EASTERN ACOUSTIC WORKS

UXA4807D
User Manual

Technical and Safety Notices

Please read the following important technical, safety and environmental notices before installing and using your amplifier.

Technical Notices

All reasonable design and engineering steps have been taken to ensure that these amplifiers always perform satisfactorily in their intended application and environment and will provide appropriate levels of support to ensure that all reasonable customer needs and expectations are met. Such support however is contingent on the following provisions.

1. These amplifiers are Class-I products and should be installed with a mains cable including the required earth connection to comply with the Safety Class-I.

2. These amplifiers should always be installed by competent and qualified personnel. Amplifier damage or failure caused by installation or operational errors may invalidate support, warranty or guarantees of performance.

3. These amplifiers are not suitable for use in locations where they may be accessible to minors.

4. These amplifiers are intended to be used specifically for the amplification of audio signals and for connection to moving-coil loudspeaker systems. Use of these amplifiers for amplification of signals outside the audio band (20Hz to 20kHz) or to drive transducers other than moving-coil loudspeakers may invalidate support, warranty or guarantees of performance.

5. These amplifiers should only be used within professionally installed and configured audio systems comprising input and output ancillary equipments that is known to be of an appropriate level of performance and in good operating condition. Any damage to, or unsatisfactory performance from, these amplifiers caused by inadequate or failed input or output ancillaries may invalidate support, warranty or guarantees of performance.

6. These amplifiers are intended to be installed and operated indoor in a controlled environment (pollution degree, PD2) within an ambient temperature range of 0°C to 40°C. These amplifiers are not intended for use above 2000 meters above sea level. Amplifiers installed or operated in environments outside these limits may invalidate support, warranty or guarantees of performance.

7. Specific warranty terms are the responsibility of the amplifier re-seller.

Safety and Environmental Notices

Note: The intent of the lightning flash with arrowhead symbol in a triangle is to alert the user to the presence of uninsulated "dangerous" voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to humans.

Note: The intent of the exclamation point within an equilateral triangle is to alert the user to the presence of important safety, and operating and maintenance instructions in this manual.

WARNING! TO PREVENT FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

Ambient Temperature Note: If this equipment is operated in a confined or multiple rack installation, the internal ambient operating temperature may exceed the external ambient temperature. It is important to ensure in these circumstances that the published maximum operating temperature for the equipment is not exceeded.

Reduced Air Flow: Ensure that rack or other closed installation does not restrict the cooling airflow required for safe and reliable operation of the equipment.

Technical and Safety Notices

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Do not submerge the equipment in water or liquids.
7. Do not use any aerosol spray, cleaner, disinfectant or fumigant on, near or into the equipment.
8. Clean only with a dry cloth.
9. Do not block any ventilation opening. Install in accordance with the manufacturer's instructions.
10. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
11. To reduce the risk of electrical shock, the power cord shall be connected to a mains socket outlet with a protective earthing connection.
12. Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
13. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
14. Do not unplug the unit by pulling on the cord, use the plug.
15. Only use attachments/accessories specified by the manufacturer.
16. Unplug this apparatus during lightning storms or when unused for long periods of time.
17. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
18. The appliance coupler, or the AC Mains plug, is the AC mains disconnect device and shall remain readily accessible after installation.
19. Adhere to all applicable, local codes.
20. Consult a licensed, professional engineer when any doubt or questions arise regarding a physical equipment installation.

Environmental Statement

This product complies with international directives, including but not limited to the Restriction of Hazardous Substances (RoHS) in electrical and electronic equipment, the Registration, Evaluation, Authorization and restriction of Chemicals (REACH) and the disposal of Waste Electrical and Electronic Equipment (WEEE). Consult your local waste disposal authority for guidance on how properly to recycle or dispose of this product.

Introduction and Overview

1. Introduction

UXA4807D power amplifiers have been designed to provide configurable, consistent and reliable high performance audio power amplification for residential, commercial and entertainment applications.

This manual covers the features, installation and functions of the UXA4807D power amplifier. Please read the manual fully before installing and using the amplifier. If you have any questions regarding amplifier configuration, installation or operation please contact support@eaw.com.

Following this introduction, the manual is divided into sections covering the following topics:

- 2. Overview
- 3. Carton Contents
- 4. Installation
- 5. Web App Configuration
- 6. Resolution Configuration
- 7. Connections
- 8. Operations
- 9. Specifications

2. Amplifier Overview

UXA4807D amplifiers are a full rack width, 2U format power amplifiers that can drive both conventional low impedance (Lo-Z, 4Ω to 16Ω) loudspeakers and high impedance (Hi-Z, 70V/100V) transformer coupled loudspeakers. there are four provided analog inputs, one stereo S/PDIF digital input, 4x4 Dante® channels on selected models and eight outputs (Lo-Z mode), or four outputs (Hi-Z or Lo-Z BTL mode). UXA4807D amplifier model output channel counts and power outputs are as follows:

Mode	Channels	Max Rated Output per Channel
Lo-Z	Eight	750 Watts
Lo-Z (BTL)	Four	1500 Watts
Hi-Z	Four	1500 Watts

Note: In Lo-Z BTL (bridge-tied load) mode, two amplifier output channels are combined to create a single, double power output channel. BTL mode can be engaged via the amplifier Output Mode configuration setup menu described in Section 5 of this manual.

Introduction and Overview

2.1 Connections and Power Switching

UXA4807D signal input and output connections are accomplished via RCA Phono and Euroblock style connectors. A GPIO (General Purpose In/Out) Euroblock connector enables some amplifier functions to be controlled externally, and wireless or RJ45 socket Ethernet network connection options are also provided. Cable connectors and connections are described and illustrated in Section 6 of this manual

UXA4807D amplifiers incorporate a front panel mounted power button. Press the button once to switch the amplifier on or off. Amplifier power management behaviour can be configured via the Control web app Settings Menu described in Section 5 of this manual.

2.2 Network Features

UXA4807D amplifiers are TCP/IP network connected devices that require a wired or wireless network connection to access their configuration menus. The configuration menus are accessed via the UXA4807D control web app interface and cover Input, Zone, Output and General Settings functions. The configuration menus are fully described in Section 4 of this manual.

Audinate Dante

UXA4807D amplifiers are compatible with Audinate Dante® networks and installations as an optional add on.

Dante equipped versions of UXA4807D amplifiers enable the transmission and receipt of digital audio over an Ethernet network using the IP based Dante® protocol. Configuration and management of the IP routing for Dante digital audio, including the setting of network parameters such as IP addresses and subnet masks, is administered by Audinate's Dante® Controller software application. Dante Controller downloads and comprehensive guidance on the configuration and installation of Dante based audio over IP can be found at: www.audinate.com/products/software/dante-controller.

2.3 Firmware

This manual describes the features, functions and user interface of UXA4807D amplifiers running Firmware Version 1.7.4.

It is strongly recommended that the firmware version installed in the amplifier in use is checked initially, and regularly thereafter. If updated firmware is available, the amplifier should be updated as a priority.

3. Carton Contents

UXA4807D amplifiers are shipped in a cardboard carton containing the amplifier unit, a mains cable appropriate for the geographic location, an accessory pack, and a card insert. The full contents is listed below.

- Amplifier unit
- Rack mount ears (fitted)
- Mains power cables (IEC & twist lock)
- Input connector x 2 or 4
- GPIO socket connector x1
- Output connector x 1, 2 or 4
- Adhesive rubber feet x 4
- Rear support bracket x 2
- Card Insert

4. Installation

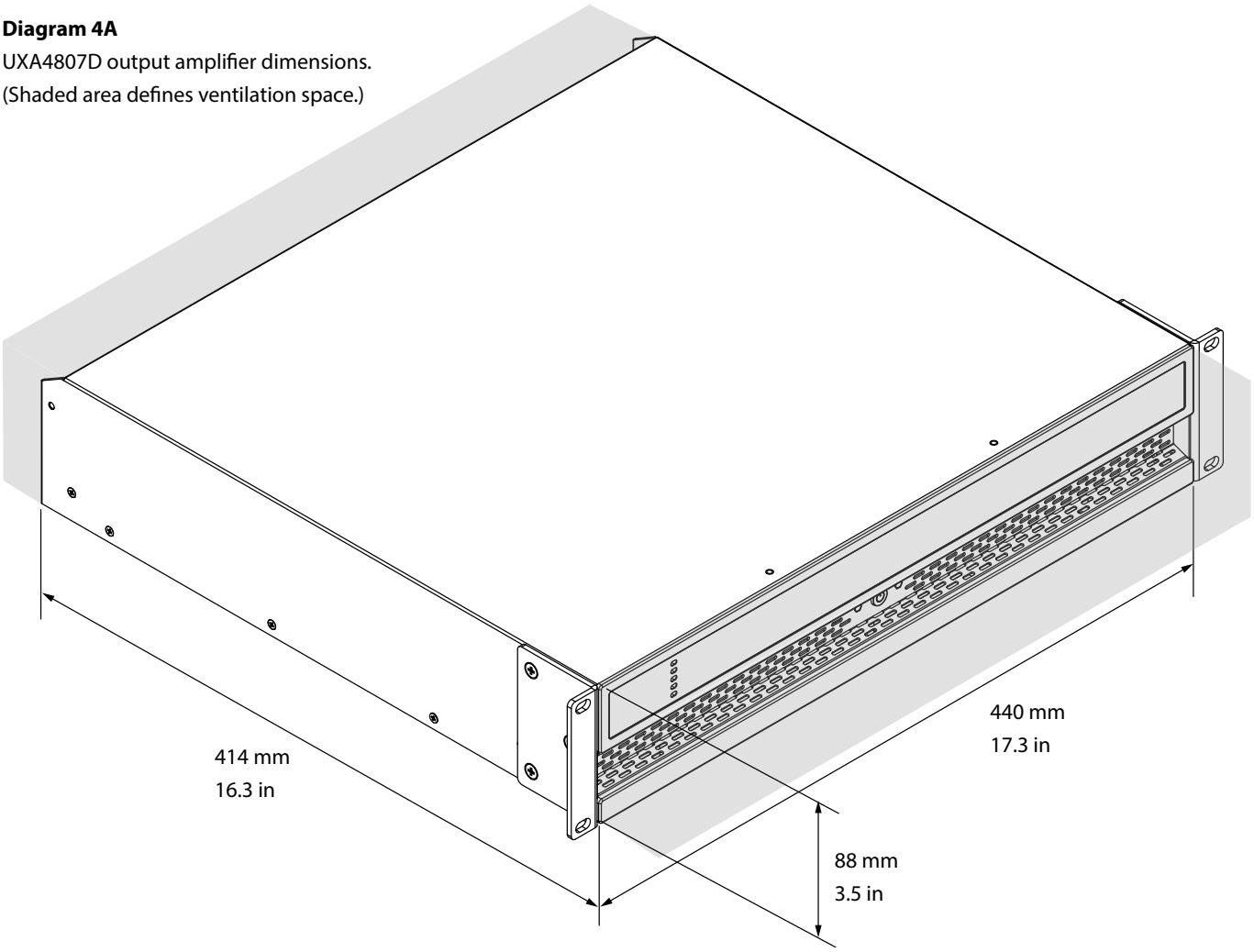
4.1 Amplifier Location

UXA4807D amplifiers are shipped with rack ears attached primarily intended for standard (19 inch) equipment rack installation. If the amplifier will not be installed in an equipment rack, UXA4807D amplifiers can be placed free-standing on a flat surface. Adhesive rubber feet are supplied for this purpose.

It is important that any installation provides space for airflow through the ventilation apertures at the front and rear of the amplifier. This is illustrated in Diagrams 4A.

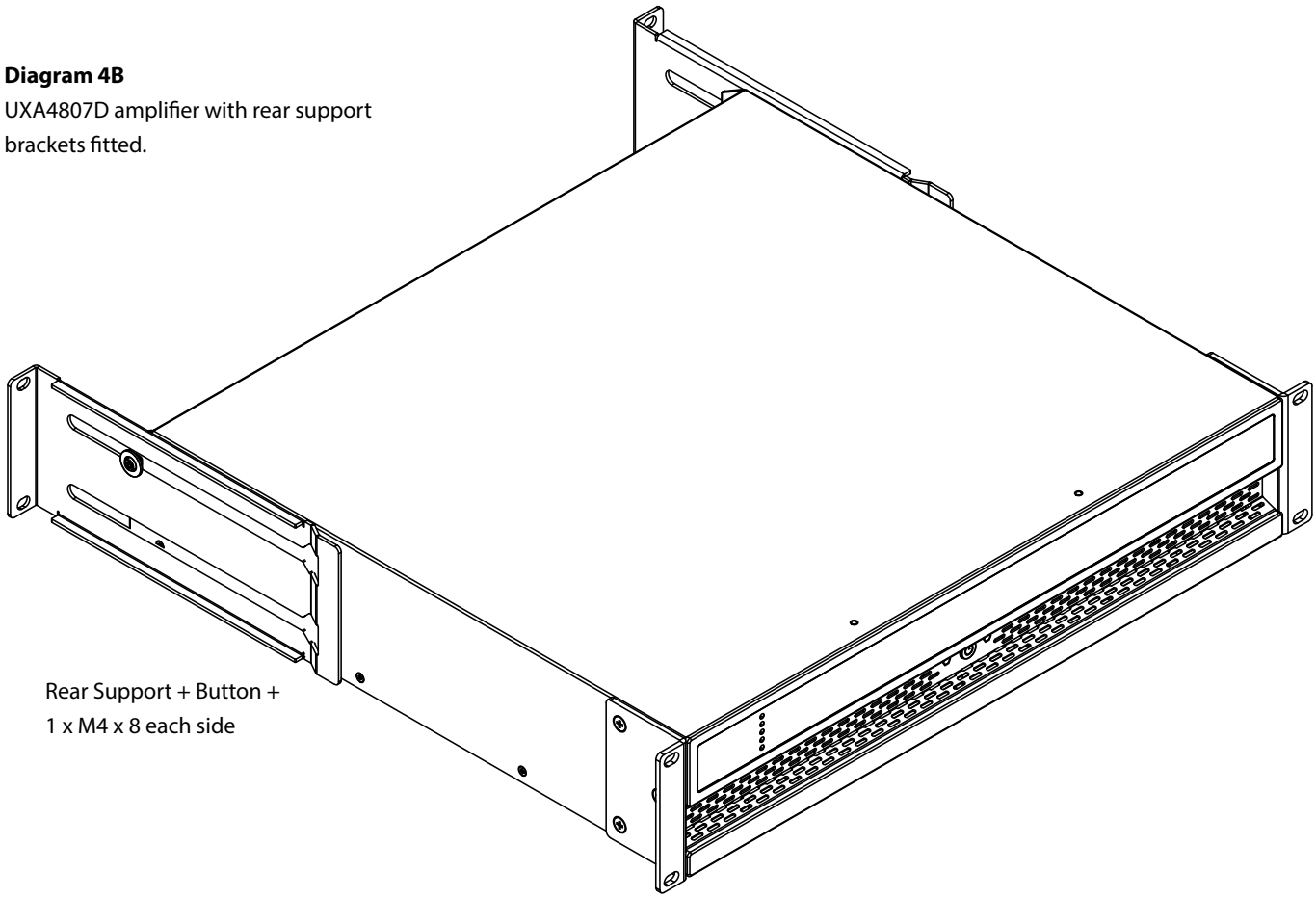
UXA4807D 2U eight channel amplifiers are supplied with rack mount rear support brackets that are recommend to be used for enhanced installation security. Diagram 4B illustrates use of the support brackets.

Diagram 4A
UXA4807D output amplifier dimensions.
(Shaded area defines ventilation space.)



Installation

Diagram 4B
UXA4807D amplifier with rear support brackets fitted.



Web App Configuration

5. Configuration

Before making input, output and GPIO connections, an initial UXA4807D amplifier configuration should be established. It is particularly important that the amplifier output format is configured appropriately for the speakers that are to be connected.

Configuration requires that UXA4807D amplifiers are connected to mains power and network services. These connections are described in the following two sections.

5.1 Mains Power Connection

UXA4807D amplifiers incorporate a power factor corrected power supply and can be used with mains input voltage from 100V AC to 240V AC, 50/60Hz. Use the mains cable supplied with the amplifier and connect it to a switched mains supply.

UXA4807Damplifiers have no mains power switch and are operational as soon as mains power is connected.

5.2 Network Services

UXA4807D amplifiers are configured via a web page interface. Before the configuration menus can be accessed, UXA4807D amplifiers must be connected to the same TCP/IP network as the computer or mobile device that is to be used for configuration access.

5.2.1 Wired (Ethernet) Network Connection

To connect a UXA4807D amplifier to a TCP/IP network using a wired connection (Ethernet) follow the steps below.

1. Use an Ethernet cable to connect the UXA4807D amplifier rear panel Network Control socket to a free socket on a network router or switch, or directly to an Ethernet equipped laptop or desktop computer.

2. Connect the UXA4807D amplifier to mains power using the supplied mains cable. Wait for the front panel Network indicator to illuminate green to indicate that the amplifier has network connectivity.

3. The UXA4807D amplifier default LAN IP address is 192.168.64.100. Configure the laptop or desktop computer for a fixed IP address in the same IP range; eg. 192.168.64.10, with Subnet mask of 255.255.255.0 (or prefix 24) and set the Gateway to 192.168.64.1.

4. Open a laptop or desktop web browser and enter the address http://192.168.64.100. The UXA4807D Control Web App interface will open to enable amplifier configuration as required.

Note: UXA4807D amplifiers can be configured to use DHCP for network connection if required. However, if a UXA4807D amplifier using DHCP is power cycled, it is possible that the TCP/IP network router will assign it a different IP address, leaving its configuration page inaccessible via the previous address. If this occurs, a network scanning app can be used to identify the new IP address. DHCP and Fixed IP address option settings can be found in the Settings Tab menu described in Section 5.3.

5.2.2 Wireless (WiFi) Network Connection

To connect a UXA4807D amplifier to a TCP/IP network using a wireless connection (WiFi) follow the steps below.

1. With the UXA4807D amplifier connected to mains power, wait for the front panel WiFi indicator to illuminate green.

2. Use a mobile, laptop or desktop device to search for available WiFi networks. Connect to, UXA4807D (product serial number)' using the password, **'password'.** The amplifier serial number can be found on its rear panel.

