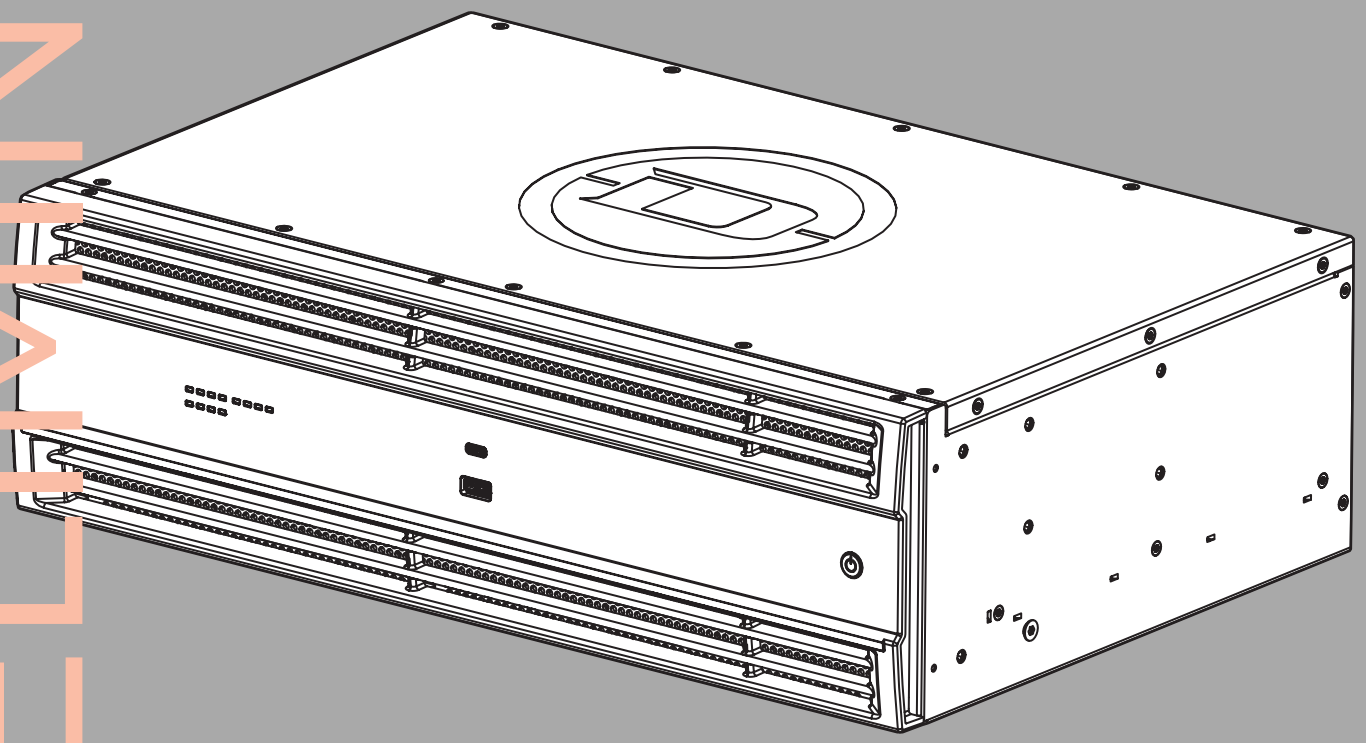
DYNACORD

# PM3000-X Amplified Mixing Processor

PM3000-X, PM3000-X-US

PRELIMINARY



en Installation manual

PRELIMINARY

# Table of contents


| | | |
|---|---|---|
| **1** | **Important product information** | **5** |
| 1.1 | Safety information | 5 |
| 1.2 | FCC information | 5 |
| 1.3 | Disposal instructions | 6 |
| **2** | **About this manual** | **7** |
| 2.1 | Digital document | 7 |
| 2.2 | Intended audience | 7 |
| 2.3 | Copyright notice | 7 |
| 2.4 | Trademarks | 7 |
| 2.5 | Notice of liability | 7 |
| 2.6 | Short information | 7 |
| **3** | **Product introduction** | **8** |
| 3.1 | Features and functions | 8 |
| **4** | **General installation procedures** | **10** |
| 4.1 | Unpacking | 10 |
| 4.2 | Parts included | 10 |
| 4.3 | Dimensions | 11 |
| 4.4 | Mounting options | 12 |
| 4.5 | Ventilation | 14 |
| 4.6 | Mains power connection | 15 |
| **5** | **Controls and connections** | **16** |
| 5.1 | Front panel | 16 |
| 5.2 | Rear panel | 17 |
| 5.3 | Control port | 17 |
| 5.4 | Audio connections | 18 |
| 5.4.1 | Mic/line inputs (channel 1-8) | 18 |
| 5.4.2 | Amplifier outputs (channel 1-4) | 18 |
| 5.4.3 | Audio outputs | 19 |
| 5.4.4 | Footswitch connector | 19 |
| 5.4.5 | USB-C port (front panel) | 20 |
| 5.4.6 | USB Type-A port (front panel) | 21 |
| 5.4.7 | USB power output (rear panel) | 21 |
| 5.4.8 | Network ports | 22 |
| 5.4.9 | MIDI IN connector | 22 |
| **6** | **DSP architecture and routing** | **23** |
| **7** | **Configuration and mixing** | **25** |
| 7.1 | Accessing the Web UI | 25 |
| 7.2 | Mixer interface overview | 26 |
| 7.3 | Input channels | 27 |
| 7.3.1 | Mono input channels 1-8 | 27 |
| 7.3.2 | USB input channel | 28 |
| 7.4 | Effects processing | 29 |
| 7.5 | Output mixing | 30 |
| 7.5.1 | 12-band graphic equalizers | 31 |
| 7.5.2 | MASTER B | 31 |
| 7.5.3 | PHONES | 32 |
| 7.5.4 | MUTE CH1-8 | 32 |
| 7.5.5 | AMPLIFIER VU | 32 |


PRELIMINARY

| | | |
|---|---|---|
| 7.6 | Mixer and effects (FX) presets | 32 |
| 7.6.1 | FX presets | 33 |
| 7.6.2 | Mixer presets | 34 |
| 7.7 | X-TRA processing | 35 |
| 7.8 | Settings | 37 |
| 7.8.1 | Mixer | 38 |
| 7.8.1.1 | Inputs | 38 |
| 7.8.1.2 | General | 39 |
| 7.8.2 | Outputs | 42 |
| 7.8.2.1 | Output presets | 42 |
| 7.8.2.2 | Amplifier outputs | 42 |
