-Voice

EVIDn PoE Speakers

EVIDn Ceiling, EVIDn Surface mount

en

Operating manual

PRELIMINARY

Table of contents

1 Safety

1.1 General safety instructions

Warning!
Failure to follow these instructions may result in equipment damage, system failure, or personal injury.

- Read and understand all instructions before installing or operating the device.
- Use the product only as described in this manual.
- Installation and commissioning must be performed by qualified personnel.
- Do not modify the device or use it outside its specified operating conditions.
- Ensure that all system components are compatible before installation.

1.2 Electrical safety

Warning!
Risk of malfunction or overheating due to improper power supply.

- Use only Power over Ethernet (PoE) sources compliant with IEEE 802.3af or IEEE 802.3at.
- Ensure that the PoE power source provides sufficient power for all connected devices.

Warning!
Do not exceed the total power budget of the network switch.

- Verify total system load before commissioning.
- Use properly rated PoE injectors when required.

Caution!
Insufficient power supply may result in reduced performance or unstable operation.

- Use PoE+ (IEEE 802.3at) when full acoustic performance is required.

1.3 Installation and cabling safety

Warning!
Improper installation or cabling may result in system failure.

- Use Ethernet cables of Category 5e or higher.
- Do not exceed the maximum cable length of 100 m (328 ft).
- Verify all connections before applying power.
- For the most reliable operation, always use shielded CAT-5e or higher class cables.

Caution!
Improper cabling reduces available power and performance.

– Use shortest practical cable lengths.

1.4 Network and system safety

Caution!
Improper network configuration may prevent system operation.

– Use wired Ethernet only.
– Use dedicated network ports where possible.

Notice!
Corporate networks may block access.

– Verify permissions before commissioning.

1.5 Comissioning and operational safety

Notice!
Incorrect configuration may result in unintended system behavior.

– Verify connectivity before configuration.

1.6 Firmware and maintenance safety

Warning!
Do not interrupt power or network during firmware updates.

– Perform updates during maintenance windows.

Caution!
Maintenance may result in loss of configuration.

– Back up settings before updates.

1.7 Access and data security

Warning!
Unauthorized access may lead to system misuse or disruption.

– Replace default credentials.

1.8 Reset and decomissioning

Caution!
Factory reset deletes all user settings.

– Perform reset only when necessary.

1.9 Performance and system design considerations

Notice!
System performance depends on power and installation conditions.

– Ensure sufficient PoE power and proper cabling.

2 About this document

The purpose of this manual is to provide information required for installing, configuring, operating and maintaining this product.
Read through this manual to familiarize yourself with the safety information, features, and applications before you use this product.
This is a professional product that should be installed, used and maintained by trained professionals only.

2.1 Digital document

This manual is available as a digital document in the Adobe Portable Document Format (PDF).

2.2 Intended audience

This manual is intended for everyone who is authorized and professionally qualified to install or operate this product.

2.3 Copyright notice

2.4 Trademarks

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Electro-Voice Dynacord 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.

3 Product introduction

EVIDn is a family of PoE-enabled loudspeakers for professional installed-audio applications. Each loudspeaker uses a single Ethernet connection for power, audio, control, and monitoring, reducing system complexity and simplifying installation on standard network infrastructure.

Each EVIDn loudspeaker includes onboard amplification and DSP for model-specific tuning and everyday system optimization. The built-in Web UI provides direct access to core device settings such as level, EQ, input selection, zones, network settings, logs, and diagnostics.

EVIDn loudspeakers can be used as standalone endpoints or as part of a larger networked audio system. Compatibility with standard PoE switching and Audio-over-IP protocols such as Dante and AES67 supports both distributed installations and scalable multi-room deployments.

During commissioning, the Web UI supports device discovery, verification, and local configuration. Once settings are stored in the loudspeaker, the device operates independently and recalls the stored configuration at startup.

4 Installation and network configuration

4.1 Before you begin

Before configuring the loudspeaker, ensure:

- The loudspeaker is installed according to the Installation manual.
- The loudspeaker is connected to a valid PoE or PoE+ source.
- A PC or Mac is connected to the same network.
- Dante Controller is installed if Dante routing will be used.
- The loudspeaker has completed startup.

4.2 Network connection

Before installation, verify that the network infrastructure, power source, and audio source are compatible with the planned EVIDn deployment.

4.2.1 System requirements

EVIDn loudspeakers require a PoE-enabled Ethernet network connection for power, audio, control, and monitoring.

The system requires:

- A PoE+ (IEEE 802.3at) network switch or PoE+ injector.
  - A PoE (IEEE 802.3af) network switch or PoE injector can also be used.
- Shielded category 5e or higher Ethernet cable (RJ45).
- Audio-over-IP source supporting AES67 or Dante
- Web browser to access and configure the loudspeakers
- Dante Controller

4.2.2 Connecting the loudspeaker

To connect the loudspeakers:

1. Connect an Ethernet cable from the network switch or PoE injector to the loudspeaker's Ethernet port.
2. Use shielded Cat5e or higher cabling to ensure reliable data and power transmission.

When connected to a valid PoE source, the loudspeaker initializes automatically.

4.2.3 Powering methods

There are 2 options to power EVIDn:

- PoE+ or PoE Switch
  - A PoE+ or PoE switch provides both power and network connectivity through a single cable. Ensure that the switch power budget supports all connected loudspeakers operating simultaneously.
- PoE+ or PoE Injector
  - If the network switch does not provide PoE, a PoE+ or PoE injector can be used. Each loudspeaker requires a dedicated injector capable of supplying full PoE+ or PoE power.

Note on EEE switches (Energy Efficient or 'Green Ethernet') in Dante networks

EEE (Energy Efficient Ethernet) is a technology that reduces switch power consumption during periods of low network traffic. It is also sometimes known as Green Ethernet and IEEE802.3az.