3. Open a computer or mobile device web browser and enter the IP address: 192.168.4.1. The UXA4807D Control Web App interface will open to enable amplifier configuration as required.

4. Select the Web App Settings Tab followed by WiFi > WiFi Mode > Client to configure the amplifier to connect to the required WiFI network. The WiFi network name and password will be required.

It is strongly recommended that the UXA4807D amplifier Access Point WiFi password is changed following initial wireless connection.

Web App Configuration

5.3 Configuration Menus

Opening a web browser that is network connected to a UXA4807D amplifier initially displays the UXA4807D Control Web App Dashboard illustrated in **Diagram 5a**. The Dashboard is the 'home' page from which all other configuration options can be accessed.

The Dashboard displays the amplifier status, output zones and the configuration menu tabs. It also enables immediate access to zone volume control The functions available under each configuration menu tab are described in the following sections.

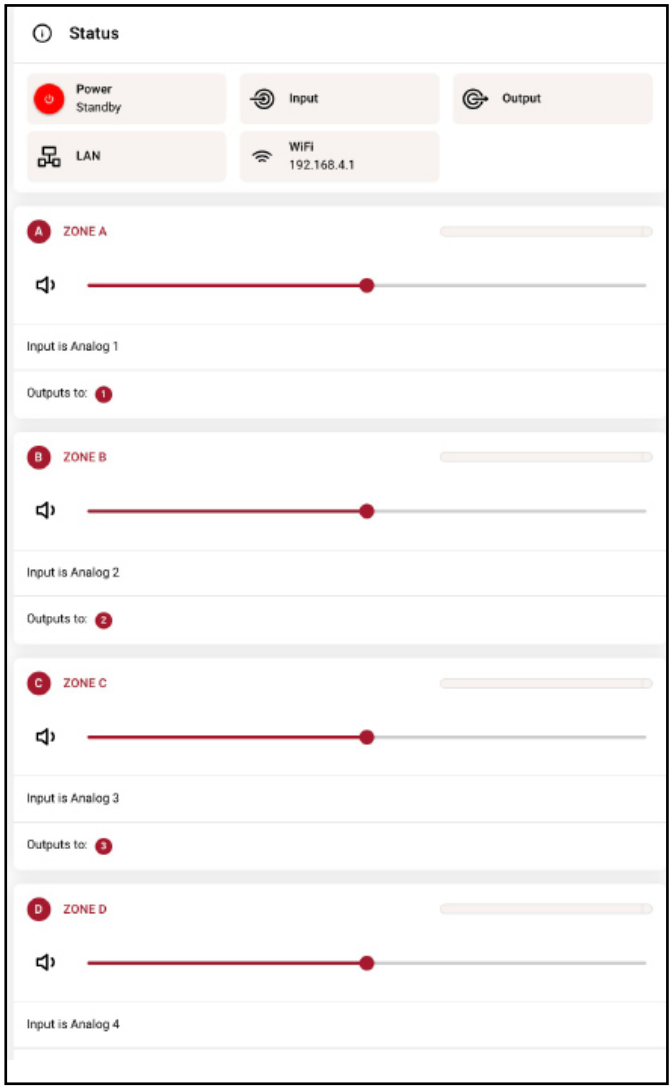


Diagram 5a
Configuration Dashboard display

5.3.1 Input Tab

The **Input Tab** provides **naming**, **mono/stereo selection**, **sensitivity**, and **gain trim** for each amplifier input channel. An internal pink noise source, provided for system testing and set up, can also enabled or disabled, and adjusted for gain via the Input Tab. **Diagram 5b** illustrates the **Input Tab**.

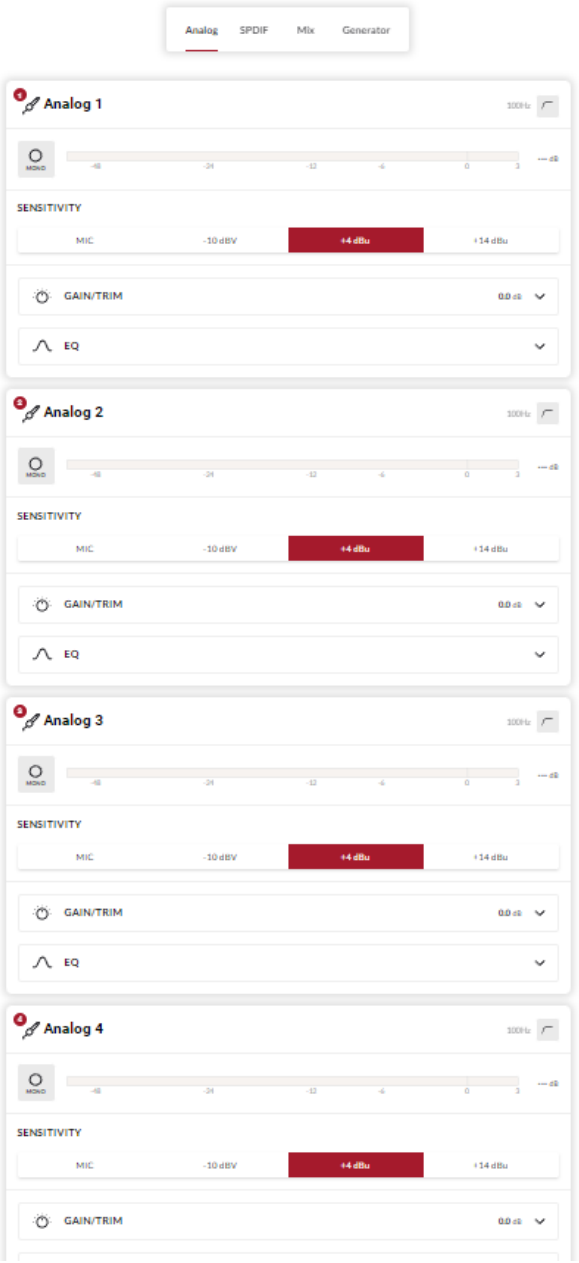


Diagram 5b

Note: When adjusting input gain, the input level display should remain green. If it displays red, the input gain should be reduced.

Web App Configuration

5.3.2 Zone Tab

The **Zone Tab** enables installation zones to be defined and named, and provides access to further sub-menus. Zones might be bar or restaurant areas for example, or different rooms in a home. For all Zone Tab menus, the installation zone under configuration is selected by highlighting one of the zone identifiers (A, B, C or D) at the top of the page. **Diagram 5c** illustrates the **Zone Tab**.

- The **Source** menu option enables inputs to be assigned to zones.
- The **GPIO Volume Control** (**Diagram 5d**) option enables external volume control to be applied to individual zones. The GPIO configuration menu can be found under the **Settings Tab**.
- The **Compressor** (**Diagram 5e**) option enables default or custom signal compression to be applied to individual installation zones.

Note:: Compression can be useful to reduce the volume difference between loud and quiet audio material. The lower the compression threshold is set, the more the difference between loud and soft will be reduced. The overall zone volume may need to be increased

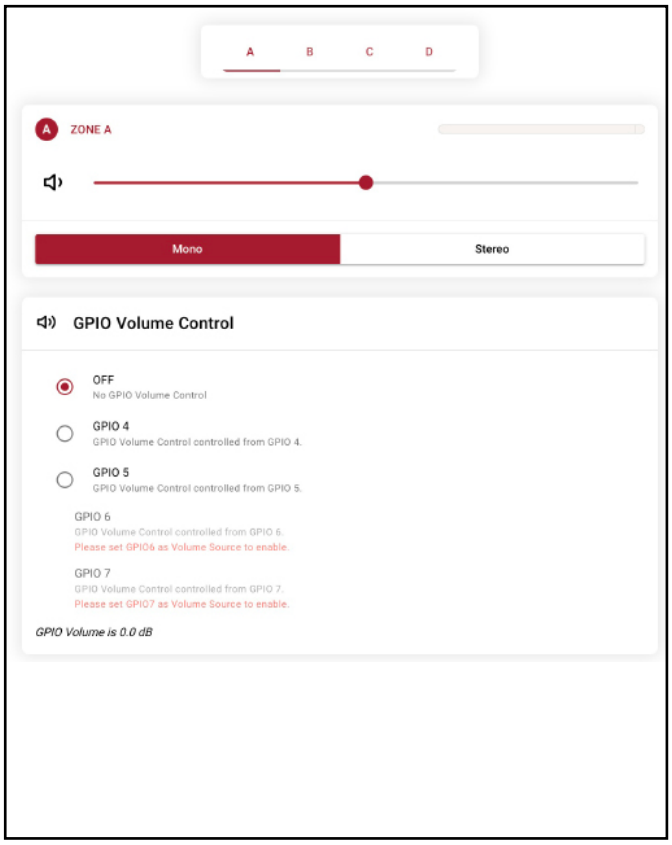


Diagram 5d
Zone Tab display

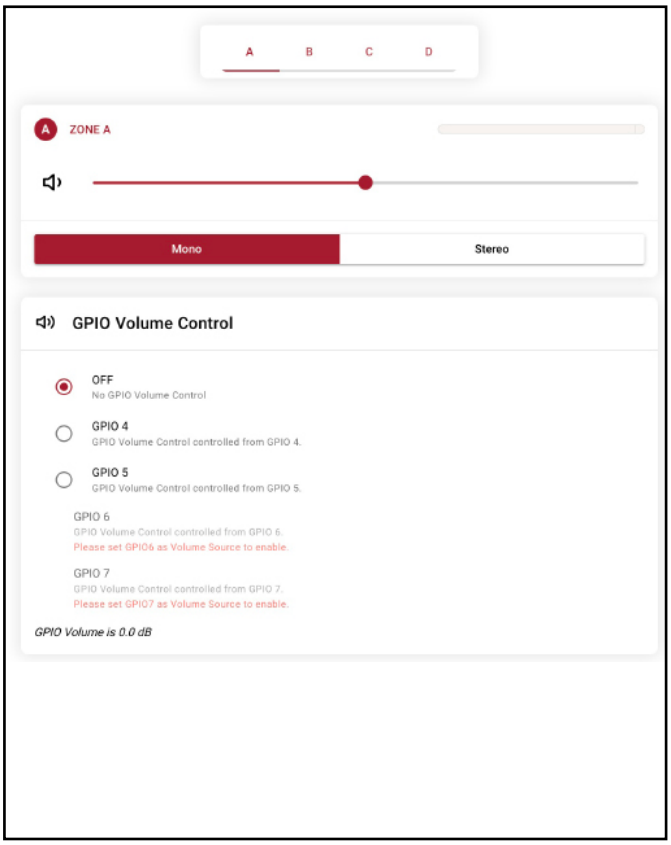


Diagram 5c
Zone Tab display

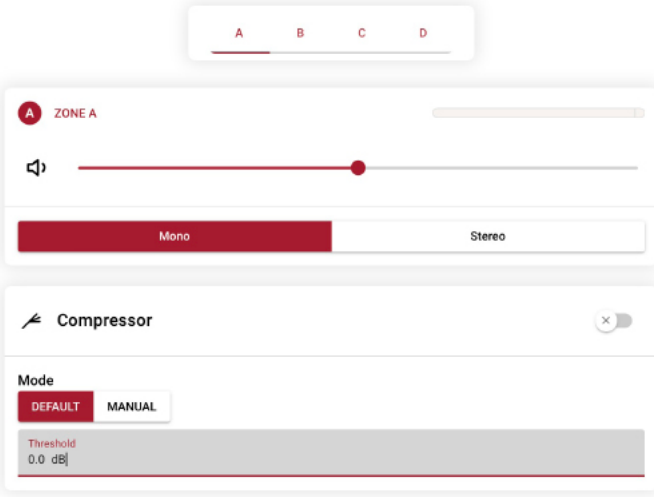


Diagram 5e
Zone Tab display

Web App Configuration

5.3.3 Output Tab

The **Output Tab** enables amplifier outputs to be named and provides access to further sub-menus. For all Output Tab menus, the amplifier output under configuration is selected by highlighting one of the output identifiers (1, 2, 3 or 4) at the top of the display. The **Output Tab** also enables **Speaker Preset** configurations to be created, exported, imported or cleared.

Note:: The number of individual outputs available for configuration will depend on the UXA4807D amplifier model and the input, zone and output mode configuration.

- The **Routing** menu (**Diagram 5f**) enables zones to be assigned to amplifier outputs.

Note: Routing for zones specified as stereo will automatically offer three output options: left channel, right channel or summed mono. The summed mono signal can potentially be used to drive a mono subwoofer.

- The **Delay** menu (**Diagram 5g**) enables delay to be applied to individual amplifier outputs.
- The **Equalizer** menu (**Diagram 5h**) enables parametric equalization to be applied to individual amplifier outputs. Equalizer settings configured for one amplifier output can be copied and applied to other outputs.

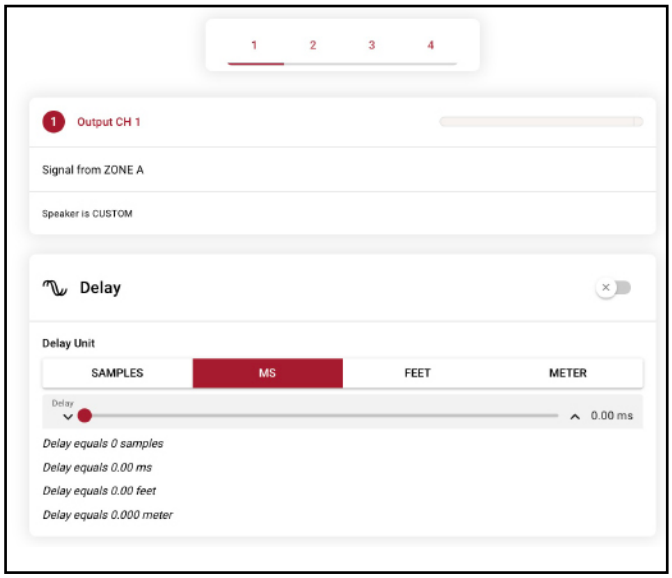


Diagram 5g

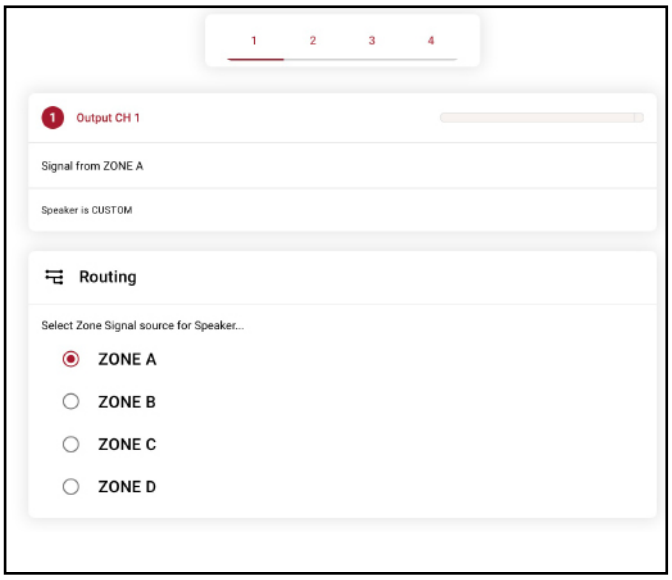


Diagram 5f

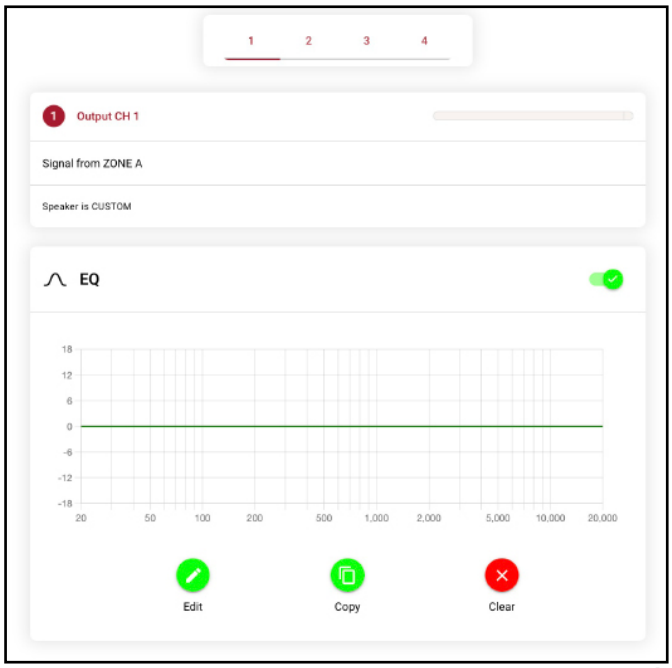


Diagram 5h

Web App Configuration

- The **Speaker Preset** menu enables a set of speaker parameters to be adjusted, and preset configurations to be created.

- Speaker Presets can be simply applied to the selected amplifier output or imported, chosen from a library, exported or cleared. The preset configurations can include any or all of the parameters described in Section 5.3.4 and can be locked to prevent inadvertent modification. **Diagrams 5i** to **5k** illustrate the application of speaker presets.

  Speaker Preset data provided by third parties for use with specific speakers can be imported and applied to amplifier outputs. To import speaker preset parameters follow the steps described below and illustrated in the diagrams.

  1. Select either the **IMPORT PRESET FROM FILE** or **SELECT PRESET FROM LIBRARY (EAW Library available at EAW.com)** option from the **Speaker Preset** menu. If no import option is visible, select **CLEAR** to delete any existing speaker preset data.

Note: The SELECT PRESET FROM LIBRARY option will be unavailable if no speaker preset libraries have been created. Speaker preset library creation and management is described in Section 5.3.5.

  2. Select the appropriate '.zcp' format speaker preset data file to import from either a Library or a computer folder. The preset data will be applied to the selected amplifier output as soon as the file import is complete.