| 7.8.2.2.1 | Loading speaker settings | 44 |
| 7.8.2.3 | AUX outputs 1 and 2 (XLR) | 45 |
| 7.8.2.4 | Master B output (1/4” TRS) | 46 |
| 7.8.2.5 | Headphone output | 46 |
| 7.8.2.6 | USB output | 47 |
| 7.8.3 | Control | 47 |
| 7.8.3.1 | Virtual Control Panel | 47 |
| 7.8.3.1.1 | Configuring user controls | 49 |
| 7.8.3.1.2 | USB player page | 51 |
| 7.8.3.2 | Control Ports (GPI) | 52 |
| 7.8.3.3 | MIDI | 53 |
| 7.8.4 | Administration | 53 |
| 7.8.4.1 | Device Settings | 54 |
| 7.8.4.2 | Firmware | 56 |
| 7.8.4.3 | Network - Ethernet 2 | 57 |
| 7.8.4.4 | Security | 58 |
| 7.8.4.5 | Logging | 59 |
| 7.8.4.6 | Miscellaneous | 59 |
| 7.8.4.7 | Ribbon | 59 |
| **8** | **Technical data** | **60** |
| 8.1 | Output power | 60 |
| 8.2 | Amplifier | 60 |
| 8.3 | Mixer | 61 |
| 8.4 | Output signal processing | 63 |
| 8.5 | Connectivity | 63 |
| 8.6 | General | 64 |
| 8.7 | Mains operation and resulting temperature | 65 |


PRELIMINARY

PRELIMINARY

# 1 Important product information

## 1.1 Safety information

1. Read and keep these safety instructions. Follow all instructions and heed all warnings.
2. Download the latest version of the applicable installation manual from www.dynacord.com for installation instructions.**{ Verstallen Hans (BT/MKW2), 6/10/2020 11:31:36 AM:** changed on request of MKP 09-06-20**}**



**Information**
Refer to the Installation Manual for instructions.

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



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



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



**Warning!** Risk of electric shock.

4. System installation and servicing by qualified personnel only, in accordance with applicable local codes. No user-serviceable parts inside.
5. For rack-mounting of system devices, make sure that the equipment rack is of suitable quality to support the weight of the devices. Use caution when moving a rack to avoid injury from tip over.
6. The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such as vases, shall be placed on the apparatus.
7. Mains powered equipment shall be connected to a mains power outlet socket with a protective earthing connection.
8. This unit has an autoranging power supply suitable for 100-240 Vac.
9. To prevent hearing damage do not listen at high volume levels for long periods.