Although power management should be negotiated automatically in switches that support EEE, it is a relatively new technology, and some switches do not perform the negotiation properly. This may cause EEE to be enabled in Dante networks when it is not appropriate, resulting in poor synchronization performance and occasional dropouts.
Therefore we strongly recommend that:

1. If you use managed switches, ensure that they allow EEE to be disabled. Make sure that EEE is disabled on all ports used for real-time Dante traffic.
2. If you use unmanaged switches, do not use Ethernet switches that support the EEE function, because you cannot disable EEE operation in these switches. Guidelines for selecting switches are found on the Audinate website at the following link:
   https://www.audinate.com/resources/networks-switches

4.3 Audio stream setup

EVIDn loudspeakers support Dante and AES67 Audio-over-IP streams. Audio routing is configured in Dante Controller.
For manageable commissioning and troubleshooting, complete audio routing only after basic network connectivity and PoE power have been verified.
Download Dante Controller from:
https://www.audinate.com/products/software/dante-controller

4.4 Network topology

For reliable performance, use a star-topology network with one loudspeaker connected to each switch port.

– Connect each loudspeaker directly to an individual port on the network switch.

Direct connections ensure stable network performance and simplify system troubleshooting.
Audio-over-IP systems require a wired network infrastructure.
Low-latency, uncompressed audio streaming is not supported over wireless (WLAN) connections.

5 PoE power management

5.1 General operation

EVIDn is optimized for dynamic program material such as speech and music. Short-duration signal peaks are supported by internal energy storage, allowing brief output peaks above the continuous PoE input level.
Peak duration and sustained output depend on the available input power and cable loss. Use PoE+ whenever full acoustic performance is required.
The duration and consistency of peak performance depend on the available input power. For full system performance, PoE+ operation is recommended.

5.2 PoE and PoE+ operation

The loudspeaker supports automatic negotiation with the connected PoE source.
The following standards are supported:

Standard	Power at source	Power available at loudspeaker
PoE+ (802.3at)	30 W	25.5 W
PoE (802.3af)	15.4 W	12.95 W

5.2.1 Performance considerations

When operating with standard PoE:
- Peak output duration is reduced.
- Maximum continuous sound level is lower.

For full acoustic performance, PoE+ operation is recommended.

5.2.2 Power budget planning

Each PoE power source has a defined maximum output capacity.
The total connected load must not exceed this capacity.

Example:
- Switch capacity: 200 W
- Six loudspeakers at PoE+: 6 × 30 W = 180 W
- Result: within allowable range

5.3 Cable loss considerations

Ethernet cable resistance results in power loss between the PoE source and the loudspeaker.

5.3.1 Key parameters

- Maximum cable length: 100 m (328 ft)
- Typical power loss:
  - 25 mW per meter
  - Use the shortest practical Ethernet cable lengths and verify switch power budgets during system design. Long cable runs reduce the power available at the loudspeaker and can reduce peak-output duration.

Longer cable runs reduce the available power at the loudspeaker.
The system automatically compensates for input variation; however, reduced input power may slightly limit peak output duration.

5.3.2 Installation recommendations

For best results, keep cable runs short, use high-quality shielded Cat5e or higher cabling, and position PoE injectors close to the loudspeaker when practical.

6 Web UI configuration, operation and support

6.1 Web server access

The loudspeaker includes an integrated web server for system monitoring and basic configuration.

- To access the Web UI, connect the loudspeaker to a PoE-enabled network.

The EVIDn loudspeakers use Zero Configuration Networking (ZeroConf). This allows easy setup without apps, drivers, or software installers.

Each EVIDn loudspeaker includes:

– A sticker on the device with a unique URL and QR code for the specific loudspeaker

– A sticker on the box with a unique URL and QR code for the specific loudspeaker

The unique URL is based on the device's MAC address and is added during manufacturing.

6.1.1 Connection

There are 2 main options to connect to EVIDn:

– *Using a Wi-Fi or wired router with DHCP server (recommended), page 14*

– *Using a Direct Ethernet Connection, page 14*

6.1.1.1 Using a Wi-Fi or wired router with DHCP server (recommended)

To connect using a Wi-Fi or wired router with a DHCP server enabled, please connect the EVIDn loudspeaker to a DHCP-enabled router using a shielded (STP) Ethernet cable.

If connecting through a wired or Wi-Fi DHCP-enabled router, some corporate Internet settings may block connection. The message **504 DNS look up failed** might pop up when you load the EVIDn loudspeaker address. To avoid this:

– Disconnect corporate network connection during configuration (creating a dumb network).

– Contact your IT department for help.

PC/Mac network settings

– Use default settings.

– **IPv4**: Obtain IP and DNS automatically.

– **IPv6**: Configure automatically.

6.1.1.2 Using a Direct Ethernet Connection

To connect using a Direct Ethernet Connection:

1. Connect a PC or Mac directly to EVIDn using an Ethernet cable. Ensure your PC/Mac IP settings are set to automatic (DHCP) to allow connection via the Rescue IP.
2. Use the EVIDn URL. If the EVIDn URL IP is lost the Rescue IP address can be used. See *Rescue access, page 15*.

Note: If the connection does not happen immediately, set your network card to a static IP address in the range 169.254.x.xx while configuring the device.

6.1.2 Accessing the web interface

To access the web server, scan the QR code on the speaker or enter one of the following in a web browser:

– **http://<hostname>.local**

– The device IP address

The hostname is printed on the device and has the following format: EVIDn-xxxxxx.

6.1.3 Web interface structure

The Web UI provides the following pages:

- **Overview**
  - Displays system status and operating information
- **DSP**
  - Configure amplifier and DSP settings
- **User Settings**

Configure IP address, system time, language, and system and diagnostic logs

6.1.4 Rescue access

A Rescue IP address is available for direct connection.