  3. If the Speaker Preset data requires modification it can be customized by selecting the CUSTOMIZE PRESET option.

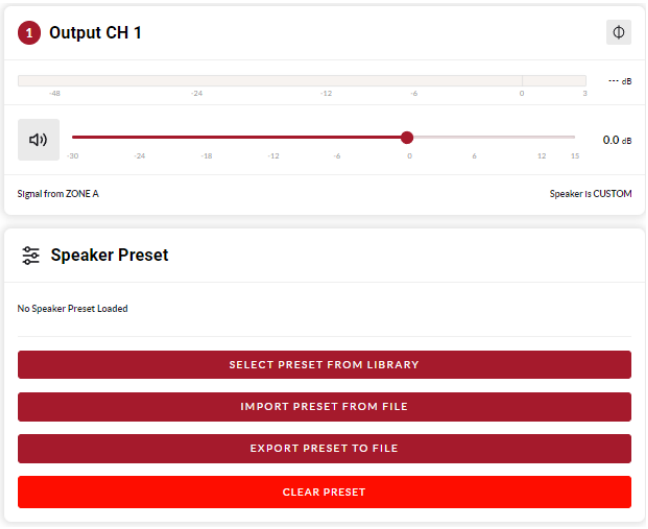


Diagram 5i
Speaker Preset Options (use Select Preset From Library to access EAW Greybox files)

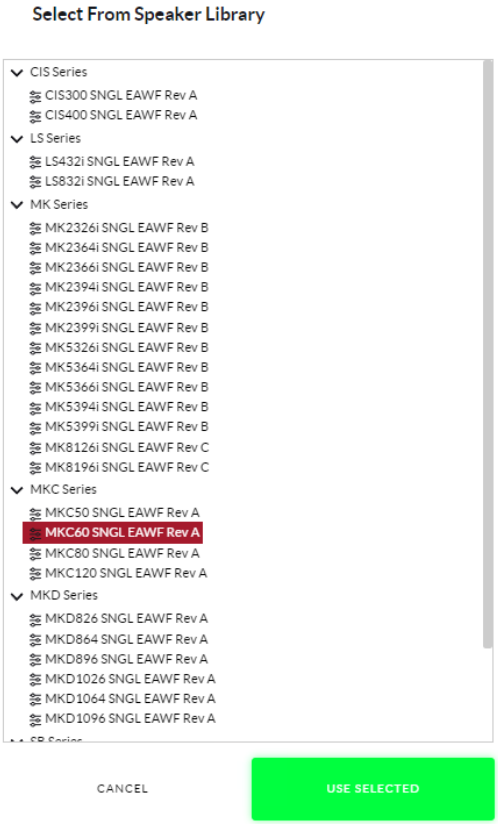


Diagram 5j
EAW Speaker Library

Note: If an imported Speaker Preset data file includes locked parameters, they will be unavailable for modification.

5.3.4 Speaker Preset Menu Parameters

- The **Crossover & Gain** preset menu enables high or low-pass crossover filters and gain adjustment to be applied to individual amplifier outputs.

- The **Speaker EQ** preset menu enables parametric equalization to be applied to individual amplifier outputs.

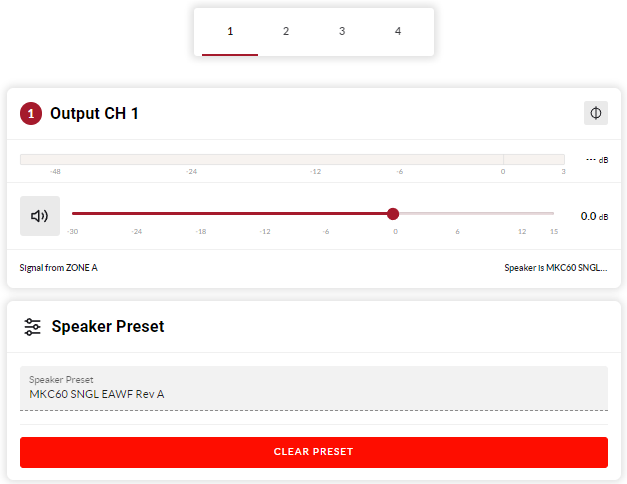
- The **FIR** preset menu enables FIR (Finite Impulse Response) based equalization filter coefficients generated by external speaker measurement software to be imported and applied to individual amplifier outputs.

Note: FIR coefficient files in either .csv or .txt format can be imported.

- The **Driver Alignment** preset menu enables delay to be applied to individual amplifier outputs.

Web App Configuration

Diagram 5k
Speaker Preset applied



- The **Crossover & Gain** in the preset menu allows for configuring a Low Pass and High Pass Filter, as well as adjusting global gain (**Diagram 5l**).

Diagram 5l
Preset Crossover & Gain

- The **Speaker EQ** in the preset menu allows for configuring customized parametric EQ on the output level. (**Diagram 5m)**.

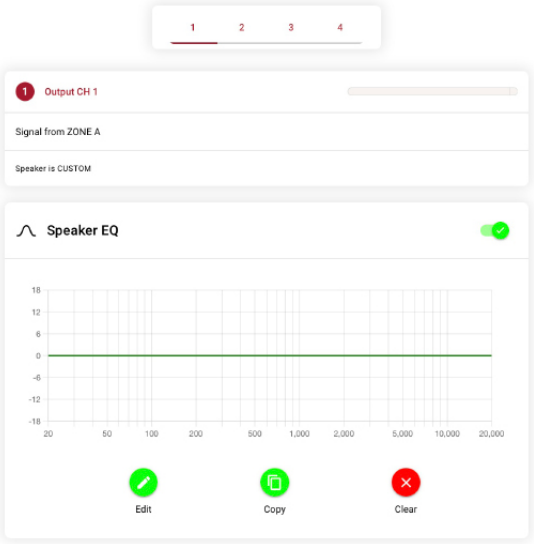


Diagram 5m
Preset Speaker EQ

- **FIR** in the preset menu provides a way to load a file with determined FIR filters and parameters (**Diagram 5n)**.

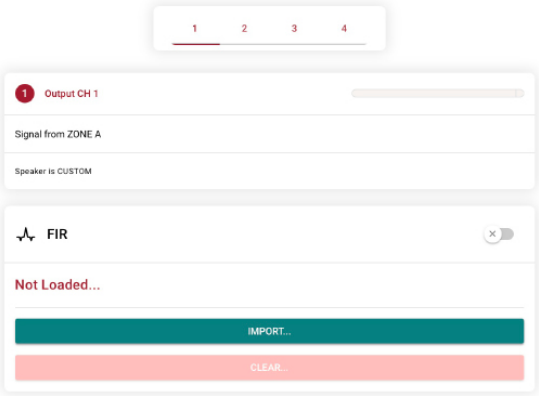


Diagram 5n
Preset FIR

Web App Configuration

- **Driver Alignment** in the preset menu will allow for delay to be set between driver passbands (**Diagram 5o)**.

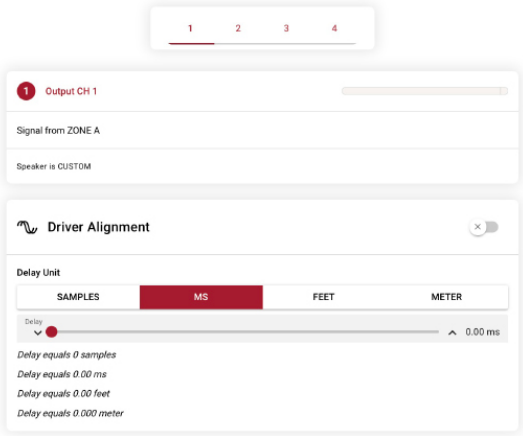


Diagram 5o
Preset Driver Alignment

- The **Polarity** preset menu enables the polarity of individual amplifier outputs to be reversed (**Diagram 5p)**.

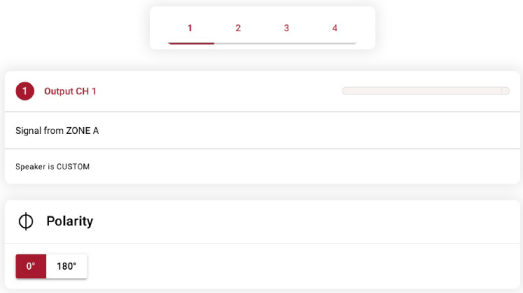


Diagram 5p
Preset Polarity

- The **Limiter** preset menu enables signal limiting to be applied to individual amplifier outputs. Clip limiting, peak limiting and RMS limiting can be individually or collectively engaged. The Peak limiter can be set to either automatic or custom parameter values. The RMS limiter has default parameter values that can be adjusted but has no automatic option (**Diagram 5q)**.

Note: In automatic mode, the peak limiter parameters adjust automatically in response to Crossover & Gain high-pass filter settings.

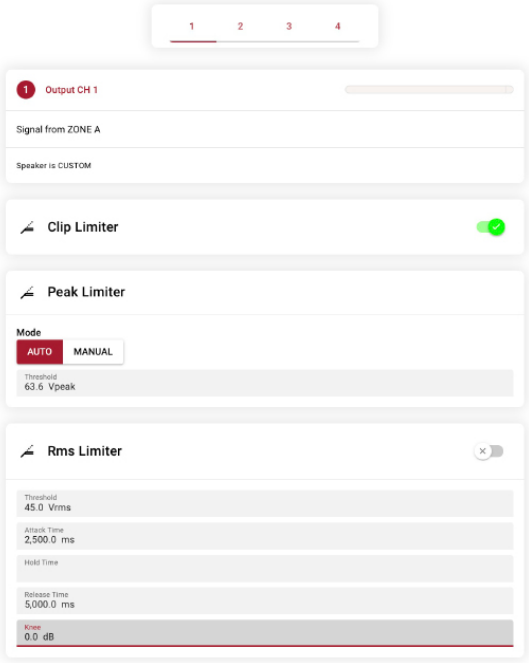


Diagram 5q
Preset Limiter

- The **Output Mode** preset menu enables individual amplifier outputs to be switched off or configured for Lo-Z or Hi-Z modes. In Hi-Z modes, a high-pass filter can also be configured and applied to the output. The number of outputs available will depend on the amplifier model, input setup and zone setup. For example, a two output amplifier will have two outputs available if Lo-Z mode is selected but only one output available if Hi-Z mode is selected (**Diagram 5r)**.

Note:: Use of a high-pass filter with Hi-Z mode loudspeakers is useful to avoid the possibility of distortion caused by low frequency line transformer saturation. Begin with the default filter setting of 70Hz. If low frequency distortion is still audible, increase the frequency setting one step at a time until the distortion is no longer audible.

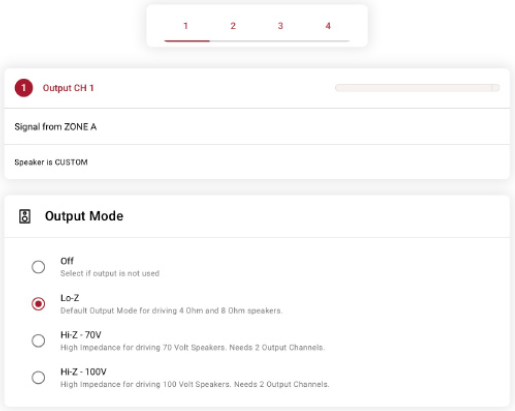


Diagram 5r
Preset Limiter

Web App Configuration

5.3.5 Settings Tab

The **Settings Tab** enables miscellaneous amplifier settings to be configured and installation data to be recorded. The Settings Tab provides access to further sub-menus. **Diagram 5s** illustrates the **Settings** Tab.

- The **System Information** menu provides text fields for the recording of installation data.
- The **Device** menu records amplifier specific information such as the model number and firmware version. A firmware update routine and identifier button can also be found under the Device menu. Current Firmware may be found at eaw.com under Downloads then DSP Settings.
- The **Backup & Restore** menu enables amplifier configuration data to be downloaded to an external archive, and enables previously saved configuration files to be uploaded and adopted by the currently connected amplifier.
- The **Speaker Library** menu enables management of speaker preset libraries. Existing libraries of speaker preset files (.zcl) can be created or imported, and existing libraries edited or fully deleted. **Diagram 5t** illustrates the creation and management of speaker preset libraries.
- The **Power Management** menu enables various automatic switch-on options to be engaged. The Power Management menu also offers timed Standby and Mute functions.
- The **GPIO** menu enables configuration of the multi-purpose GPIO interface pins.
- The **LAN** menu enables configuration and reset of the wired network options and parameters.
- The **WiFi** menu enables configuration and reset of the wi

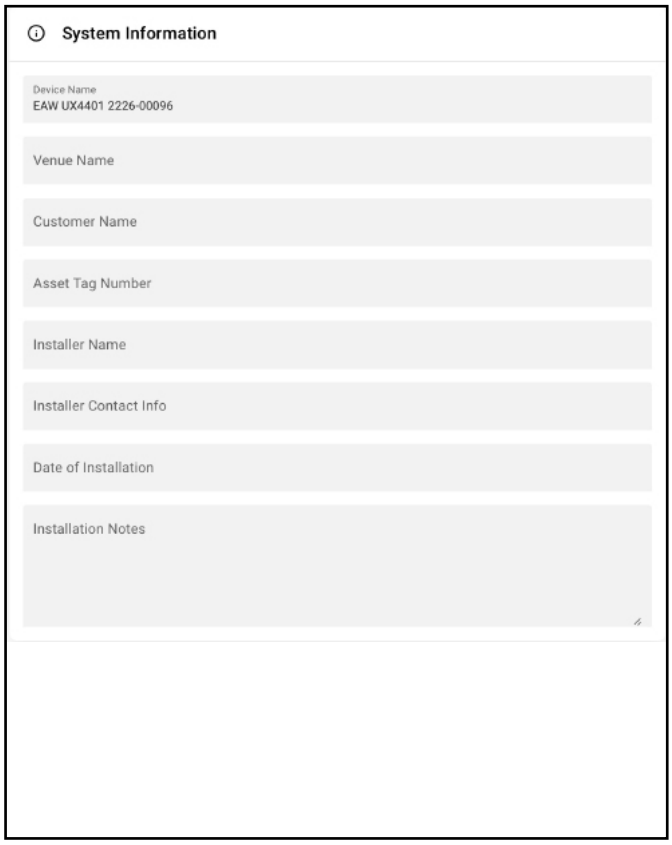


Diagram 5s
Settings Tab menu

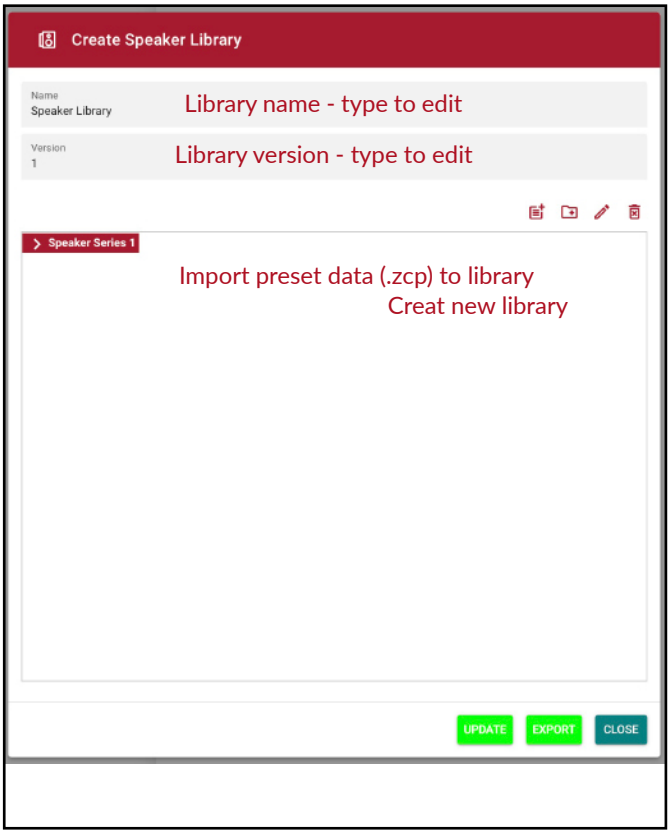


Diagram 5t
Speaker Library Creation and Management

Web App Configuration

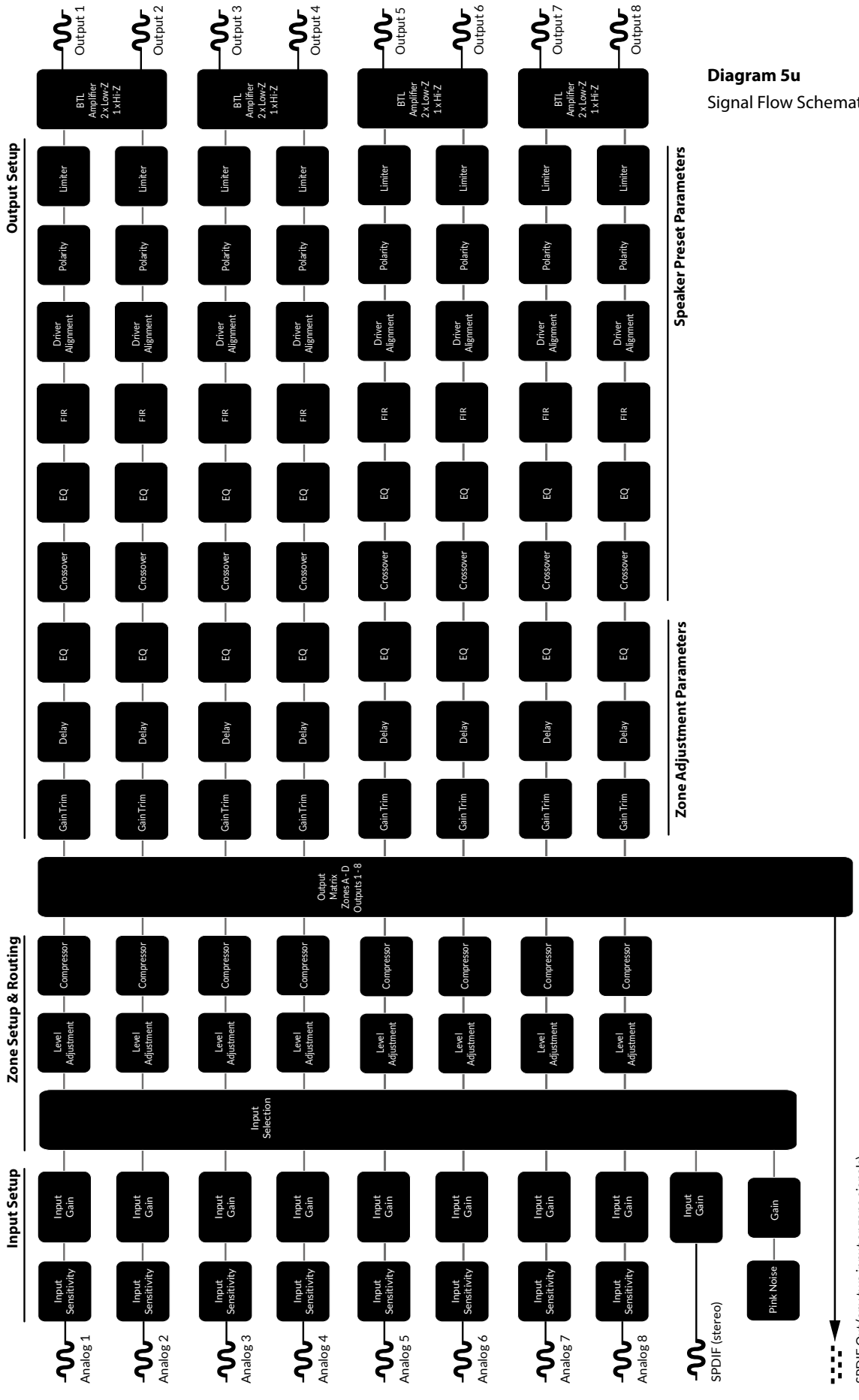


Diagram 5u
Signal Flow Schematic

Web App Configuration

5.3 Configuration Menus

Opening a web browser that is network connected to a UXA4807D amplifier initially displays the UXA4807D Control Web App Dashboard illustrated in **Diagram 5A**. The Dashboard is the 'home' page from which all other configuration options can be accessed.