## 1.2 FCC information

**FCC Supplier's Declaration of Conformity**

| | | |
|---|---|---|
| Z01X002915 | PM3000-X-US | Amplified mixing processor, 3kW, US |

**Compliance statement**
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**Responsible party**
**Electro-Voice Dynacord LLC**
12000 Portland Avenue South
MN 55337 Burnsville

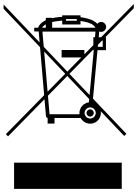
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USA
www.dynacord.com
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Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## 1.3 Disposal instructions

**Old electrical and electronic equipment**

| | |
|---|---|
|  | This product and/or battery must be disposed of separately from household waste. Dispose such equipment according to local laws and regulations, to allow their reuse and/or recycling. This will help in conserving resources, and in protecting human health and the environment. |

PRELIMINARY

# 2 About this manual

The purpose of this manual is to provide information required for installing, configuring, and operating 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).
You can find information about Dynacord products on the product related information at www.dynacord.com.

## 2.2 Intended audience

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

## 2.3 Copyright notice

Unless otherwise indicated, this publication is the copyright of Dynacord. All rights are reserved.

## 2.4 Trademarks

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

## 2.5 Notice of liability

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

## 2.6 Short information

This document is applicable to these products:

| CTN | Description |
|---|---|
| PM3000-X | Powered mixer, 3kW, 4ch, 8 inputs |
| PM3000-X-US | Amplified digital rack mixer, 3kW, US |

PRELIMINARY

# 3 Product introduction

PM3000-X is a powered mixer or amplified mixing processor designed for professional sound reinforcement applications, including houses of worship, community centers, small sports venues, live music clubs, and other installations that require an audio system that is easy to install and operate.
The product combines Dynacord's proven mixing technology, including stereo effects processing derived from the acclaimed PowerMate and CMS mixing consoles, with advanced amplifier and DSP technology from the IX Series amplifiers. PM3000-X integrates an 8-channel microphone/line mixer, USB audio playback, and a four-channel power amplifier in a compact 3 RU, 19-inch rack-mount enclosure.
Each amplifier channel supports both low-impedance and high-impedance loudspeaker systems and can deliver up to 1,000 W per channel within the total system power capacity of 3.000 W.
Configuration, monitoring, and operation are performed through an integrated Web User Interface (Web UI) accessible via web browser. The Web UI includes a mixing section for day-to-day operation and a settings section for system configuration, amplifier setup, loudspeaker processing, user management, and network settings.
The PM3000-X also supports multiple control methods, including customizable user control pages, remote touchscreen operation through a web viewer, analog control ports for switches and potentiometers, and MIDI control integration.

## 3.1 Features and functions

- 4 amplifier channels with FIR-Drive speaker processing (compatible with all SONICUE speaker databases) with output on twist-lock connectors
- 3,000 W total powerTANK, up to 1,000 W / channel, High-Z and Low-Z
- 8 mic/line inputs with switchable 48V phantom power on XLR/TRS combo connectors
- Emulated PowerMate channel strip, plus **X-TRA** EQ and dynamics
- Acclaimed Dual Dynacord FX processor known from classic PowerMate and CMS
- 2 x 2 USB interface (class compliant) and playback from USB stick (A) - with a full channel strip in the mixer and ducking option when used for BGM
- 4 x 12-band GEQs for mix outputs plus notch filter for AUX OUTPUTS 1 and 2
- Auto mixer option for all mic/line inputs
- XLR balanced outputs for Master and AUX OUTPUTS 1 and 2 with independent speaker processing
- ¼” TRS balanced outputs for Master B (stereo) with independent speaker processing
- Powerful stereo headphone output on ¼” TRS
- ¼” TRS connector for FX mute via footswitch (third-party accessory)
- 3 configurable GPIO ports for hardware remote control
- 2 network ports with integrated switch to connect either directly or via network (incl. Wi-Fi)
- USB-power output on rear panel to power an external Wi-Fi access point
- MIDI IN for remote control from external MIDI controllers
- Two configurable mixing pages with limited access for guest users
- Configurable Virtual Control Panel for remote control and USB file playback
- Dynacord sound quality and reliability, designed in Straubing, Germany, Made in Portugal (EU)

PRELIMINARY




**Figure 3.1:** PM3000-X Web UI

PRELIMINARY

# 4 General installation procedures

Before starting the installation, ensure the following:

- You make use of manufacturer specified installation materials.
- No liquids can spill into or on the products.
- Installation is in a clean environment free of dust.
- The ventilation airflow of the 19" units is not obstructed.
- There is a mains power outlet of sufficient rating close to the intended location of the products.
- Sufficient free space and access at the rear of the 19" units for connectors and wiring.