If the configured IP settings are not reachable, use the device link-local address to recover access and restore a valid network configuration:

- Rescue IP address: http://169.254.1.0.

6.1.5 Reset to factory settings

A factory reset restores the loudspeaker to its default configuration. Use this procedure only when credentials are lost or when a complete reconfiguration is required.

To reset:

1. Locate the recessed Reset button
2. Press and hold for at least 30 seconds.
   - The red and green LED will turn on at the same time.
3. Wait for status indication
4. Allow the device to reboot

All user-defined settings are cleared.

6.2 Audio streams

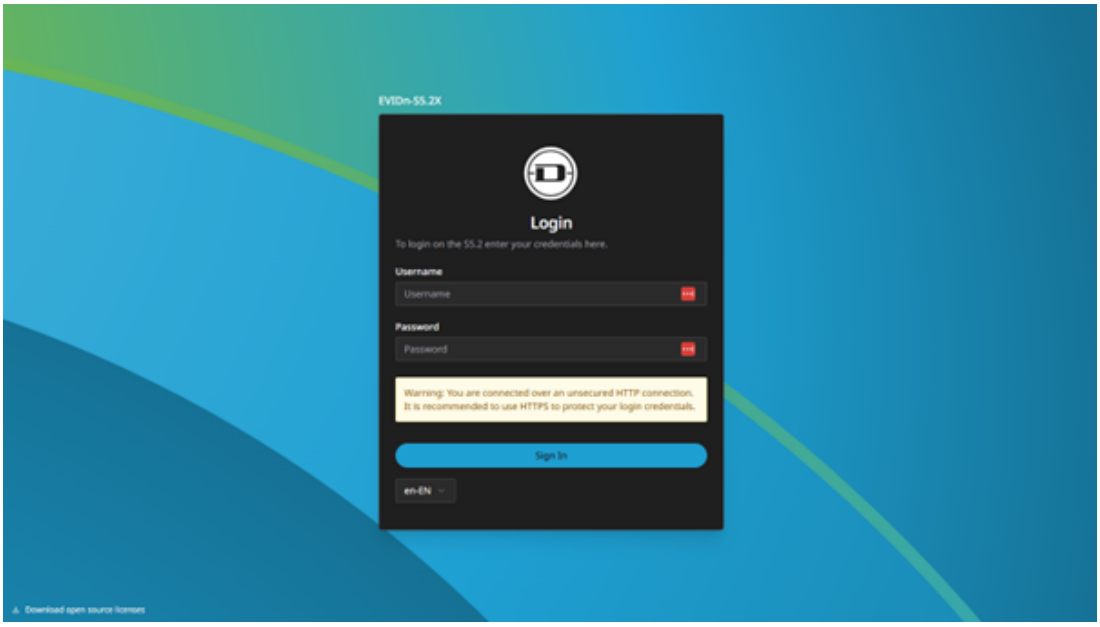
Audio routing and stream subscriptions are configured in Dante Controller, not in the Web UI.

EVIDn loudspeakers support Dante audio and AES67-compatible streams with up to two channels per stream. Each loudspeaker can reproduce a single channel or a summed pair of channels, depending on the application.

6.3 Logging into the device

When you open the Web UI, the login page is displayed. If you connect using HTTP instead of HTTPS, the Login section will indicate that the connection is not secure.

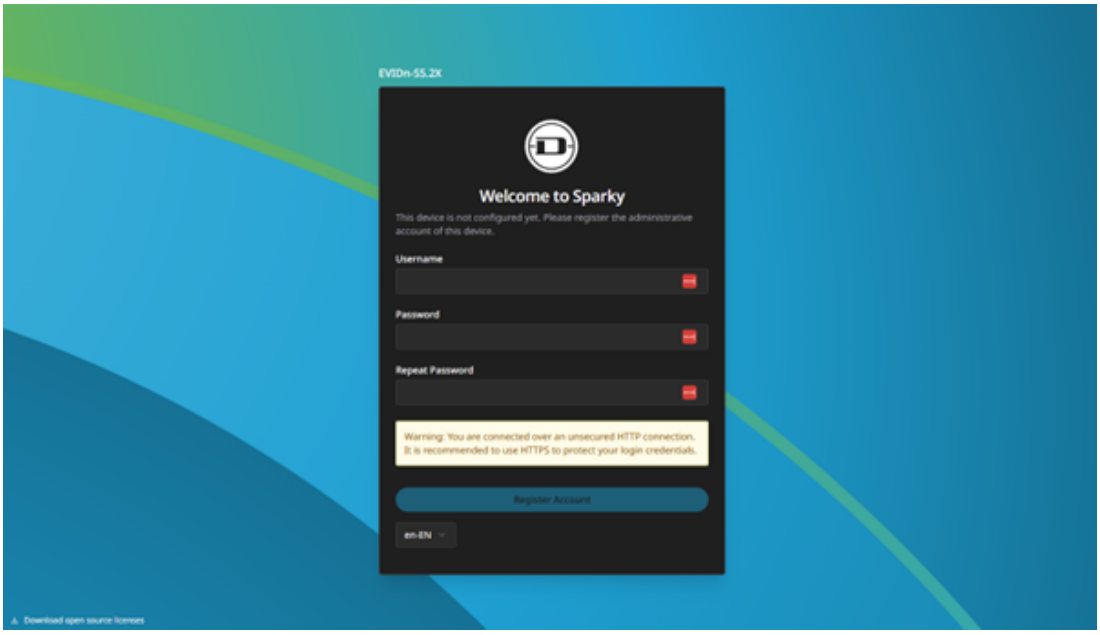
Enter the configured username and password to access the loudspeaker. Each EVIDn loudspeaker supports a single local web user account.