The Dashboard displays the amplifier status, output zones and the configuration menu tabs. It also enables immediate access to zone volume control The functions available under each configuration menu tab are described in the following sections.

5.3.1 Input Tab

The Input Tab provides the following configuration parameters for each amplifier input channel:

- Input name
- Mono/Stereo selection
- Input sensitivity
- High-pass filter
- Gain trim
- Five band equalization

The Input Tab also enables input signals to be mixed and routed to specific amplifier zones. The mix function enables any amplifier input, including stereo or split mono S/PDIF inputs, to be grouped with any other input or inputs to create multiple predefined mixes.

Note: The number of individual mixes possible is equal to the number of amplifier analog outputs. Mix inputs are muted by default with their level adjustment sliders set to zero.

Mix operations take place following high-pass filter, input equalization and mono/stereo selection.

A pink noise or sine wave audio signal generator, appropriate for audio system testing and set up, can also be enabled, disabled, and adjusted for gain and frequency via the Input Tab. **Diagrams 5B, 5C, 5D and 5E** illustrate the Input Tab, Dante® Input Tab, Input EQ and Input Mix displays respectively.

Note: The inputs displayed in the Dante® input tab will correspond to those configured and enabled in the Dante® Controller Mac OS or Windows application. If no inputs are displayed they must first be enabled in Dante® Controller.

5.3.2 Zone Tab

The Zone Tab enables installation zones to be defined and named, and provides access to further sub-menus. Zones might be bar or restaurant areas for example, or different rooms in a home. For all Zone Tab menus, the installation zone under configuration is selected by highlighting one of the zone identifiers (A to H depending on amplifier output count) at the top of the display. **Diagram 5F and 5G** illustrates the Zone Tab and Source menu displays.

- The Source menu enables inputs to be assigned to zones and Input Priority or Input Ducking to be configured. The Input Priority function enables an alternative input to replace and mute the input primarily routed to the zone under configuration when the alternative input exceeds a preset level.

The Input Ducking function enables an alternative input to replace and attenuate the input primarily routed to the zone under configuration when the alternative input exceeds a preset level.

Note: Input Priority and Input Ducking parameters can be either set to default values or their Threshold, Attack, Hold and Release values set as required. Input Priority can also be set to ignore the volume level set for the specified zone and take a specific override volume.

- The Volume menu allows minimum and maximum zone volume limits to be set, and enables external GPIO volume control to be applied to individual zones. The GPIO configuration menu can be found under the Settings Tab, and notes on connecting an external volume control via the GPIO interface can be found in Section 5.5 of this manual.

Note: If an amplifier is controlled via a third-party control system API, volume level limits set via the Input Tab will not apply.

- The Restrictions menu enables zone inputs or input mixes to be restricted from routing to particular zones.

Note: Routing restrictions cannot be applied to priority zone inputs.

Note: If an amplifier is controlled via a third-party control system API, input routing restrictions set via the Input Tab will not apply.

- The Compressor option enables default or custom signal compression to be applied to individual zones.

Note: Compression can be useful to reduce the volume difference between loud and quiet audio material. The lower the compression threshold is set, the more the difference between loud and soft will be reduced. The overall zone volume may need to be increased when compression is used. The default compression parameters are appropriate for most installations.

5.3.3 Output Tab

The Output Tab enables amplifier outputs to be named, linked to zones, and provides access to Delay, Room Equalizer and Speaker Preset menus. Diagram 5H illustrates the Output Tab display.

For all Output Tab menus, the amplifier output under configuration is selected by highlighting one of the output identifiers at the top of the display.

Note: The number of individual outputs available for configuration will depend on the UXA4807D amplifier model and the input, zone and output mode configuration. The diagrams following illistrate a four output amplifier.

Web App Configuration

5.5 GPIO Setup and Connection

UXA4807D amplifiers provide a GPIO socket that enables remote control of volume, standby, mute and trigger functions. The GPIO connector pin functions are described in the **GPIO Settings** menu illustrated in **Diagram 5v**. The connection of GPIO based remote volume control and standby/mute are illustrated in **Diagram 5w** and **Diagram 5x** respectively.

Note: The GPIO connector must not be used for any unintended purpose. Amplifier damage may result from incorrect use of GPIO.

Note: Shielded cable must be used when connecting standby switches and potentiometers via GPIO.

Note: GPIO Pin 8 has a low output impedance and is able to supply a maximum current of 10mA.

Note: GPIO Pin 1 and Pin 3 both offer ground connections:
Pin 1 is connected directly to the amplifier chassis.
Pin 3 is connected to the chassis via a 220 Ohm resistor.
The 'soft ground' connection of Pin 3 is potentially useful for managing ground loops that may cause audible hum.

Diagram 5w
GPIO Settings Menu

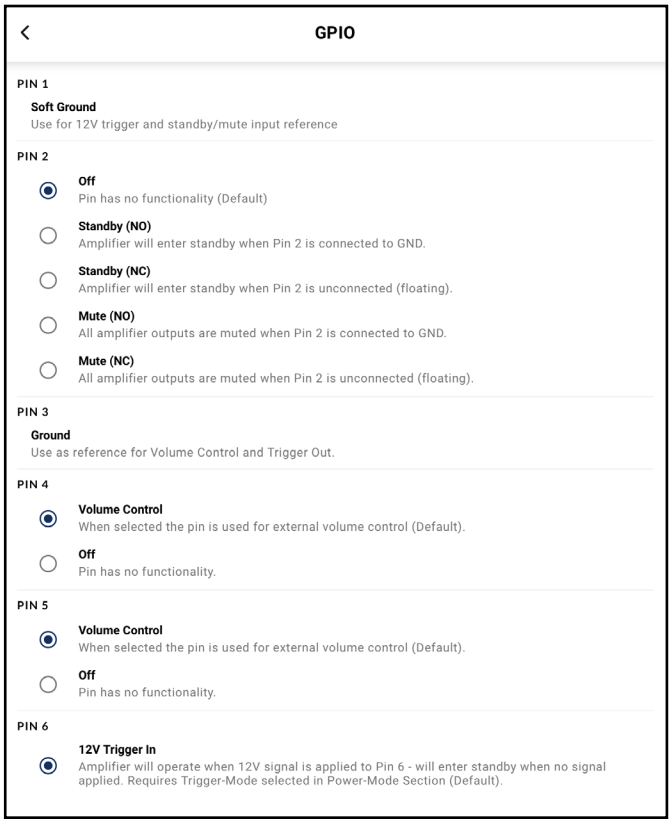


Diagram 5v
Potentiometer connections for remote volume control via GPIO.

Note: Diagram 6E illustrates use of the GPIO connector.

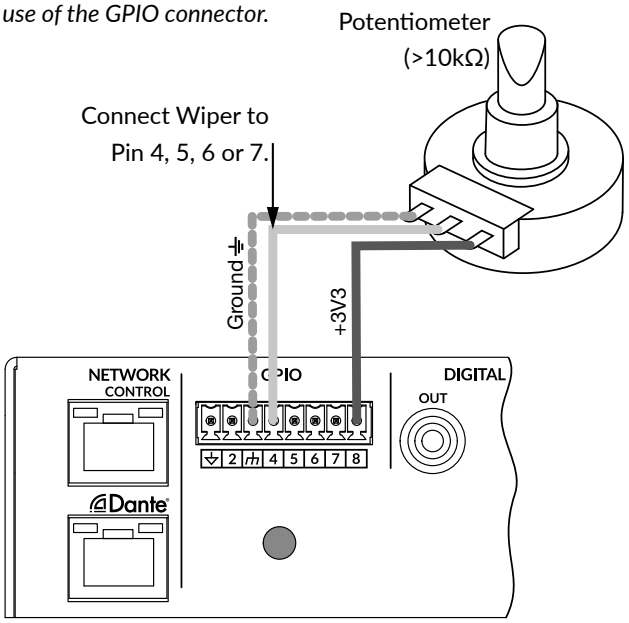
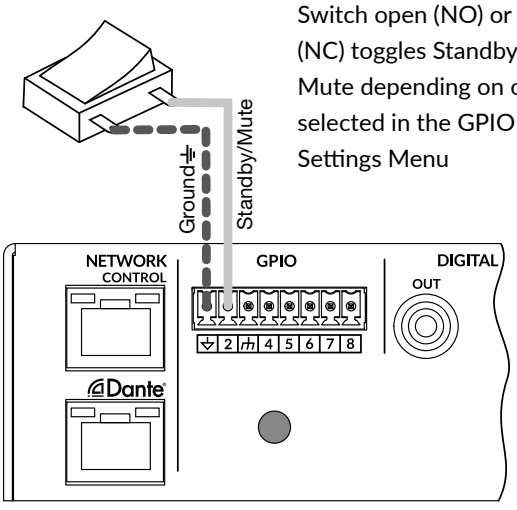


Diagram 5x
Connections for remote standby/mute switch via GPIO.

Note: Diagram 6E illustrates use of the GPIO connector.

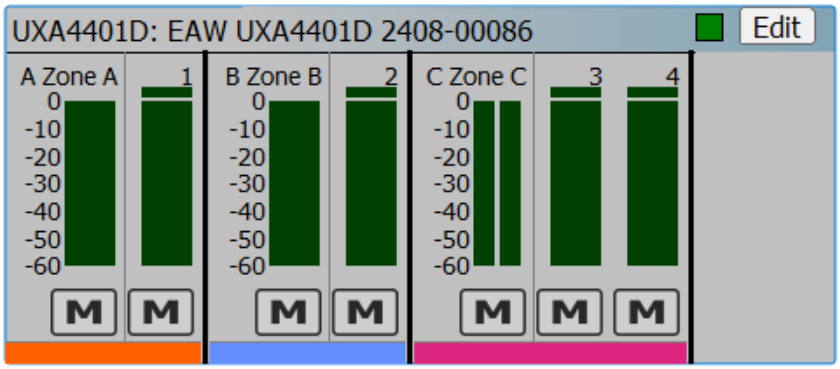


Switch open (NO) or closed (NC) toggles Standby or Mute depending on options selected in the GPIO Settings Menu

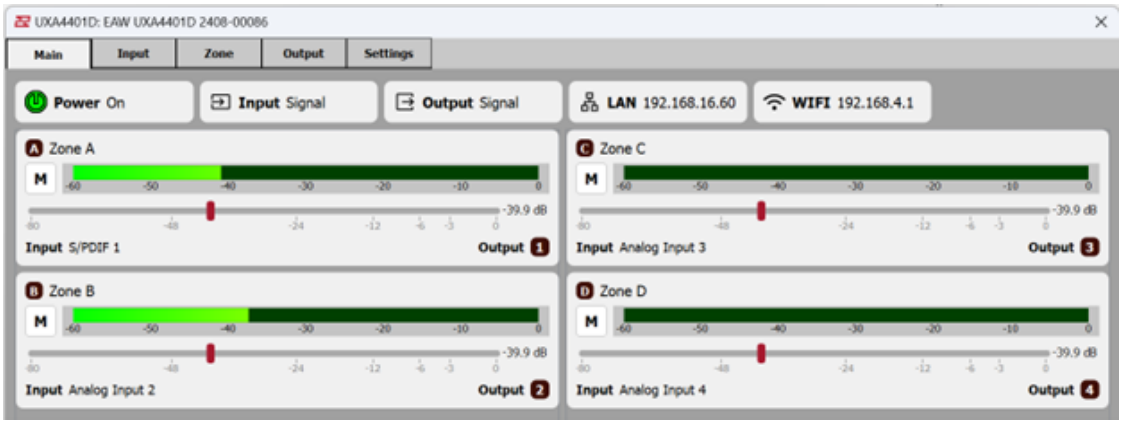
Resolution Configuration

6. Configuring UXA Installation Amplifiers in Resolution 2

The Network View Processor shows an overview of the Zones and Outputs in the amplifier. Outputs that are fed by a Zone will appear beside the associated Zone.



The main window provides an overview of the amplifier state.

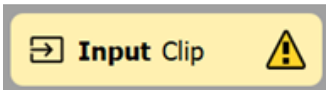


The main sections of the amplifier can be navigated using the top-row tabs. These include the Main Overview, Input channels, Zone channels, Output channels, and amplifier Settings controls.

The status indicators show the current state of the amplifier.

The Power indicator also acts as a power button to toggle between On and Standby.

Input and Output indicators show whether a Signal has been detected, on any input, or is OFF. If the signal is too high, then Clip is indicated.

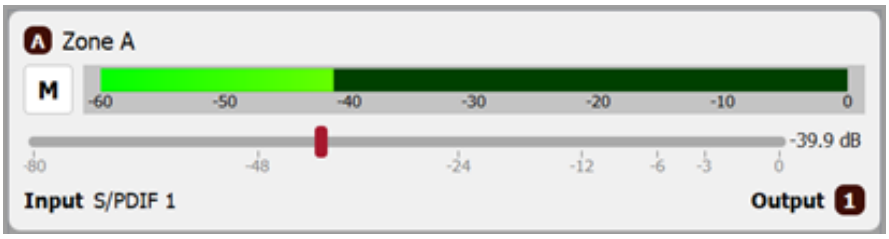


Resolution Configuration

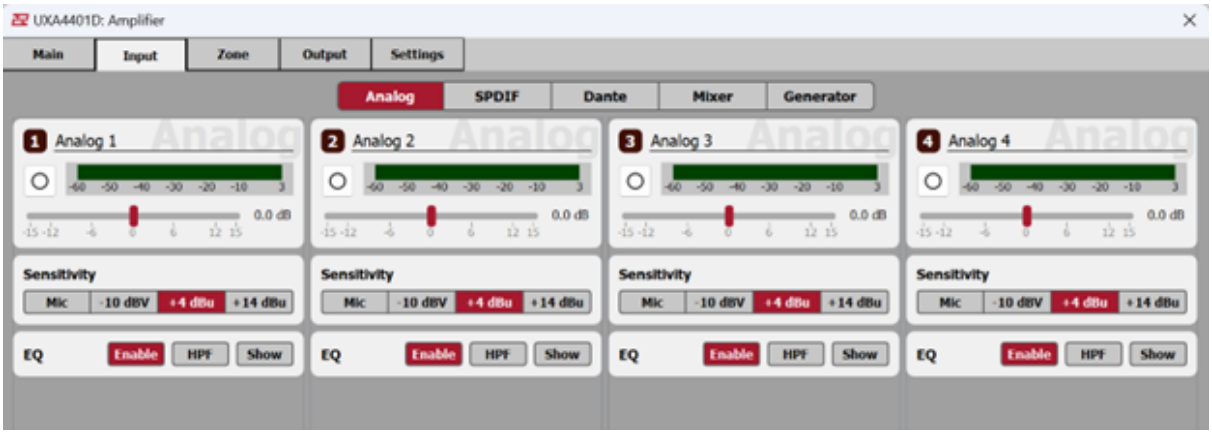
The LAN and WIFI addresses are also shown and can help indicate if the proper network connections have been made.

Each Zone on the amplifier is shown in the overview. Also indicated are the input source to the zone, and the output channels that the zone feeds.

The current volume level and mute button is also shown, for direct control.

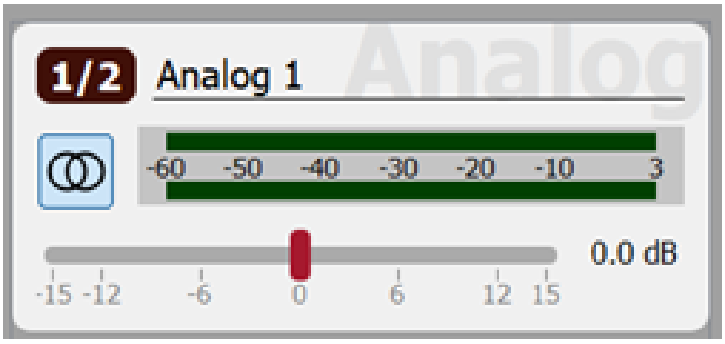


6.1 Input Channels Tab



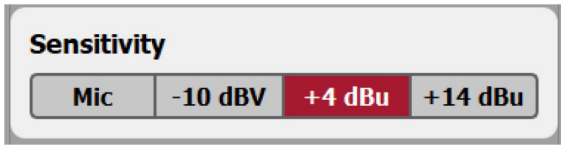
Each input has a level meter and gain control.

Analog, SPDIF, and Dante inputs support stereo channels. Clicking a stereo button will combine the odd and even channels into a stereo channel, as indicated by the changed stereo button icon and the channel label 1/2.