## 4.1 Unpacking

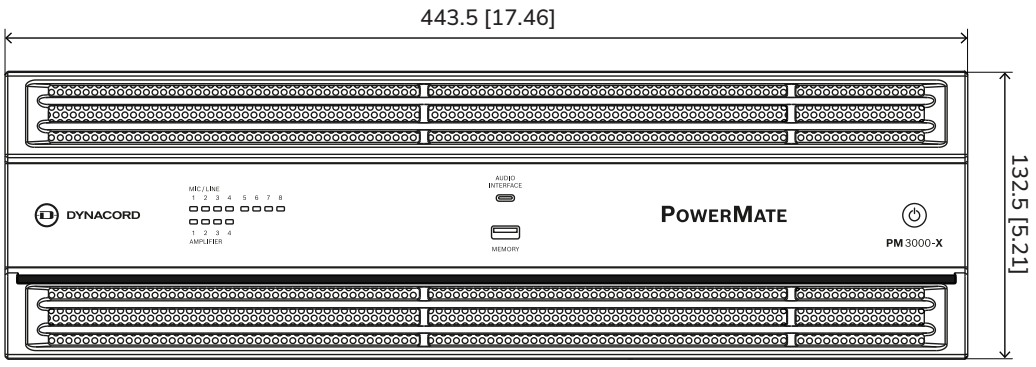
The product should be unpacked and handled with care. If an item appears to be damaged, notify the shipper immediately. If any items are missing, notify your Dynacord representative.
The original packaging is the safest container in which to transport products and can also be used to return products for service, if necessary.

## 4.2 Parts included

Make sure that all parts are included and not damaged. If the packaging or any parts are damaged, contact your shipper. If any parts are missing, contact your Sales or Customer Service Representative.

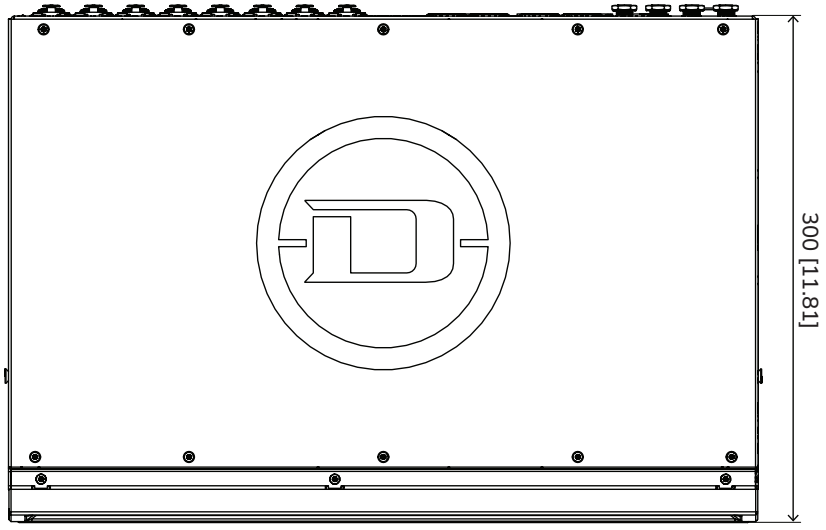
| Quantity | Component |
|---|---|
| 1 | PM3000-X powered mixer |
| 2 | Rack ears |
| 8 | Screws for rack ears |
| 1 | Euroblock control port connector 8-pin |
| 1 | Power cord |
| 4 | Rubber feet |
| 1 | Quick installation guide |
| 1 | Safety and important information booklet |

## 4.3 Dimensions




mm [in]

**Figure 4.1:** Front view dimensions

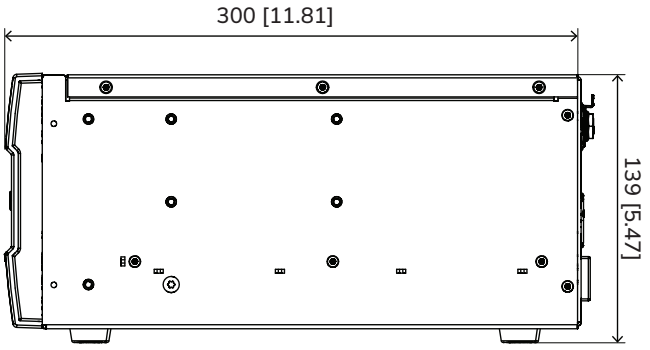



mm [in]