Please note that the speaker can only have a single user configured.

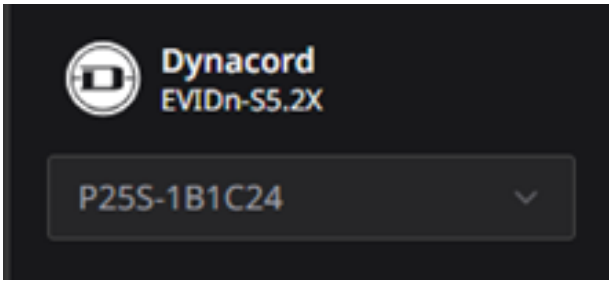
6.3.1 First login

On first access, the loudspeaker prompts you to create a username and password. Record these credentials and store them securely. If the credentials are lost, the device must be reset to factory settings.



6.4 Main menu

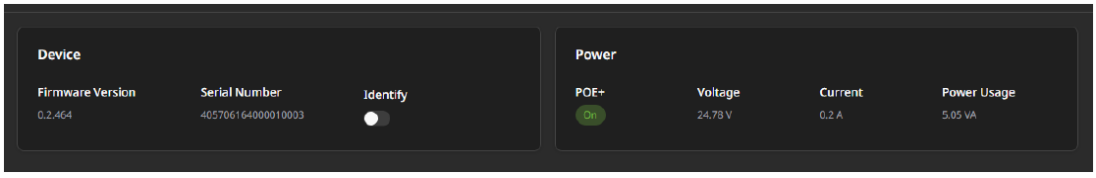
After login, the main navigation menu remains visible on the left side of the Web UI and provides access to all major configuration pages.
Use the menu to open device overview, DSP, audio input, user settings, logs, and diagnostic pages, or to connect to other EVIDn loudspeakers on the network.
On the top of this menu you can see the current speaker you're connected to, and you can switch to a different speaker directly from the drop-down list.



The main navigation menu can be minimized by clicking on the icon on the top-right corner of the menu.

6.5 Overview

The Overview page gives a quick status summary for the selected loudspeaker, including an option to identify the speaker, as well as relevant power information.



Use this page first during commissioning and service. It is the fastest way to confirm that the loudspeaker is online, correctly identified, and operating with the intended input and power state.
To identify the speaker, toggle the Identify button and a green light will flash on the speaker. This light is located either in the front of the speaker, behind the grille (ceiling and pendant models), or in the back, next to the ethernet connector (surface mount models).

6.6 DSP

The main DSP page shows DSP and Input settings.

You can toggle between **Basic Mode** (**Expert Mode** off) and **Expert Mode**.

6.6.1 Inputs

To configure the inputs for EVIDn:

1. Create an input label. The input label is for reference only.
2. Select the input mode: BGM, VOX

- **A**: Input Label
- **B**: Input Mode
- **C**: Mute / Unmute
- **D**: Gain Level Bar
- **E**: Gain Level Value (in dB)

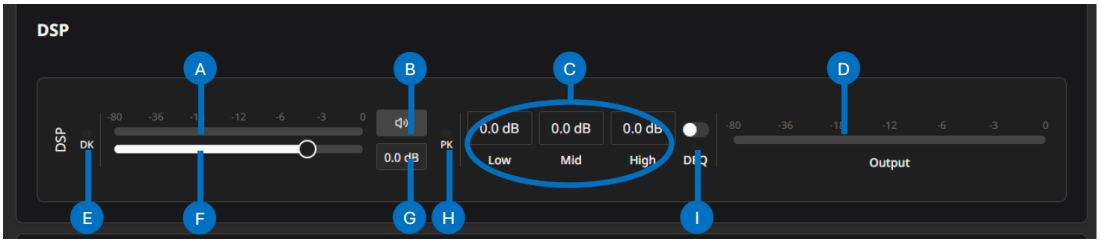
6.6.1.1 Input modes

These are the available input modes:

- **BGM**: Only one BGM source can be unmuted and selected at a time. Use this mode for background music.
- **VOX**: VOX ducks other BGM sources. VOX Override can fully mute other inputs. Use VOX for announcements or message applications.

6.6.2 Basic mode

The DSP section contains the main acoustic controls for the loudspeaker. Use it to adjust tonal balance, level, and time alignment for the installation.

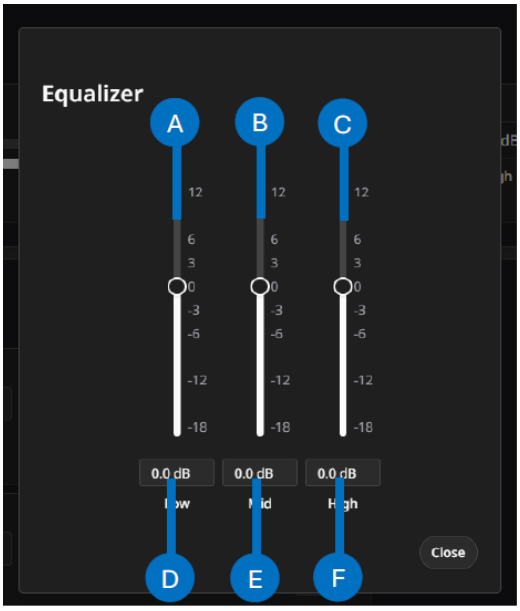


- **A**: Gain Level Visual
- **B:** Mute / Unmute
- **C**: EQ Settings (Basic)
- **D**: Output Level Visual
- **E**: Ducker Indicator
- **F**: Gain Level
- **G**: Gain Level Value (in dB)
- **H**: Peak Indicator
- **I**: Digital EQ (DEQ) Toggle

Start in Basic Mode for everyday commissioning tasks. Switch to Expert Mode only when advanced tuning or custom filter adjustment is required.