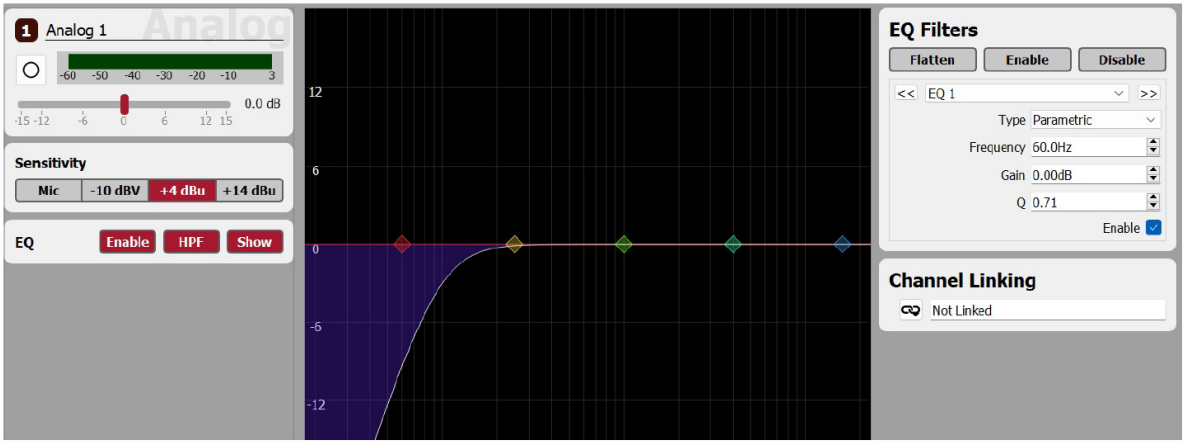


Resolution Configuration

The input sensitivity can be controlled using the following buttons illustrated on the right.



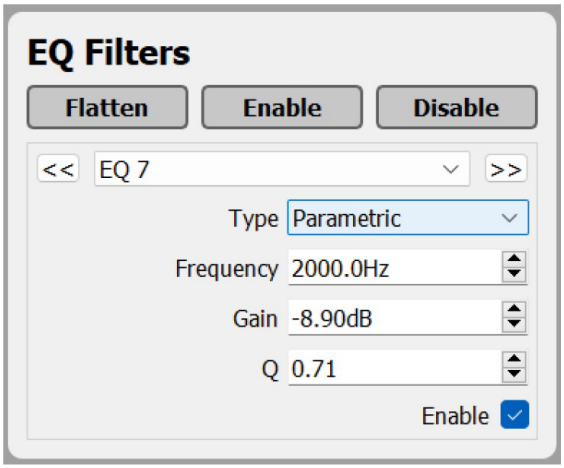
Each analog input has a five band equalizer. The type of each band can be changed to PEQ, High/Low pass, or High/Low shelf. In addition, there is a fixed 100Hz High Pass filter that may be toggled on or off.



Each EQ point can be controlled in EQ Filters. Select the EQ filter to control. EQ input has 5 filters.

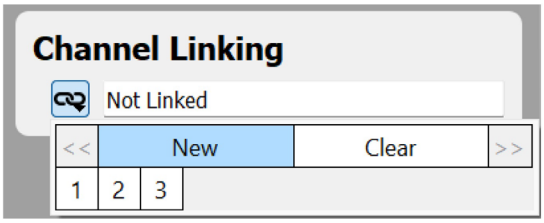
Global control buttons across the top affect all filters. Flatten will reset all filters to their default values. Enable and Disable will toggle each EQ filter to that state.

The Type of each EQ point can be changed to Parametric, High or Low pass, Shelf, Band Pass, Notch, or All pass filter. The appropriate controls for the type will appear when the type is changed.



Resolution Configuration

Channel linking supports grouping channels that share a subset of EQ settings. Any adjustments made to a shared EQ control on one channel will be propagated to all channels in the group

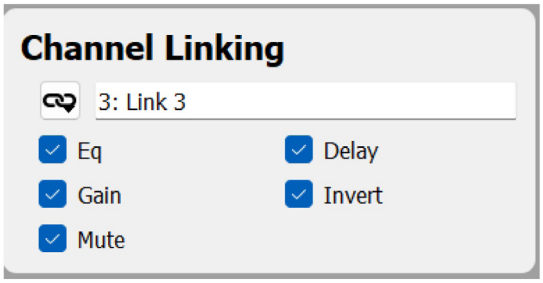


New groups can be created. The first channel added to the group will define the initial EQ settings.

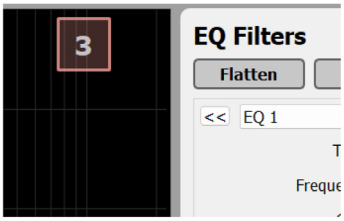
A channel can be added to a group by selecting the group number in the drop down box. Any channel added to a group will have its EQ settings overwritten by the settings in the group.

A channel can be removed from a group by selecting “Clear”. Channels removed from a group retain the EQ settings made to that point but will no longer synchronize adjustments with any other channel.

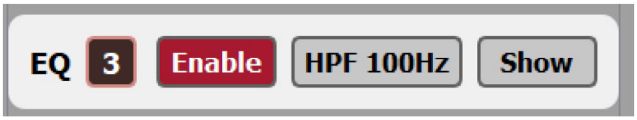
Linked controls, within a group include Eq, Gain, Mute, Delay, and Polarity (Invert). Only those controls showing a checkmark will be copied between group members.



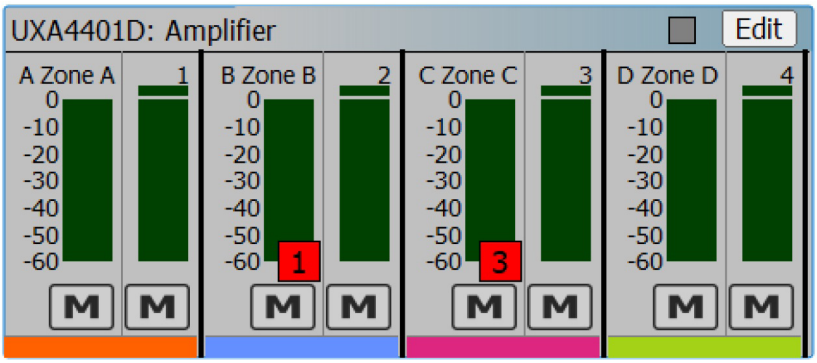
Linked channels are indicated as such with the group number placed in the upper right corner of the equalizer view for the channel.



The group number is also shown along with the channel equalizer controls.



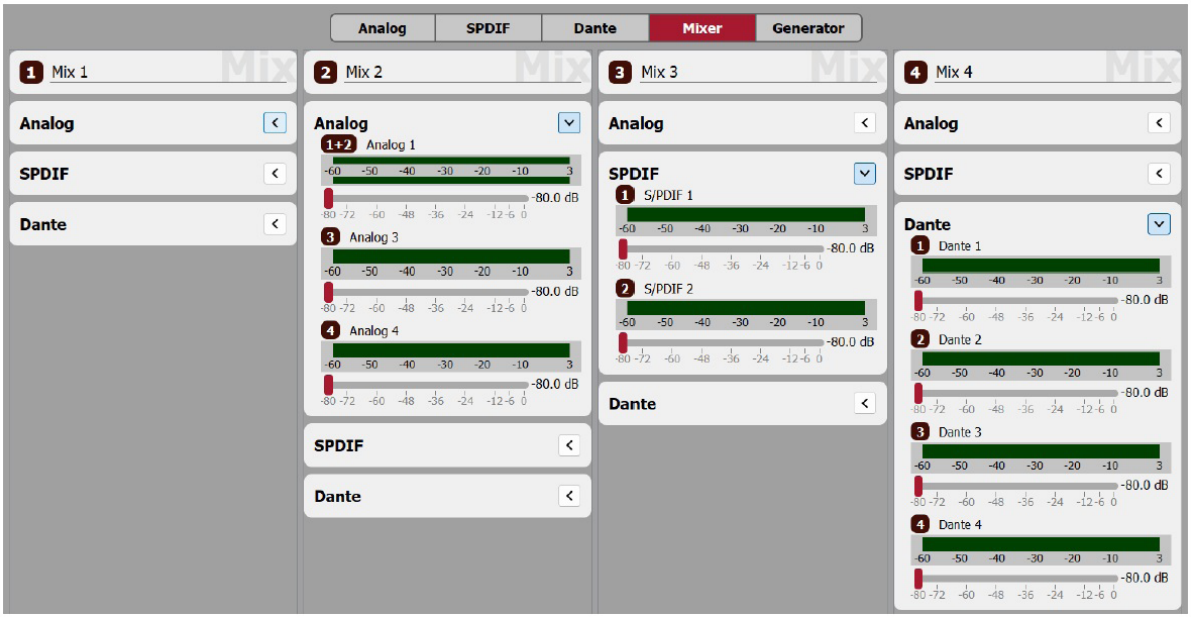
If the Analog Input is a source for any Zone, then the channel link group number will be shown on the corresponding Zone on the processor object in Network View.



Resolution Configuration

The Mixer input channel supports mixing Analog, SPDIF, and Dante inputs into a single mixed input.

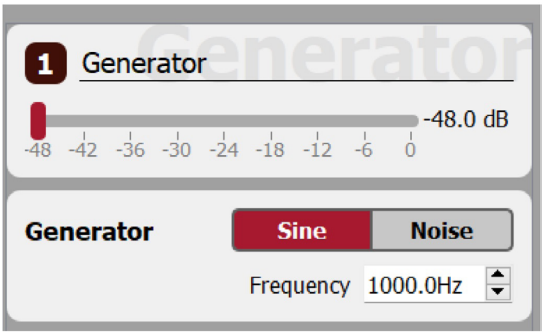
Each input channel has a gain control and meters.



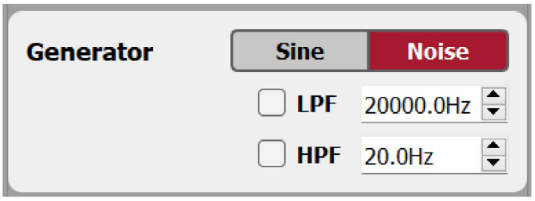
The Generator input provides Sine Wave and Pink Noise signals as input sources.

The volume limit of the generator can be set from -48dB to 0dB.

The Frequency of the Sine wave input can be set from 20Hz to 20kHz.



The Noise signal can be filtered between high and low frequency limits using the High Pass and Low Pass filter controls.



Resolution Configuration

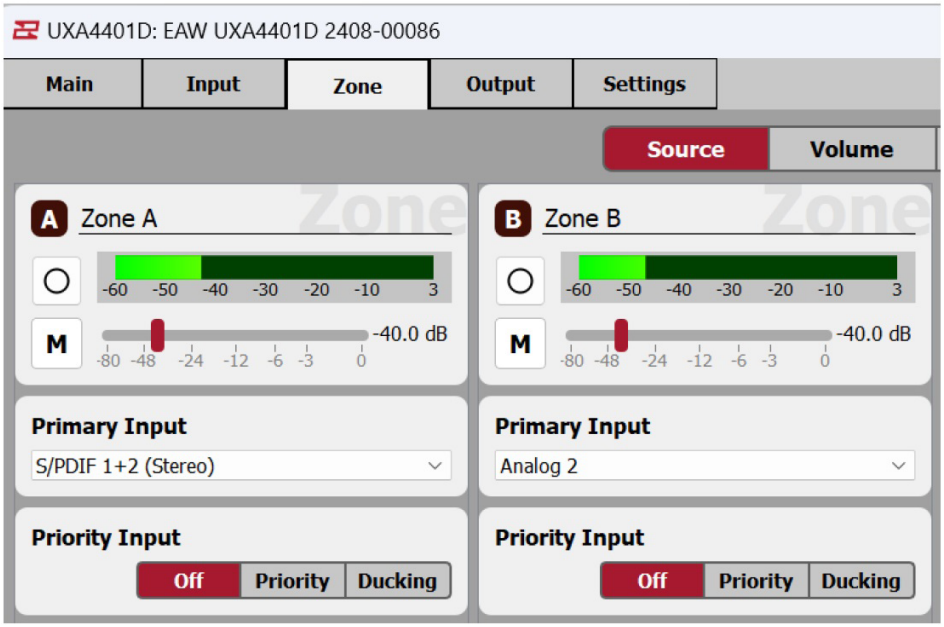
6.2 Zone Channels Tab

Zones provide input control for outputs. Each zone has a primary input source and a priority source. The priority source can be set to automatically override the primary source, based on signal detection, for important announcements or emergencies.

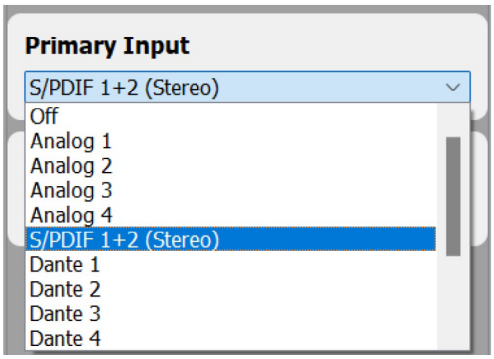
Zones support Stereo channels, volume level, and mute.

The source tab is used to select the input channel feeding the zone as the Primary Input.

A Priority Input channel can also be specified as an alternate for such events as announcements.



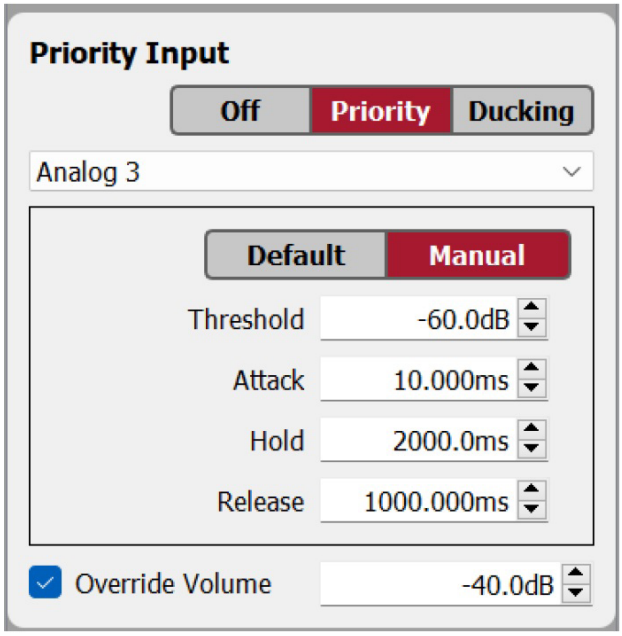
The main input source can be selected from the Primary Input drop down menu. The channels listed in this box are filtered by the Zone Restrictions settings made in the Restrictions tab. Stereo channels are indicated as such. Primary sources are filtered by the selections made in the Zone Restrictions tab.



Resolution Configuration

The priority input selection defines an alternate input source used to interrupt the current signal when announcements or emergency signals need to be made. There are two modes for signal detection.

Priority mode is used to interrupt the primary source signal when a minimum Threshold level is detected on the priority input. In Default, only the threshold needs to be specified. In Manual mode, basic compressor settings are provided for detecting the signal within the specified timeframe. Attack is the time at which the signal must exceed the threshold for the Priority signal to override. Release is the amount of time after the signal falls below the threshold in order to switch back to the Primary input.

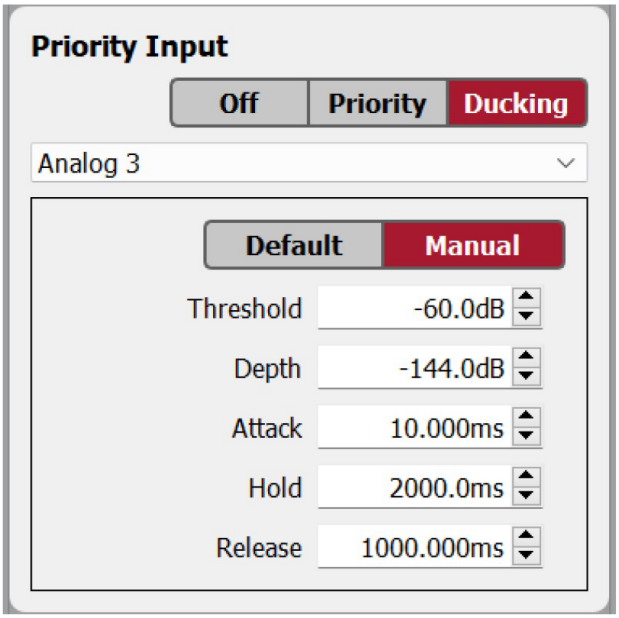


Hold is the amount of time that the signal must fall outside of the threshold for the Attack or Release to trigger. It is not desirable to hear the priority signal toggling on and off when its level is close to the threshold value, so the Hold time could allow the attack to briefly fall below the threshold without switching the priority signal off.

Override Volume is used to specify a different volume level for the Priority input than the Zone volume level for the Priority input.

Ducking differs from Priority mode in that the Primary signal is not cut but can be reduced in level so that the Priority input can be heard.

The usual compressor settings are available for signal detection. A Depth control is added to attenuate the Primary source signal when the Priority signal is mixed in.



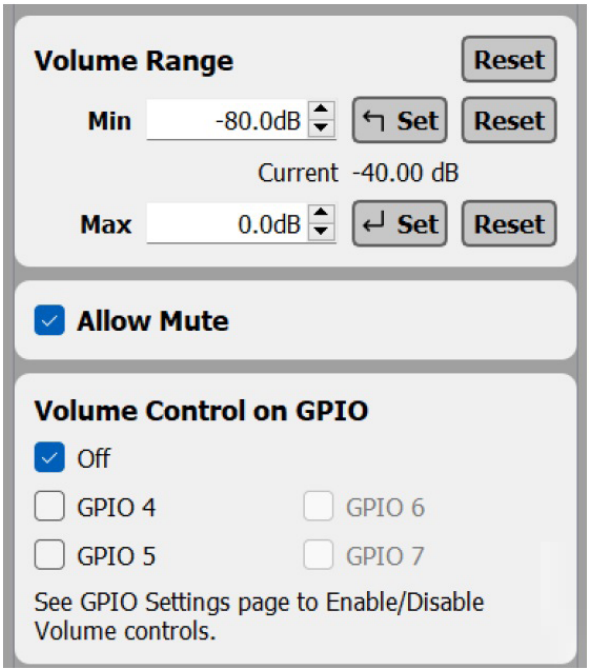
Resolution Configuration

The Zone Volume controls are used to configure the range and external control of the Zone volume.