**Figure 4.2:** Upper view dimensions

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mm [in]

**Figure 4.3:** Side view dimensions

## 4.4 Mounting options

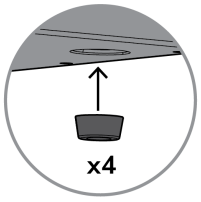
PM3000-X supports three mounting options:

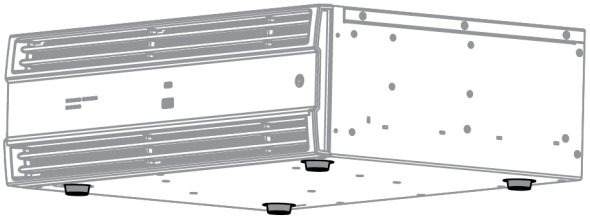
- Desktop mounting
- Rack mounting
- Under-table mounting

### Desktop mounting

To install the PM3000-X on a desktop:

- Attach the four supplied rubber feet to the bottom of the enclosure.



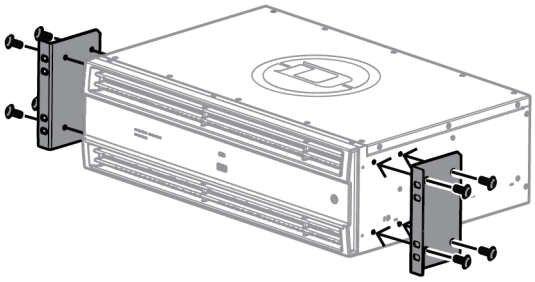



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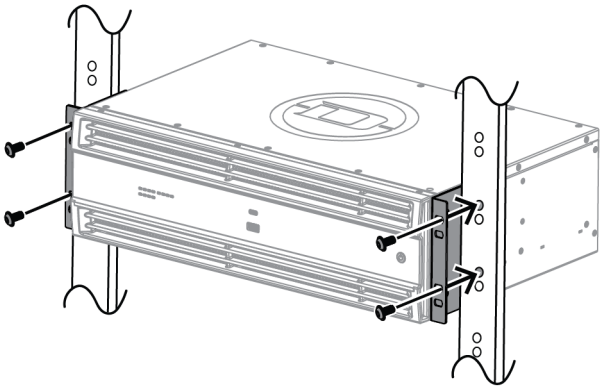
**Rack mounting**

To install the PM3000-X in a rack:

1. Using the supplied screws, attach the rack ears to the left and right front of the housing.



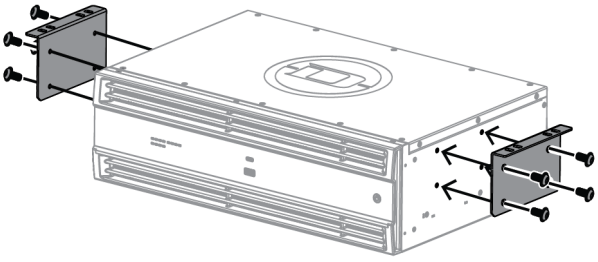
2. Mount the PM3000-X in a 19-inch equipment rack using suitable rack screws and washers (not supplied).



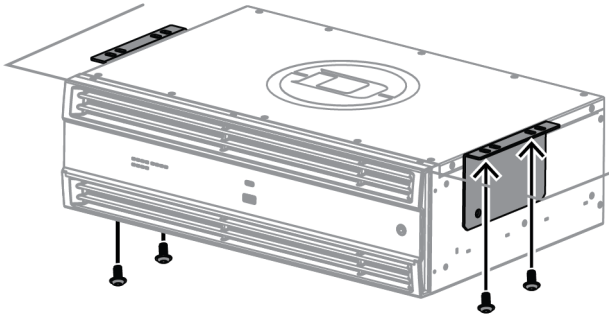
**Under-table mounting**

To install the PM3000-X under a table or desk:

1. Using the supplied screws, attach the rack ears to the left and right upper sides of the housing.



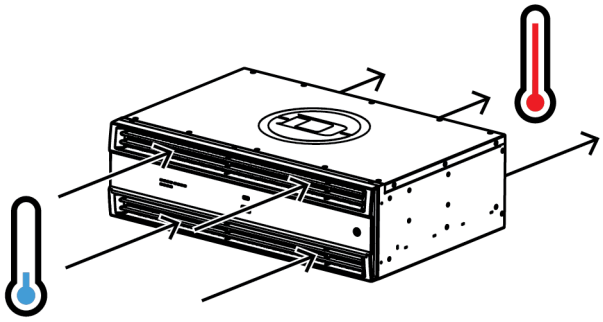
2. Secure the PM3000-X to the mounting surface using suitable screws.