6.6.2.1 Equalizer

The Basic Mode equalizer provides a simplified control set for the most common acoustic adjustments, allowing fast tuning without exposing all advanced DSP parameters.



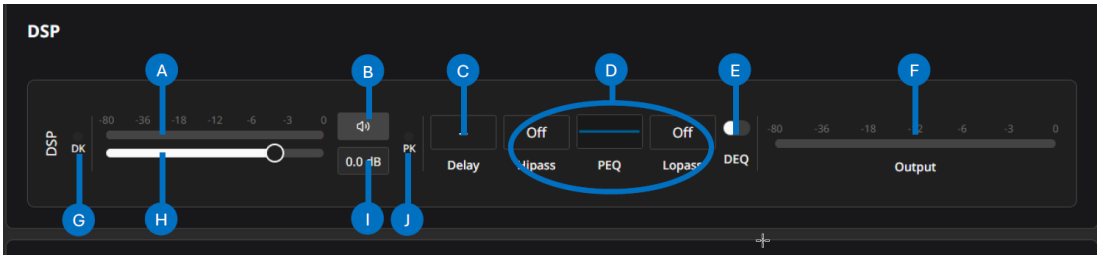
- **A**: Bass Level

- **B**: Mid Level
- **C**: Treble Level
- **D**: Bass Level (in dB)
- **E**: Mid Level (in dB)
- **F**: Treble Level (in dB)

Use these controls for simple room compensation and voicing. For detailed filter work, open Expert Mode.

6.6.3 Expert mode

Expert Mode provides full access to the detailed DSP parameters for advanced system tuning.

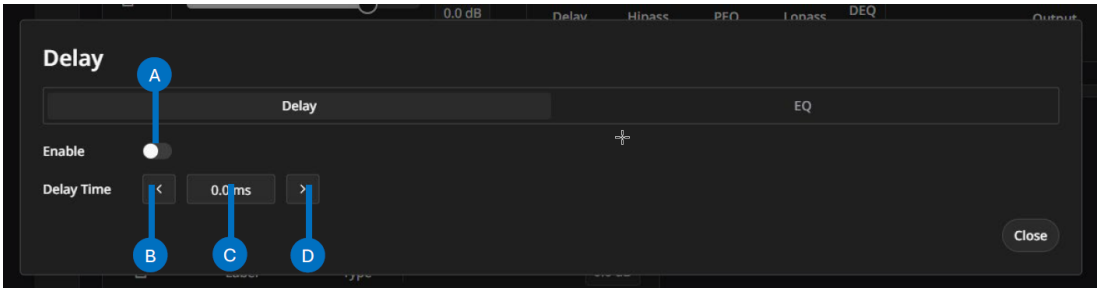


- **A**: Gain Level Visual
- **B**: Mute / Unmute
- **C**: Delay
- **D**: EQ Settings (Basic)
- **E**: Digital EQ (DEQ) Toggle
- **F**: Output Level Visual
- **G**: Ducker Indicator
- **H**: Gain Level
- **I**: Gain Level Value (in dB)
- **J**: Peak Indicator

Use Expert Mode when you need precise control of filters or level structure beyond the simplified controls available in Basic Mode.

6.6.4 Delay

The Delay page is used to align loudspeakers in time so that sound arrives consistently across the listening area.

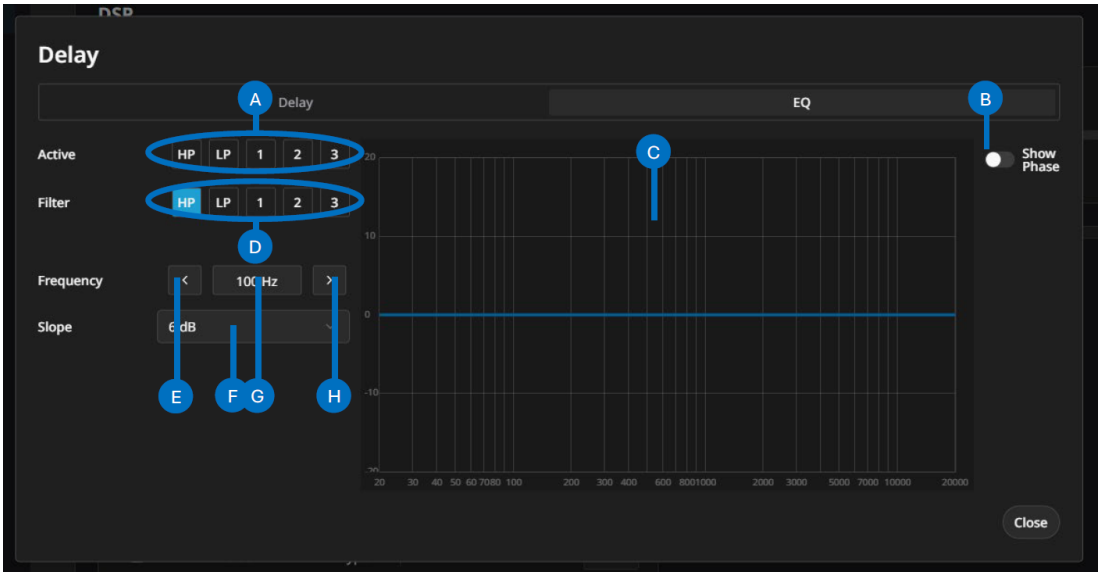


- **A**: Delay Toggle
- **B**: Decrease Delay by 0.1ms
- **C**: Delay Amount (in ms)
- **D**: Increase Delay by 0.1ms

Apply delay when synchronizing multiple loudspeakers, aligning zones, or compensating for placement differences between devices.