“Volume Range” can be set to minimum and maximum values. Doing so will prevent the gain control from being adjusted beyond these limits.

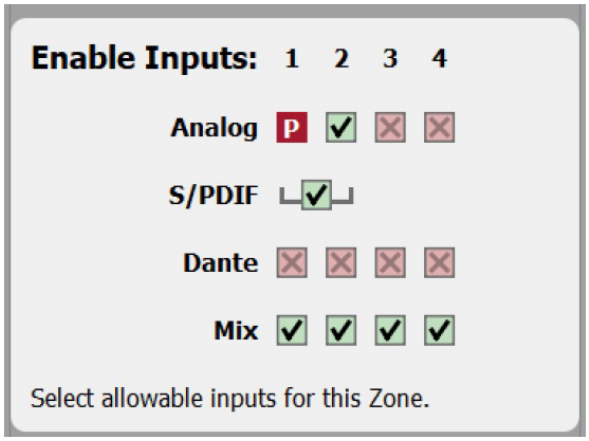
“Allow Mute” control can be used to prevent the Mute button from operating.

“Volume Control on GPIO” allows users to set the GPIO pin to be used for controlling volume. Individual pins must be enabled prior to use. See the GPIO settings page on the Settings tab.

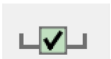


Zone Restrictions permit users to set the inputs that can be selected as a Primary source.

Inputs are presented in a grid where green check marks indicate that the input source is allowed to be selected as a Primary input to the current Zone.
A red X mark indicates that the input is not selectable as an input source. Only those inputs with a green check mark will appear in the Primary Source input selection on the Zone Source tab



A red P symbol indicates the input is already selected as the Primary source. It cannot be deselected.



Stereo inputs are indicated with range lines to show that the checkmark controls two input channels.

Resolution Configuration

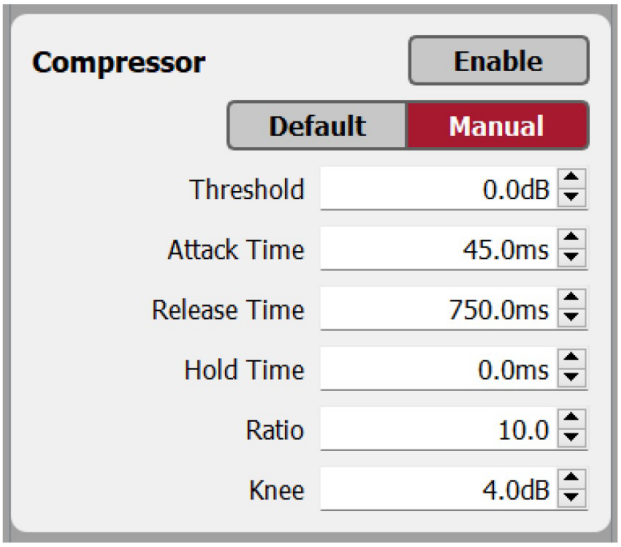
Each Zone channel has a compressor that can be enabled or disabled.

Default settings include Threshold control.

Attack is the time that the signal must exceed the Threshold for the compressor to engage.

Release is the time that the signal must fall below the Threshold for the compressor to disengage.

Hold is the amount of time that the Attack or Release time must be detected before they take effect.



The Ratio is used to determine the amount of volume reduction the compressor will apply above the threshold. For example, a Ratio of 3 indicates that for every 3dB rise in signal volume at the compressor input, the signal will only rise 1dB in level. So, if the signal rises to 12dB above the threshold, then the compressor output will be at the threshold level plus 12dB / 3 = 3dB.

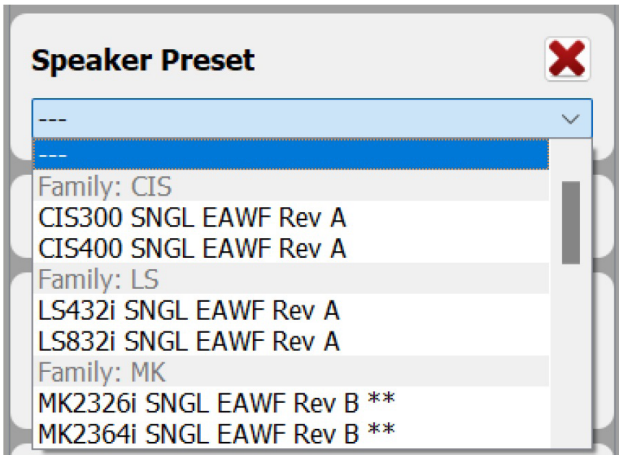
The Knee value is used to smooth out the transition between compression and non-compression across the Threshold. The transition can be smoothened by increasing the Knee. The compressor will begin to apply compression gradually as it approaches the threshold, based on where the Knee is set.

6.3 Output Tab

The Output channel controls include volume and mute. Speaker presets, tailored to a specific speaker model, can be applied to the channel. Zones provide the input source to an Output channel. Each output has equalization and delay.

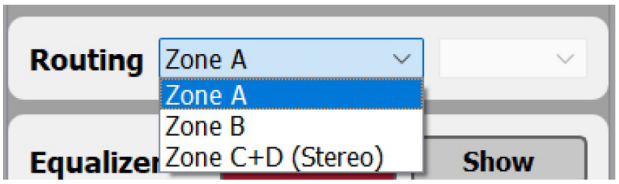
EAW Greybox presets provide optimized settings for EAW loudspeakers. Each amplifier can store a library of speaker presets. Resolution comes with a list of the most recent preset revisions.

Greybox presets can be selected from the drop-down list. Preset names ending with "**" are defined on the amplifier and not in Resolution. This does not prevent them from being selected when connected to the amplifier, but they will not be available as a selection when the amplifier is offline.

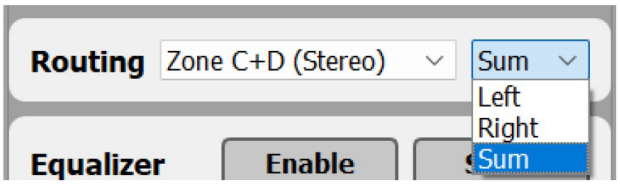


Resolution Configuration

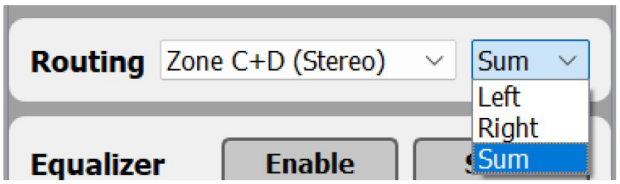
The Routing section defines the Zone input source to the output channel.



If the selected Zone source is a stereo input, then a the stereo channel must be chosen as the input to the Zone, or a sum of the ;eft and right channels.



The output equalizer can be enabled or disabled on the output channel. Polarity of the channel can be toggled on or off.

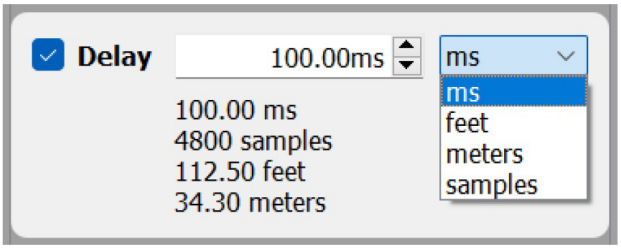


The output equalizer operates the same way as the Analog Input equalizer with some small differences. The output equalizer has 10 EQ points instead of 5, and includes additional Shelf filters, Band and Notch filters, and All Pass filters.

Channel Linking works the same way as input channel linking. However, output channels cannot be included in the same group as input channels.

The output delay can be adjusted to 100ms. It can also be turned off by utlizing the checkbox.

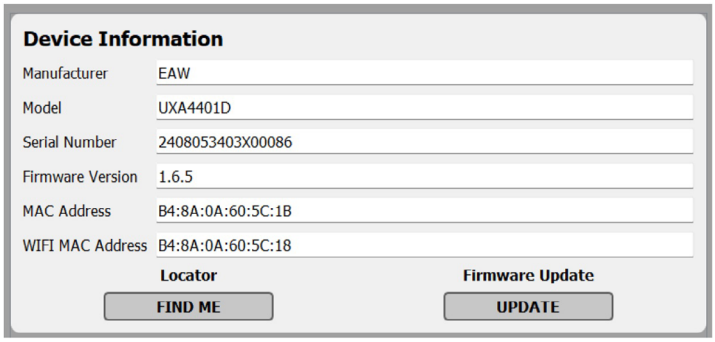
There are several units available for specifying the delay in terms of time or distance. The sample rate is based on 48kHz.



6.4 Output Tab

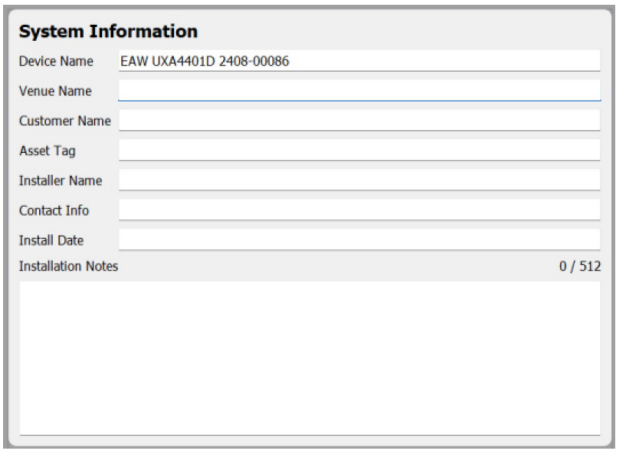
This section provides information about the device, such as manufacturer, model, and serial number, that cannot be edited.

There is a Find Me button that will force lights on the front panel to blink so that the settings can be visually associated with a physical amplifier. The Update button will open the Firmware Update dialog.

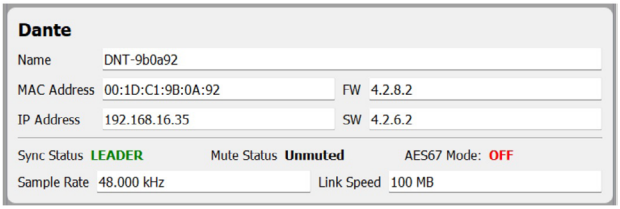


Resolution Configuration

System Information provides user editable information about the amplifier along with installation notes with a limit of 512 characters



System Information provides user editable information about the amplifier along with installation notes with a limit of 512 characters



A password can be set on the amplifier that governs access to the amplifier through the web interface. Resolution does not observe the password control and will not prevent access to an amplifier.

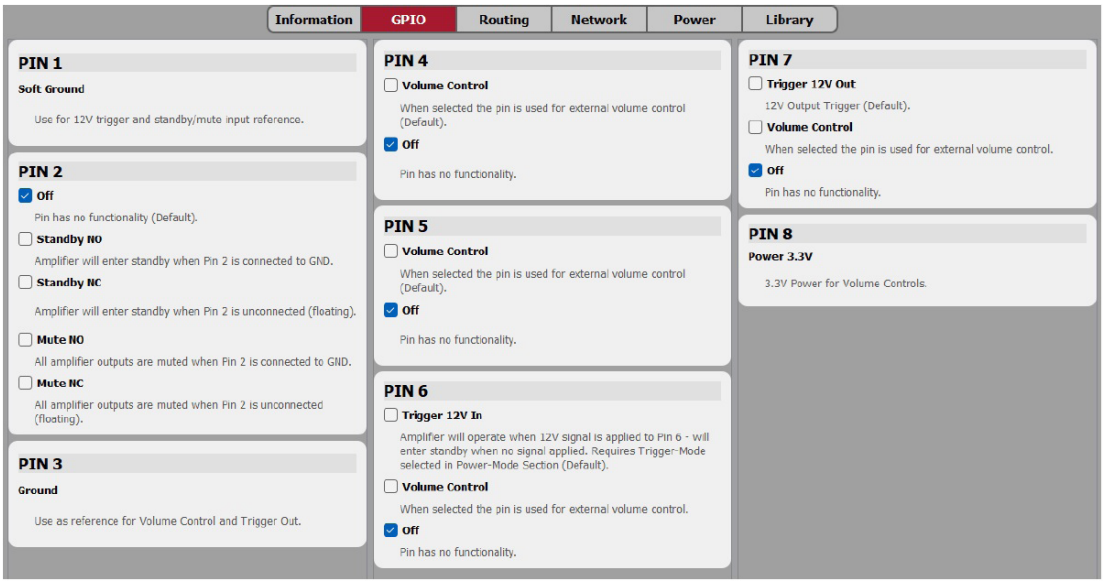
Select Enabled to turn password protection on. Enter a password in the Password box and repeat it in the second box. They must match to Apply the change.

To see the passwords entered, during this process, click the eye button. (The use of “password” as a password is for illustrative purposes only.)

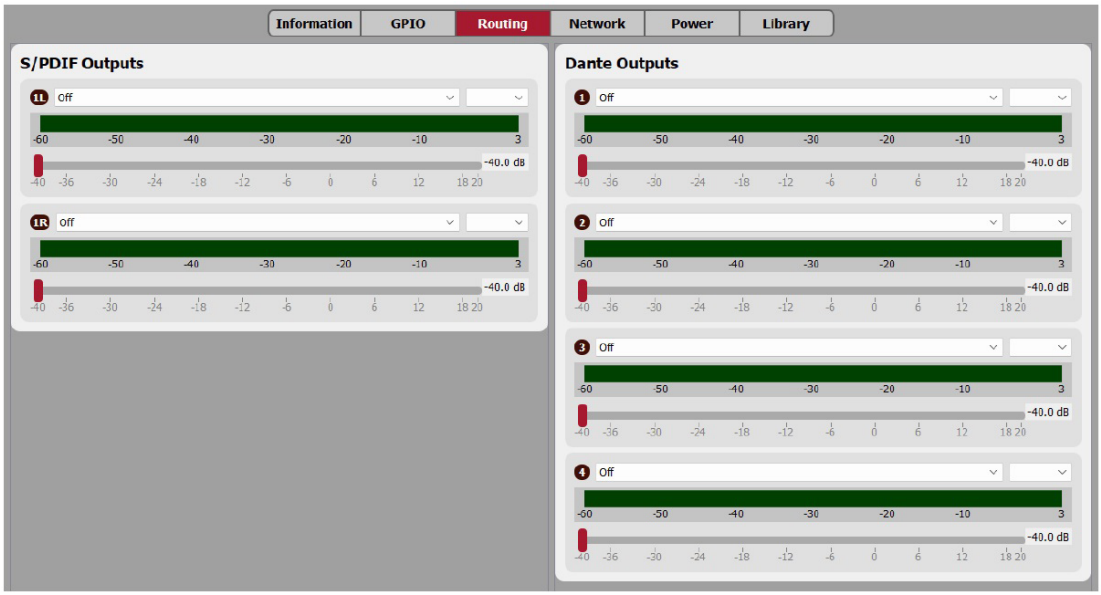
If the passwords match, then the Apply button lights up green. Clicking this button will send the new password to the amplifier. Applying a new password does not logout anyone using the web interface at the time of the change.

Resolution Configuration

The GPIO settings are used to specify what each GPIO pin is used for. For Zone Volume control, setting a GPIO, such as Pin 4, will allow that pin to be selected as the volume control on any Zone channel.

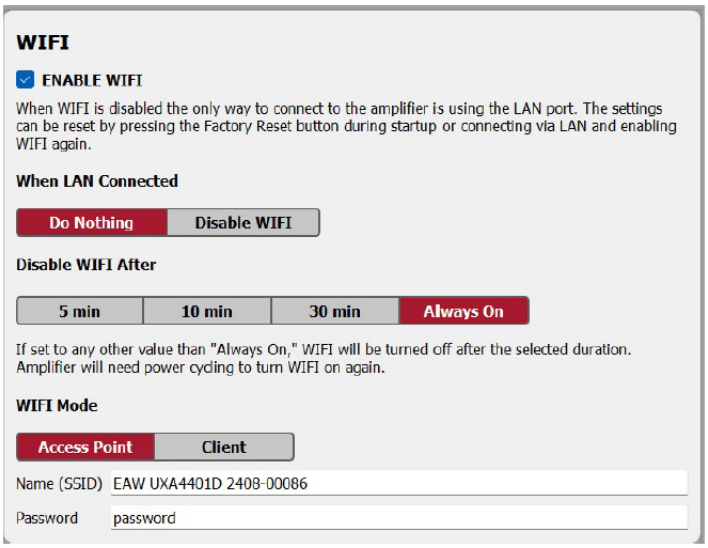


Output routing is used to route input audio signals directly to S/PDIF or Dante outputs. The gain of the output signal can be controlled.

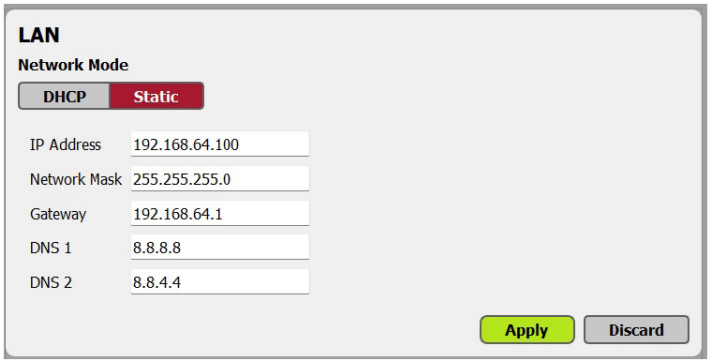


Resolution Configuration

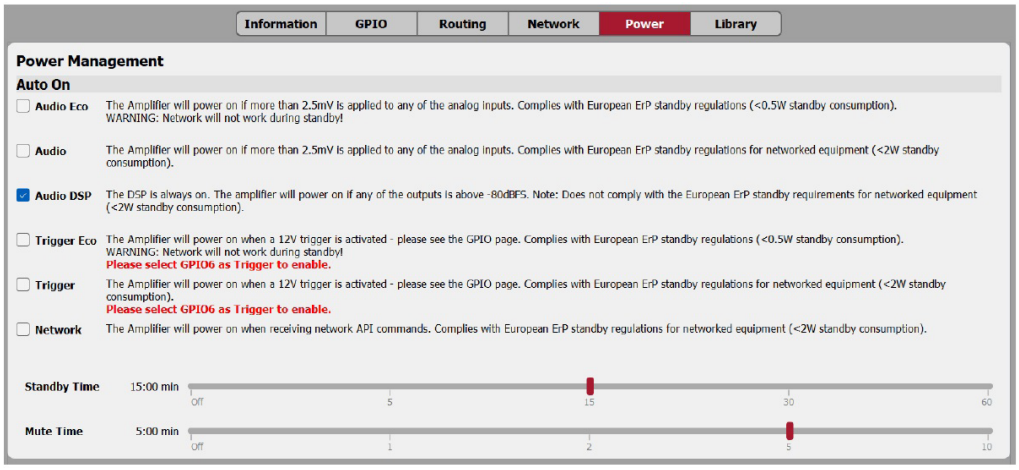
The WIFI settings under the Network Tab control connection through the WIFI



Under LAN Settings on the Network Tab the amplifier can be configured to have a DHCP or Static IP address. Changes must be applied to take effect.



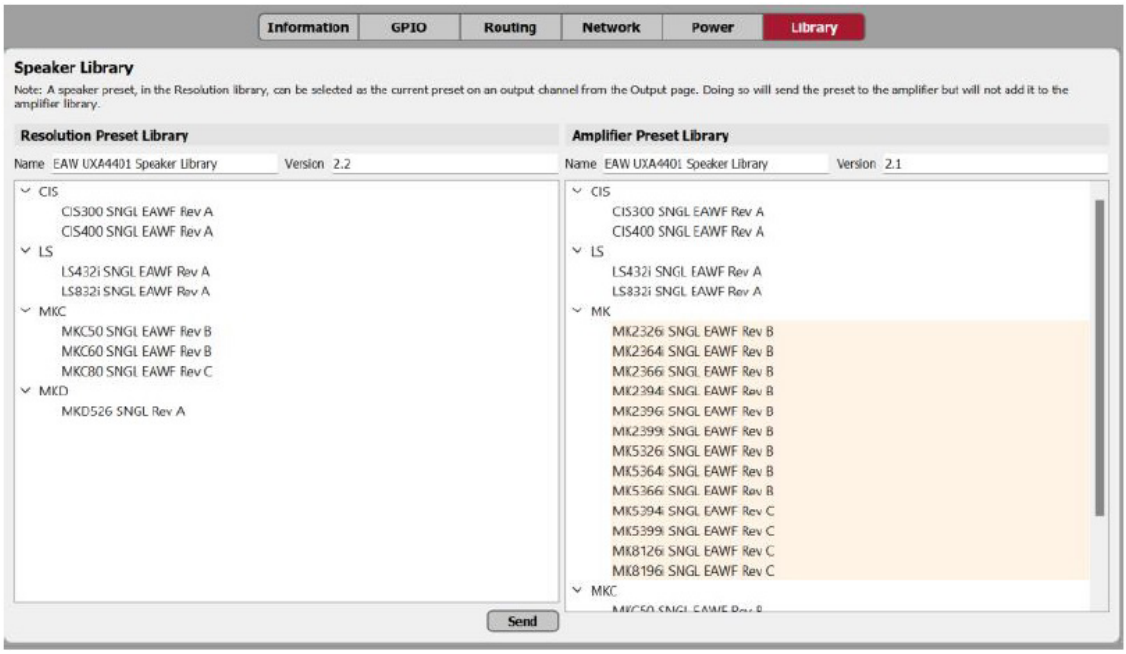
Power usage can be configured on the Power tab. Several of the choices can result in the amp entering standby when an audio input signal has not been detected for a length of time defined by the Standby Time control.



Resolution Configuration

This tab is useful for viewing differences between the preset library in Resolution and the library on the amplifier. Presets that are not available in both places are indicated by orange shading.

The current library in Resolution can be sent to the amplifier using the Send button. Sending a preset library to the amplifier will overwrite its current library.



Connections

7. Connections

UXA4807D amplifier rear panel connections are illustrated in Diagrams 7A.

7.1 Mains Power Connection

UXA4807D amplifiers incorporate a power factor corrected universal power supply and can be used with mains input voltage from 100V AC to 240V AC, 50/60Hz. Use the mains cable supplied with the amplifier.

UXA4807D amplifiers incorporate a front panel mounted power button. Press the button once to switch the amplifier on or off. **Ensure that all signal, GPIO and output connections are made before switching on the amplifier.**

7.2 Input Connection

All UXA4807D amplifier models provide four or eight balanced or unbalanced analog audio inputs and a stereo S/PDIF digital audio input. Any input channel can be routed to any output channel. Input routing options can be configured via the Control Web App **Input Tab**. See **Section 5** of this manual.

Analog Inputs

UXA4807D analog inputs are of line level format with a default input sensitivity of +4dBu (full output voltage swing/ sensitivity) in all output modes. Depending on the selected sensitivity, the inputs can handle up to +24dBu without clipping. Input sensitivity options can be set via the Control Web App **Input Tab**. See **Section 5** of this manual.

Balanced input connections to the amplifiers are made via male 'Euro Block' connectors. Connecting cables to the supplied female input connectors is illustrated in **Diagrams 7B and 7E** for two/four, and eight output amplifiers respectively.

Unbalanced input connections to the amplifiers are made via RCA phono sockets connected in parallel with the balanced inputs.

Digital Outputs

UXA4807D Connect S/PDIF stereo digital audio output connections are made via a single RCA Phono socket. The S/PDIF output signal can be routed from any input or zone and is intended to be used for daisy-chaining UXA4807D Connect amplifiers.

Note: See the Output Routing paragraphs of Section 5.3.3 for more information on Digital Output configuration.

Note: 75Ω RCA Phono cables specifically intended for digital audio should always be used for S/PDIF connections. Standard Phono cables can be used but may not result in optimal performance.

Note: The S/PDIF output level is by default set at -10dB to reduce the possibility of downstream input clipping.

7.3 Output Connections

Output connections from the amplifiers are achieved via male 'Euro Block' connectors. Ensure that speaker connection polarity is correct throughout the installation:

In the case of Lo-Z speaker connections, positive (+) amplifier terminals should always be connected to positive speaker terminals and negative (–) amplifier terminals always connected to negative speaker terminals.

In the case of Hi-Z speaker connections, the two speaker cable conductors should be connected between the positive (+) terminal of Output 1 and the negative terminal (-) of Output 2, and likewise for Outputs 3 and 4.

Output mode options (Lo-Z or Hi-Z or Lo-Z BTL) can be configured via the Control Web App **Input Tab**. See **Section 5** of this manual.

Connecting cables to the supplied female **output** connector is illustrated in **Diagrams 7C and 7F** for two/four, and eight output amplifiers respectively..

The exclamation point printed next to the output terminals of the amplifiers is, in addition to the CLASS 2 WIRING text, intended to alert users to the risk of hazardous voltages. Output connectors that could pose a risk are marked with the exclamation point. Do not touch the output terminals while the amplifier is switched on. Make all connections with the amplifier switched off.

Connections

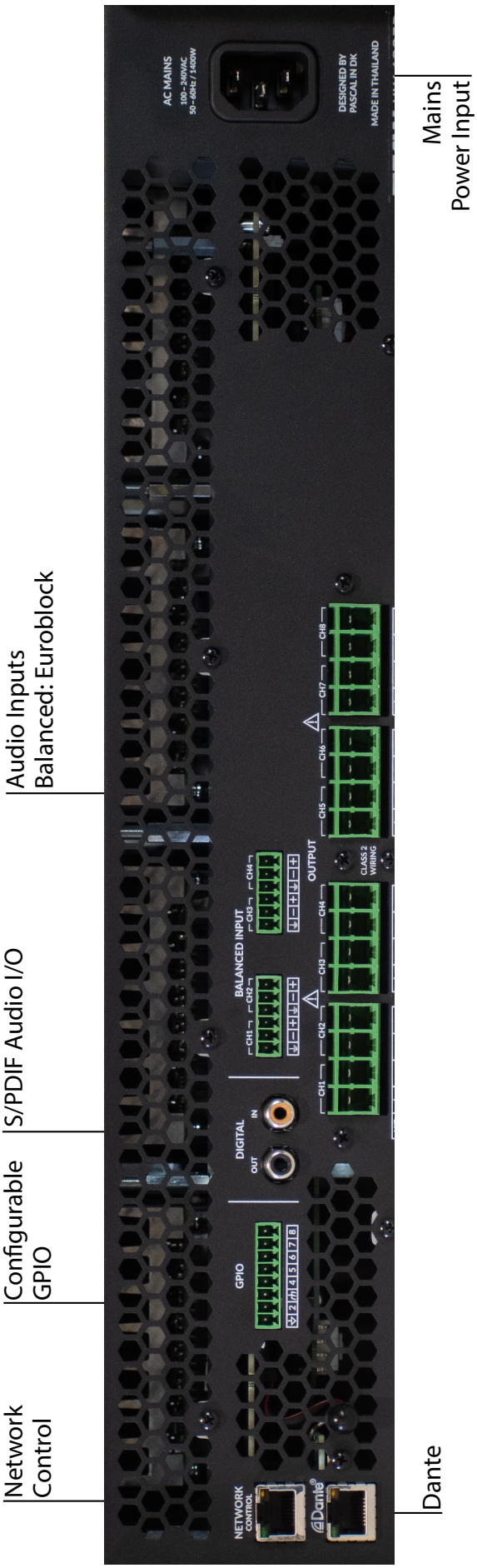


Diagram 7A
UXA4807D rear panel connections

Connections

7.4 Speaker Cable Gauge

UXA4807D speaker connection cable gauge should be chosen appropriately to reflect the type of installation. The adjacent tables specify the appropriate cable gauge and maximum cable length for less than 0.5dB cable loss in Lo-Z mode and less than 1.0dB cable loss in Hi-Z mode.

Cable Gauge Table

Lo-Z installations, 0.5dB attenuation. 2 Ω, 4 Ω & 8 Ω loads

Cable Cross Section (mm^2)	Cable Gauge (AWG)	Max Cable Length (Metres, 2 Ω load)	Max Cable Length (Metres, 4 Ω load)	Max Cable Length (Metres, 8 Ω load)
0.75	≈18	N/A	5	10
1.5	≈16	5	10	20
2.5	≈14	8	17	35
4.0	≈12	14	28	55

Cable Gauge Table

70V Hi-Z installations, 1.0dB attenuation

20 speakers evenly distributed

Cable Cross Section (mm^2)	Cable Gauge (AWG)	Max Cable Length (Metres), (1000 W/channel)	Max Cable Length (Metres), (1200 W/channel)
0.75	≈18	25	20
1.5	≈16	50	40
2.0	≈14	80	60
3.5	≈12	125	100

Cable Gauge Table

100V Hi-Z installations, 1.0dB attenuation

20 speakers evenly distributed

Cable Cross Section (mm^2)	Cable Gauge (AWG)	Max Cable Length (Metres), (1000 W/channel)	Max Cable Length (Metres), (1500 W/channel)
0.75	≈18	50	30
1.5	≈16	100	60
2.0	≈14	160	100
3.5	≈12	250	160

7.5 GPIO Connections

If any UXA4807D GPIO functionality is required, cables will need to be connected to the supplied GPIO connector. Connecting cables to the GPIO connector is illustrated in **Diagrams 7D and 7G** for two/four, and eight output amplifiers respectively..

7.6 Network Connections

UXA4807D Control

UXA4807D amplifiers are TCP/IP network connected devices that are configured via a web page based interface. Wired (Ethernet) and wireless (WiFi) connection options are available. Connecting UXA4807D amplifiers to a TCP/IP network is described in **Section 5** of this manual. If a wired connection is used, connect an Ethernet cable to the amplifier rear panel Network Control socket.

Audinate Dante®

UXA4807D two and four output amplifiers are optionally compatible with Audinate Dante® audio over IP (AoIP) networks and installations. Connect to a Dante® network via the amplifier rear panel Dante® socket and configure the network as required using the Audinate Dante® Controller Mac OS and Windows application available for download from: www.audinate.com/products/software/dante-controller.

Connections

Diagram 7B

Two and **four** output amplifier balanced analog **input** cable connections.

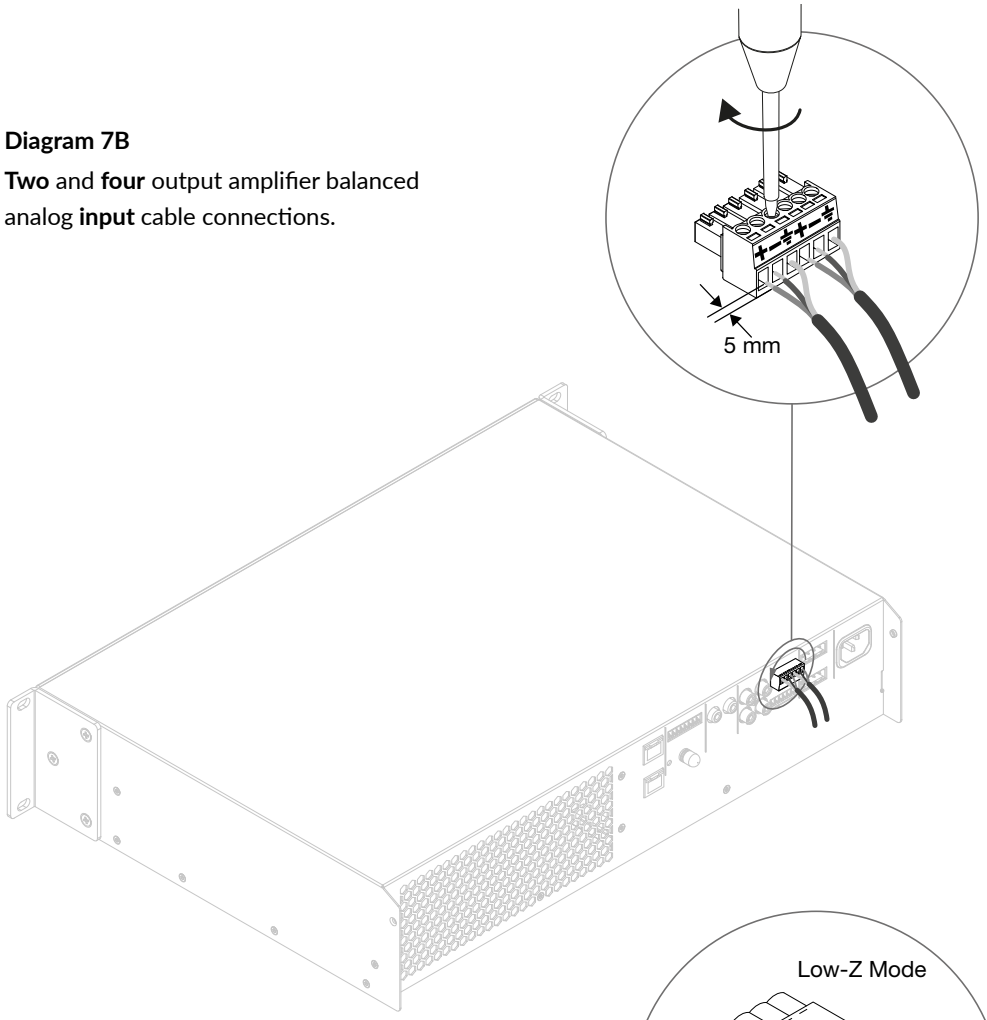
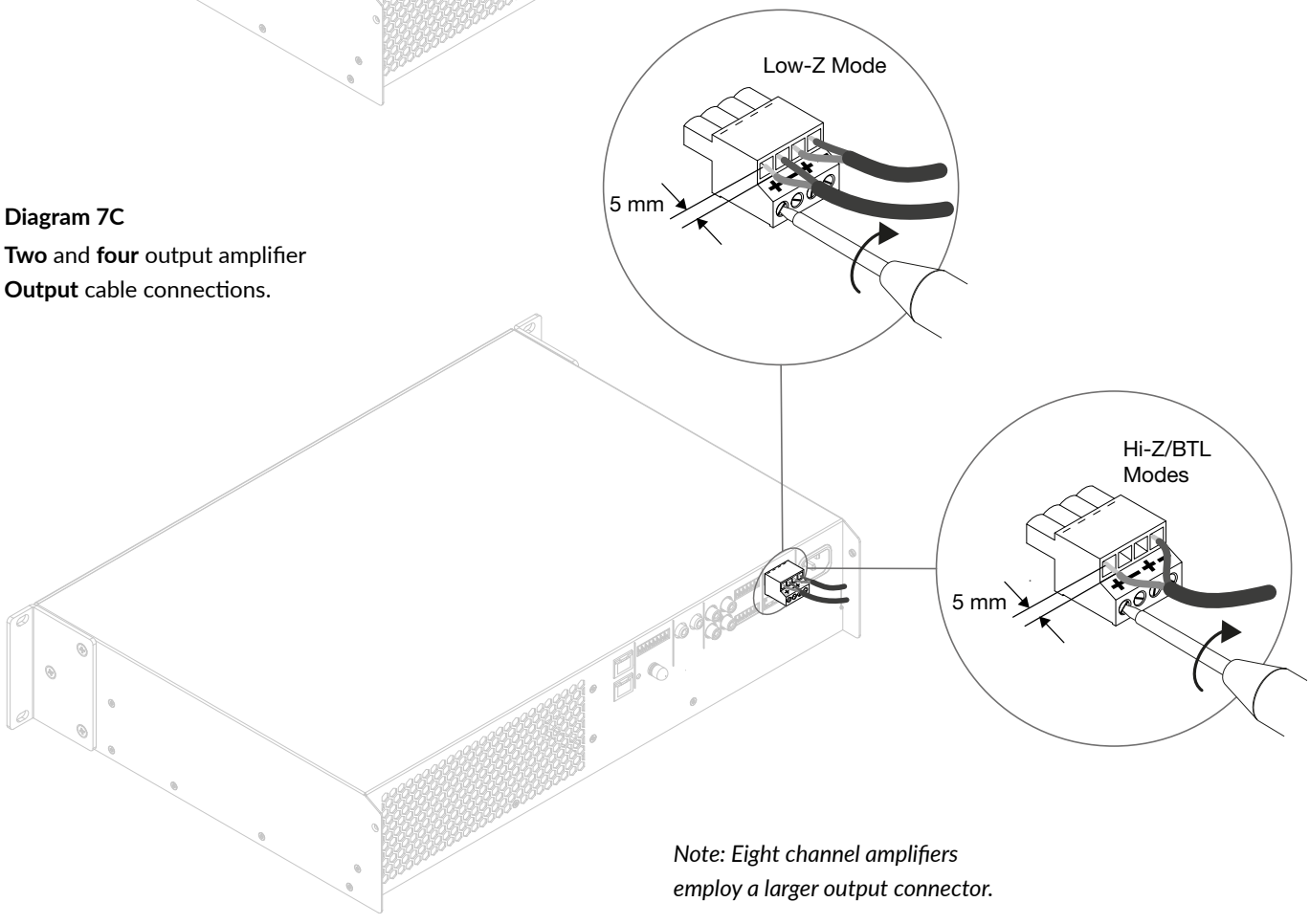


Diagram 7C

Two and **four** output amplifier **Output** cable connections.