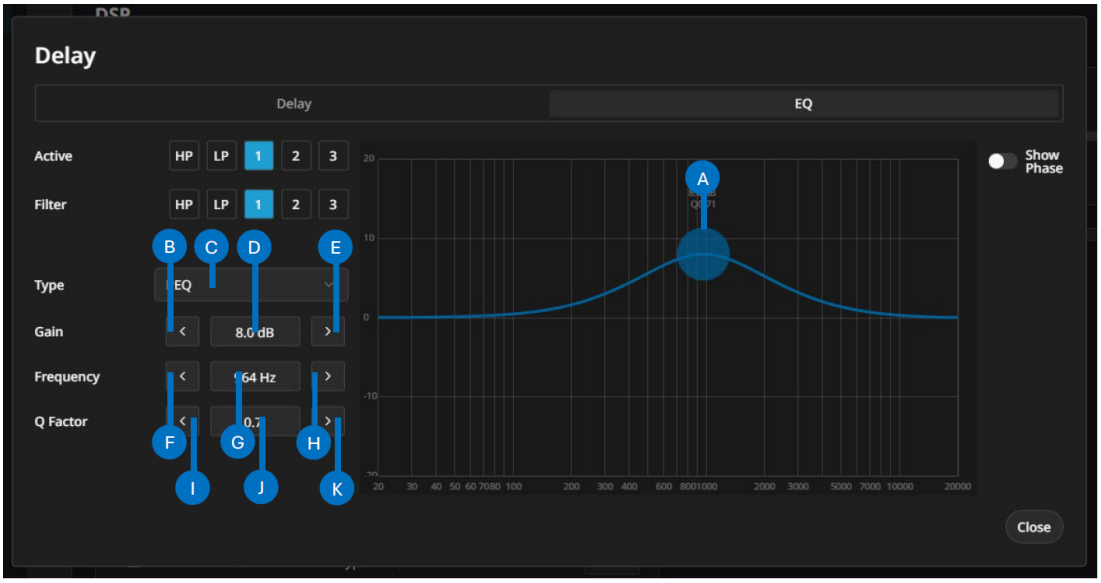
6.6.5 EQ (Expert mode)

The EQ pages provide detailed parametric equalization controls and a graphical response view for fine tuning.



- **A**: Activate Filter
- **B**: Show Phase Toggle
- **C**: Filter / Phase Visualization
- **D**: Select Filter
- **E**: Decrease Frequency on Selected Filter (HP & LP Only)
- **F**: Set Slope on Selected Filter (in dB) (HP & LP Only)
- **G**: Set Frequency on Selected Filter (in Hz) (HP & LP Only)
- **H**: Increase Frequency on Selected Filter (HP & LP Only)

Use the filter controls to adjust frequency, gain, and bandwidth for each band. The response graph helps verify the cumulative effect of the applied filters.



- **A**: Alter Selected Filter
- **B**: Decrease Gain on Selected Filter (1, 2, and 3)
- **C**: Select Filter Type
- **D**: Set Gain on Selected Filter (in dB) (1, 2, and 3)

- **E**: Increase Gain on Selected Filter (1, 2, and 3)
- **F**: Decrease Frequency on Selected Filter (1, 2, and 3)
- **G**: Set Frequency on Selected Filter (in Hz) (1, 2, and 3)
- **H**: Increase Frequency on Selected Filter (1, 2, and 3)
- **I**: Decrease Q on Selected Filter (1, 2, and 3)
- **J**: Set Q on Selected Filter (1, 2, and 3)
- **K**: Increase Q on Selected Filter (1, 2, and 3)

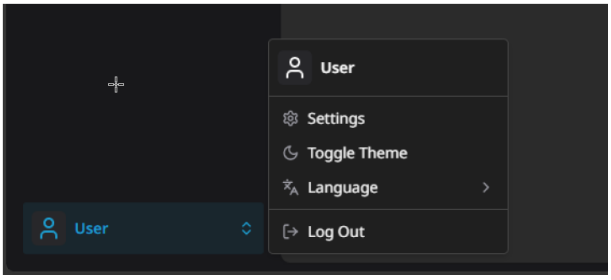
The available filter types are:

- **PEQ (Parametric EQ)**: Adjusts the level of a selected frequency band while allowing control of center frequency, gain, and bandwidth (Q).
- **Low Shelf**: Boosts or attenuates all frequencies below the selected cutoff frequency.
- **High Shelf**: Boosts or attenuates all frequencies above the selected cutoff frequency.
- **Low Pass**: Attenuates frequencies above the selected cutoff frequency, allowing lower frequencies to pass through.
- **High Pass**: Attenuates frequencies below the selected cutoff frequency, allowing higher frequencies to pass through.
- **Notch**: Strongly attenuates a narrow band of frequencies, typically used to suppress resonances or feedback.
- **Low Shelf Q**: A low-shelf filter with adjustable Q, allowing control over the transition slope and resonance around the cutoff frequency.
- **High Shelf Q**: A high-shelf filter with adjustable Q, allowing control over the transition slope and resonance around the cutoff frequency.

After tuning, listen to the system with representative program material and document any final EQ settings for service reference.

6.7 User

The User page groups the device-level administrative settings used to maintain the loudspeaker after commissioning.