Note: Eight channel amplifiers employ a larger output connector.

Connections

Diagram 7D

Two and **four** output amplifier **GPIO** cable connections.

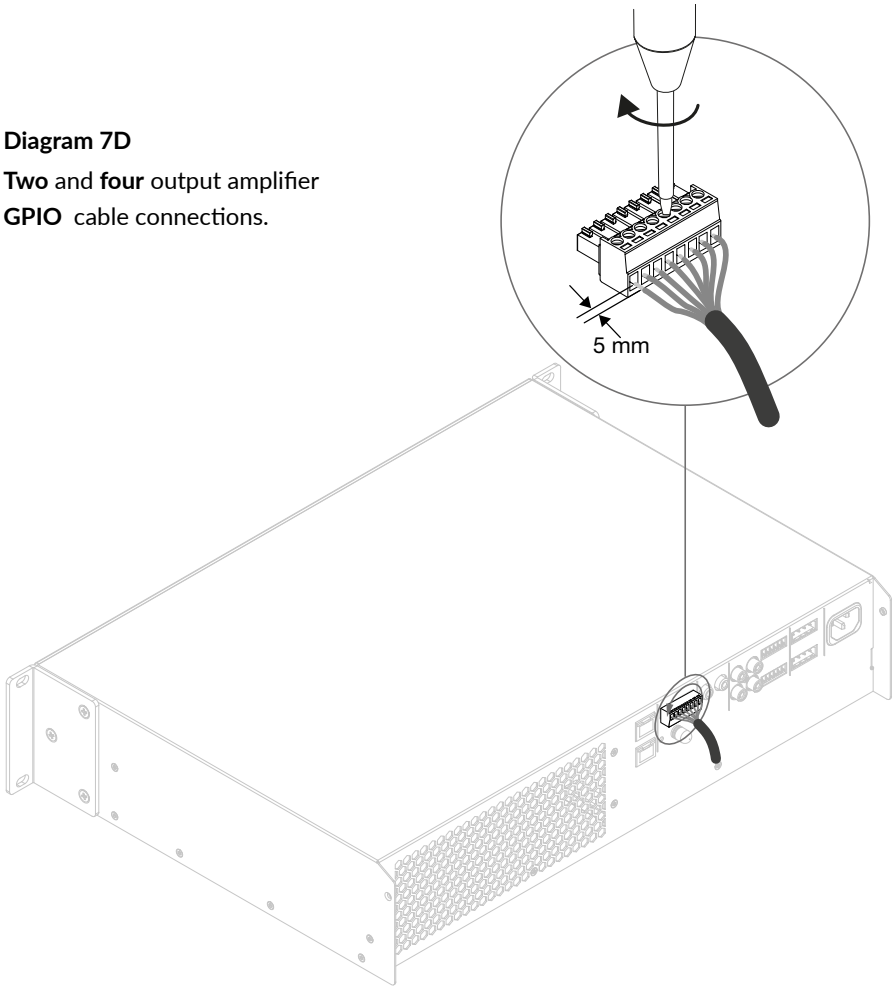
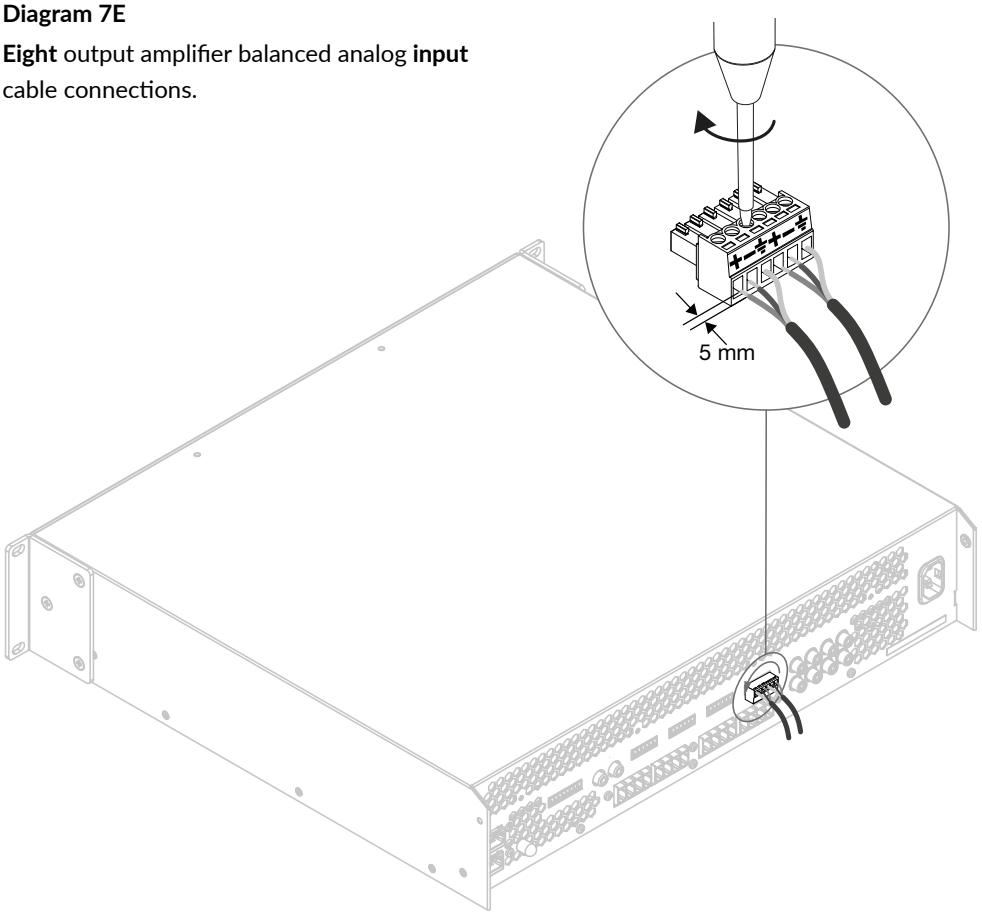


Diagram 7E

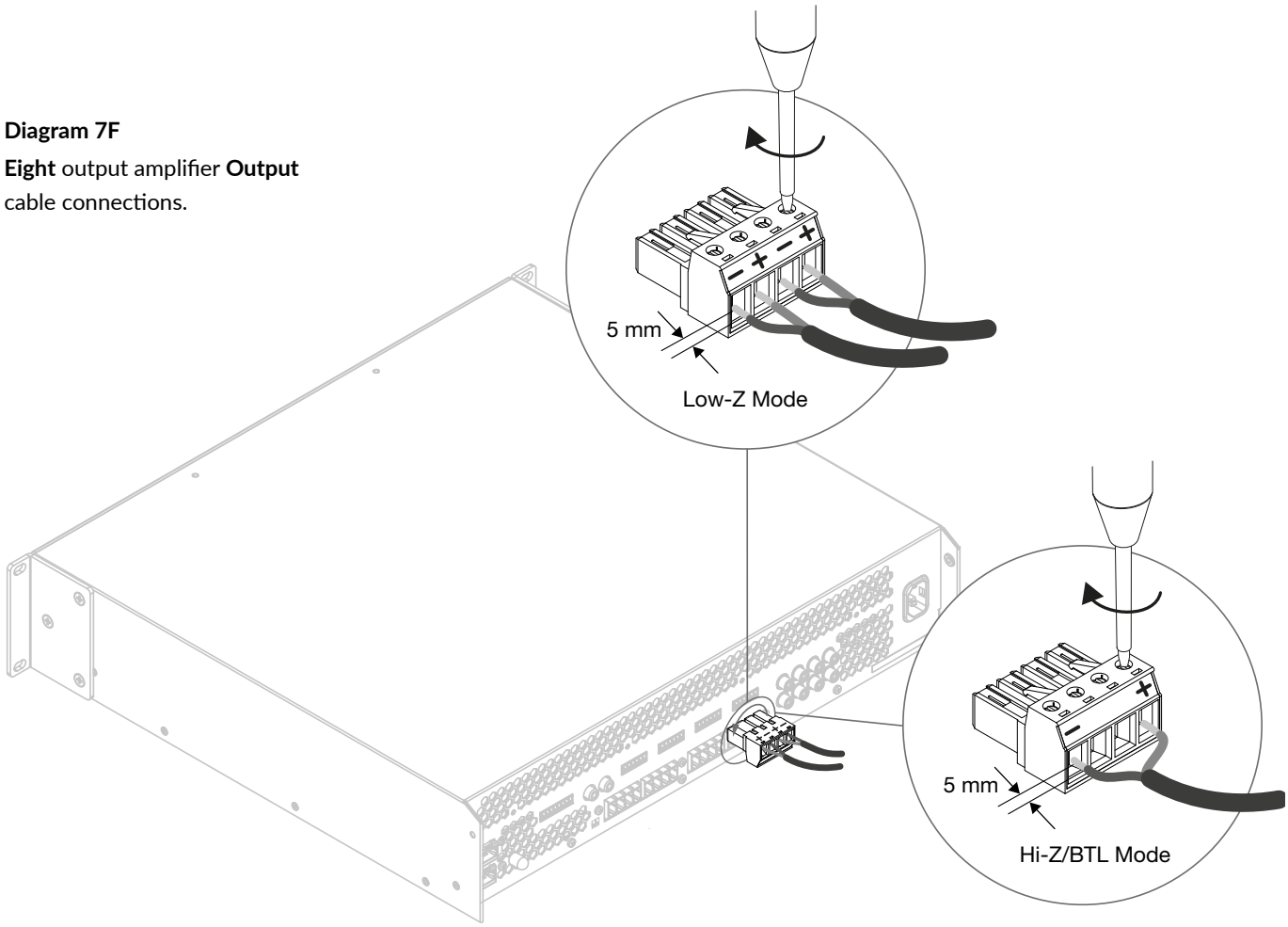
Eight output amplifier balanced analog **input** cable connections.



Connections

Diagram 7F

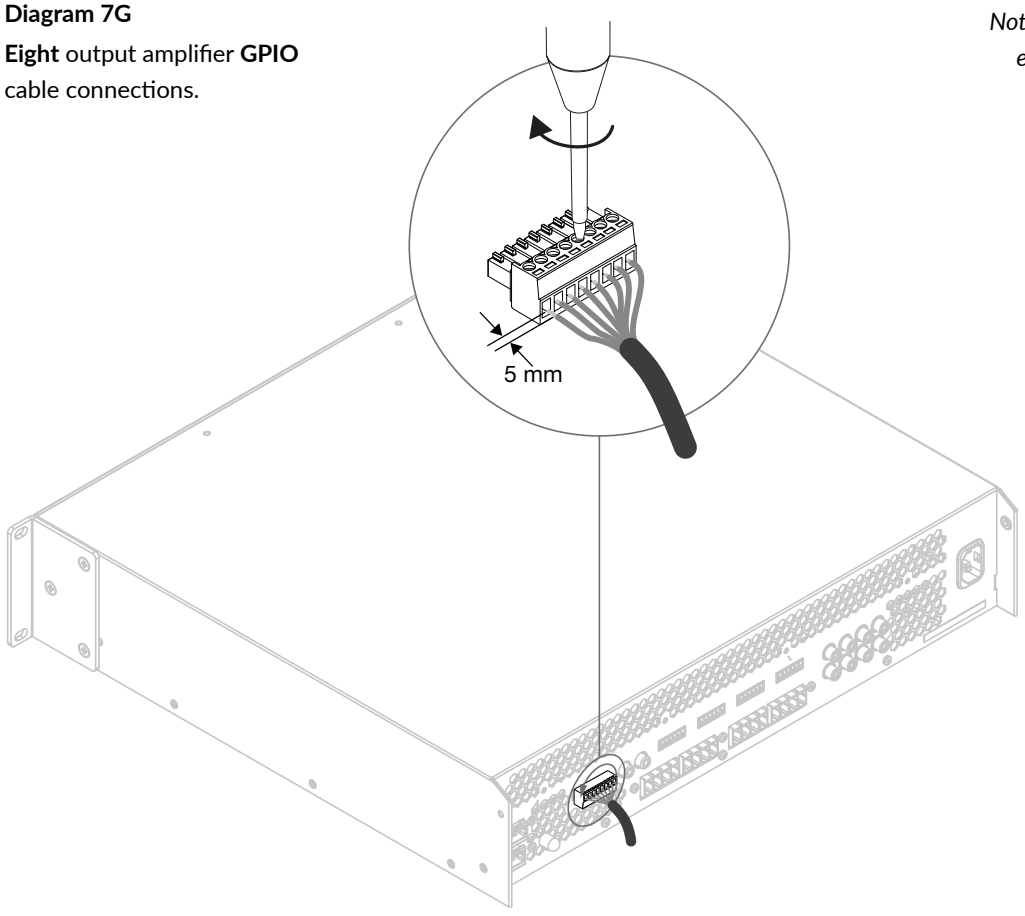
Eight output amplifier **Output** cable connections.



Note: Two and four channel amplifiers employ a smaller output connector.

Diagram 7G

Eight output amplifier **GPIO** cable connections.



Operation

8. Operation

Once all connections have been made and configuration options selected, UXA4807D amplifiers are ready for use. If an input signal above -60dB is present on any input, the front panel Input and Standby indicators will illuminate green to indicate normal amplifier operation. Audio will be heard from any connected speakers.

Note: UXA4807D amplifiers will by default not wake from Standby Mode unless an input signal is present, a network 'ON' command is received, or an external standby switch (or 12V trigger) is operated. Standby behaviour can be configured via the Power Management menu of the Control Web App Settings Tab.

Amplifier outputs will mute if no input signal is present for 5 minutes, and the amplifier will switch automatically to Standby Mode if no signal is present on any input for more than 15 minutes. Alternative standby and mute delay times can selected via the **Settings Tab**. Amplifier cooling fan speed is temperature controlled. The fan will switch off when the amplifier enters standby mode.

8.1 Front Panel Indicators

UXA4807D amplifier front panel indicators illuminate to indicate the following operational states:

Status: Off – Mains power disconnected.
Green – Amplifier operational.
Pulse Green – Standby Mode.
Amber – GPIO triggered Standby Mode

Input: Off – No input signal present.
Green – Signal present on one or more inputs.
Amber – Signal limiting/clipping on one or more inputs.

Output: Off – No output signal present.
Green – Signal present on one or more outputs.
Amber – Signal limiting/clipping on one or more outputs.
Red – One or more channel pair is in overload/protection mode.

Network: Off – No Ethernet network detected.
Green – Ethernet network detected.

WiFi: Off – WiFi disabled.
Green – WiFi enabled.

8.2 Default Reset

UXA4807D amplifiers can be returned to their default settings via either the Control Web App **Settings Tab** or through the front panel power button.

To reset the amplifier using the front panel power button, follow the steps below:

- Disconnect the amplifier from mains power.
- Press and hold the front panel power button while simultaneously reconnecting mains power.
- Continue to hold the front panel power button for 3 to 5 seconds as the amplifier restarts.

The amplifier will restart with all settings at their default state. Any previously configured settings will be deleted.

SPECIFICATIONS

Channels	4 Inputs, 8 Outputs
Output power @ 2.7ohms	8 x 1200W*
Output power @ 4ohms	8 x 800W 4 x 2500W (BTL)*
Output Power @ 8ohms	8 x 400W 4 x 1500W (BTL)
Output Power 70V	4 x 1200W (BTL)
Output Power 100V	4 x 1500W (BTL)
Total System Power	6400W/10000W*
Power Consumption	1400W 3000W**
Dimensions	3.5 x 17.3 x 16.3 in (88 x 440 x 414 mm)
Weight	25.6 lbs (11.6kg)
Output Circuitry	UMAC™ Class D - full bandwidth PWM modulator with ultra-low distortion
Output Voltage	85 Vp / 170 Vpp (unloaded) // Bridged 170 Vp / 340 Vpp (unloaded)
Signal To Noise-Ratio	> 108 dB (A-weighted, 20 Hz – 20 kHz, 8 Ω load)
THD+N (typical)	< 0.05% (20 Hz – 20 kHz, 8 Ω load, 3 dB below rated power)
Frequency Response	20 Hz – 20 kHz (+/- 0.5 dB, 8 Ω load, 3 dB below rated power)
Protection Circuits	Short circuit -, DC -, Undervoltage -, Temperature - and Overload protection
Power Supply	UREC™ universal mains switch mode power supply with Power Factor Correction (PFC) and standby converter
Operating temperature	0-40C
Operating Voltage/ Frequency	Universal Mains, 100V-240V, 50Hz-60Hz
Standby Consumption	<0.5W

* Dynamic Power Headroom
**15A/208V circuit recommended for full power (NEMA L6-15 or equivelent)

Eastern Acoustic Works
19 National Drive | Franklin, MA 02028 | USA
tel 800 992 5013 / +1 508 234 6158
www.eaw.com