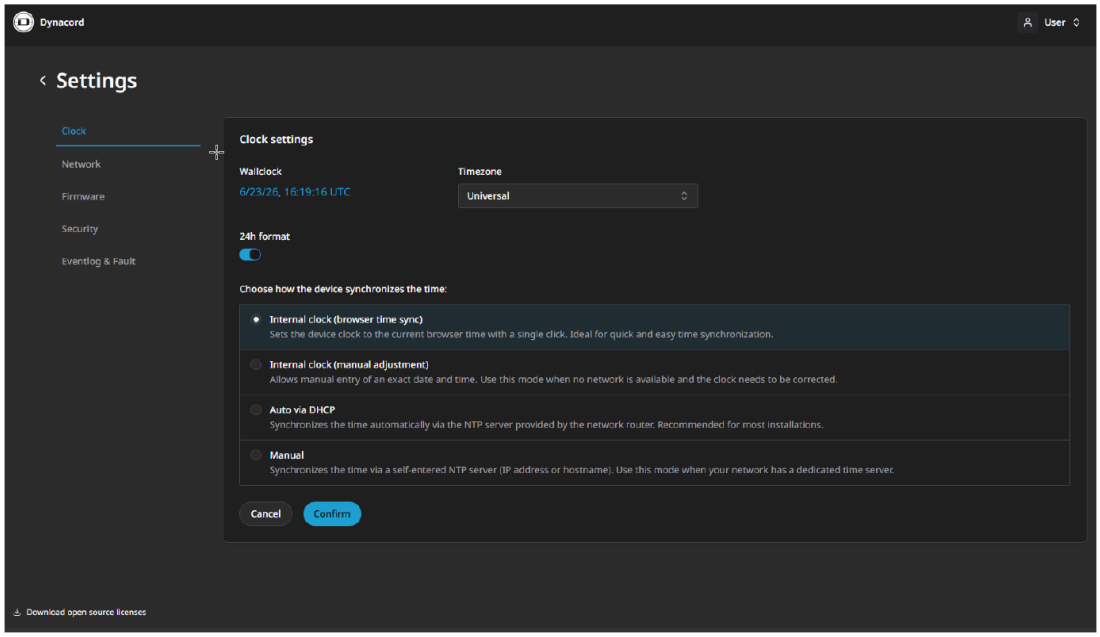
Use this area to open Settings, change the display theme, select the interface language, and review available maintenance and support information.

6.7.1 Settings

The Settings section provides tools to manage and configure EVIDn loudspeakers.

6.7.1.1 Clock

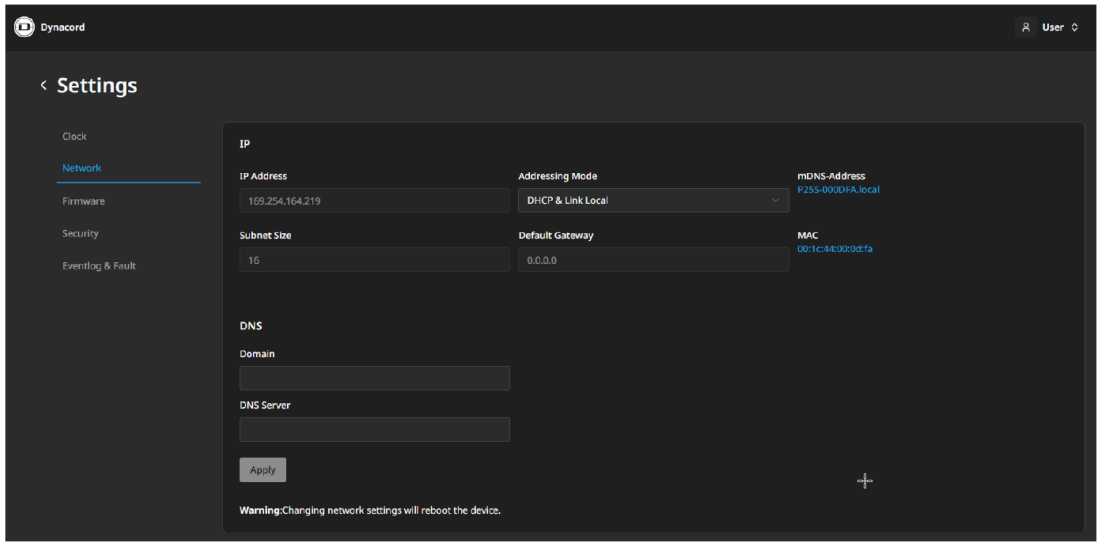
The Clock page is used to review and set the date and time maintained by the loudspeaker.



Correct clock settings ensure that logs and fault events are timestamped accurately, which helps during commissioning, troubleshooting, and service documentation.

6.7.1.2 Network

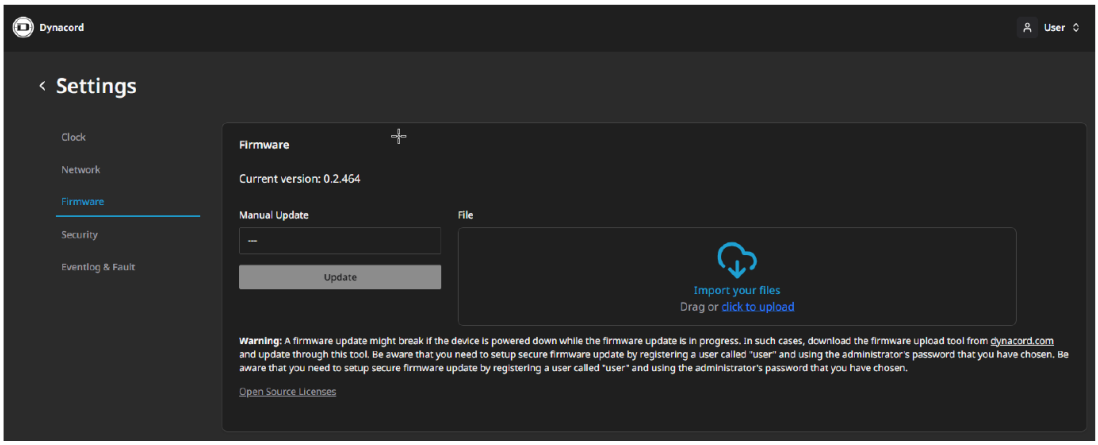
The Network page contains the device network settings used to connect the loudspeaker to the network.



Use this page to review or change addressing parameters and related network settings.

6.7.1.3 Firmware

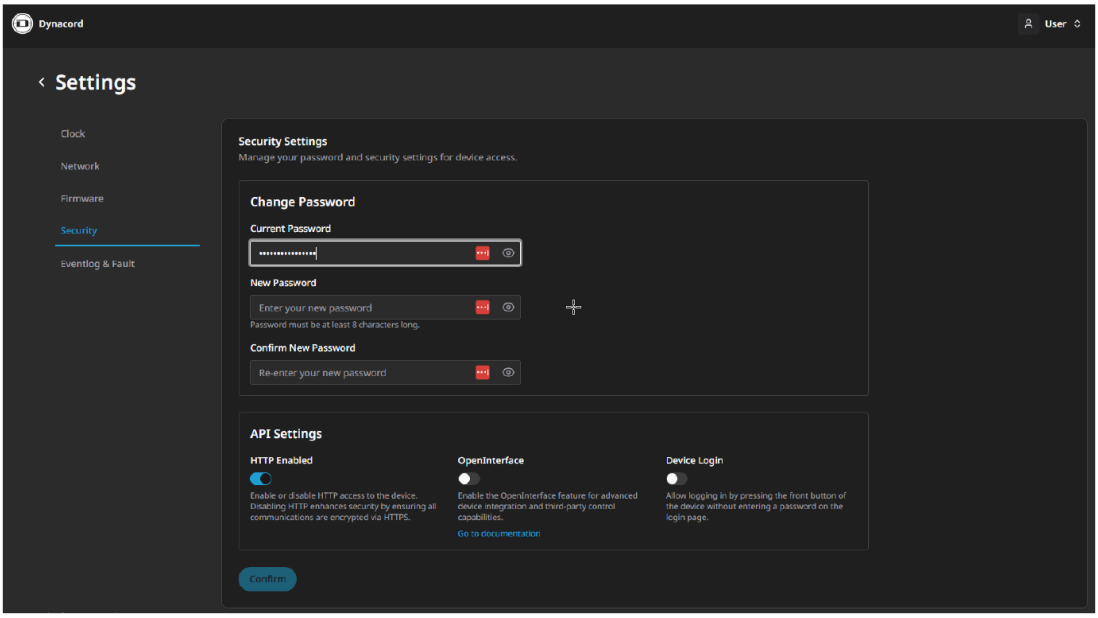
The Firmware page shows the installed firmware version and provides access to firmware update functions.



Update firmware only during maintenance windows or scheduled commissioning periods. Do not interrupt power or network connectivity while an update is in progress.

6.7.1.4 Security

The Security page contains the local device security settings, including the web login credentials.



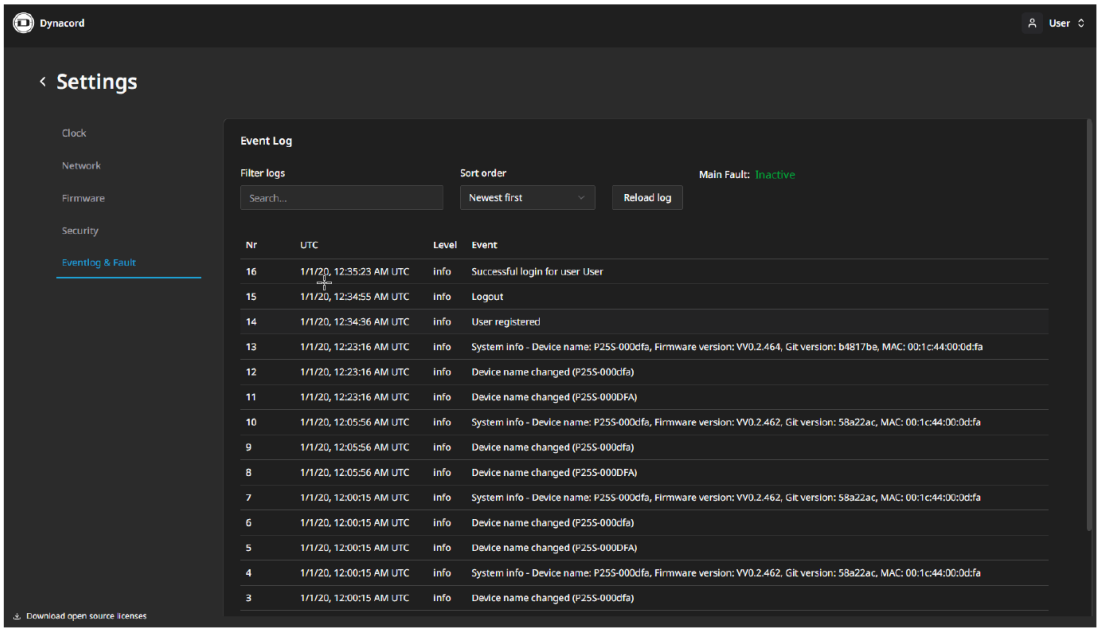
Use this page to manage access to the loudspeaker. Replace default credentials during commissioning and store the final credentials according to the project security policy.

You can also enable HTTP access, API control via Ethernet (using OpenInterface), and enable reset-button device login.

For information on using OpenInterface, see Third party remote control.

6.7.1.5 Eventlog & fault

The Eventlog & Fault page displays recorded events, warnings, and fault information reported by the loudspeaker.



View, filter, and sort recorded events, including faults, login attempts, and other system activities.

6.7.2 Toggle theme

Toggle Theme switches the Web UI between light and dark themes to improve readability for the user or installation environment.

6.7.3 Language

Language selects the display language used by the Web UI. Choose the language best suited to the installer or service technician.

PRELIMINARY

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