**Caution!**
The PM3000-X weighs approximately 10 kg (22 lb). Use appropriate mounting hardware and support the unit during installation to prevent injury or equipment damage.

## 4.5 Ventilation

Ensure the PM3000-X gets cool air from the front and can exhaust the warm air to the rear.



**Caution!**
Blocking/closing the power amp's ventilation louvers is not permissible. Without sufficient cooling/ventilation, the power amplifier may enter protect mode.
Keep ventilation louvers free from dust to ensure unhindered airflow.

**Notice!**
Do not use the power amplifier in direct sunlight or near heat sources, like heater blowers, stoves, or any other heat radiating devices.

**Notice!**
Do not use the power amplifiers in an environment where temperatures are below 5 °C (41 °F) or exceed +40 °C (104 °F).

For fixed amplifier installations in a device control room that incorporate a central air-cooling system or air conditioners, calculating the maximum heat emission may be necessary.

PRELIMINARY

## 4.6 Mains power connection

The PM3000-X series products receive their power supply via the IEC MAINS inlet connector that will accept voltages from 100 to 240 volts AC, 50-60 Hz. Only use the included AC cable or AC cables approved for your country of use. During installation, always separate the device from the mains. Connect the device only to a mains network once the device is ready for operation.

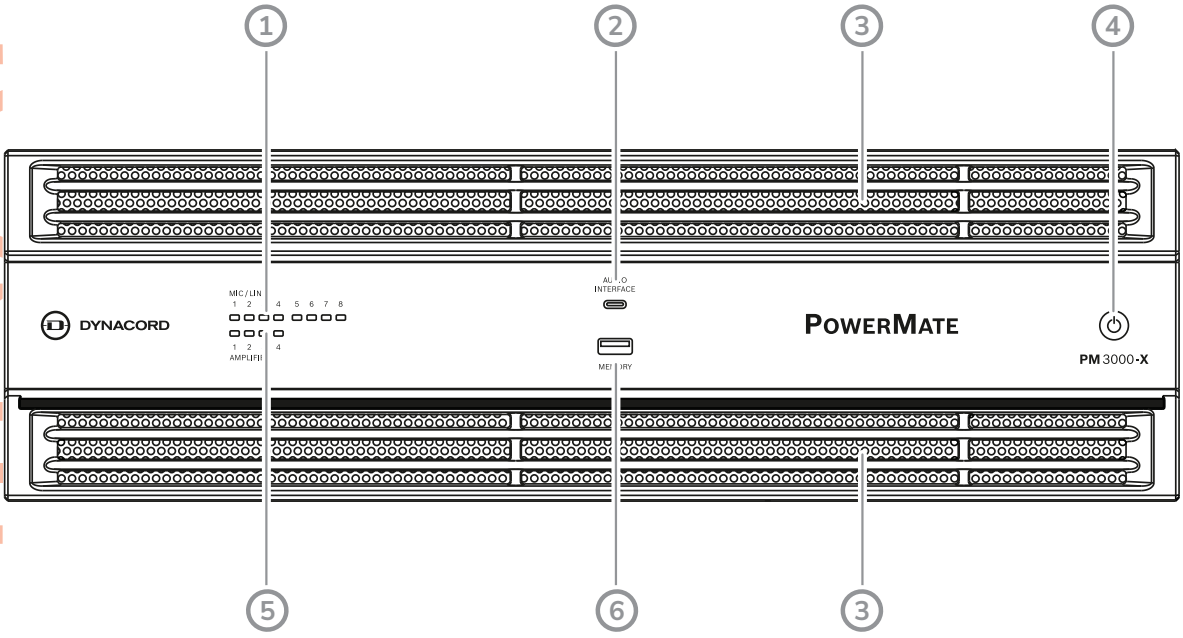


**Warning!**
PM3000-X series is designed to tolerate mains power voltages +/-10% above/below the specified range. Mains power voltage outside that range can cause the amplifier to work at reduced performance, shut-off and in worst case even get damaged.

PRELIMINARY

# 5 Controls and connections

## 5.1 Front panel

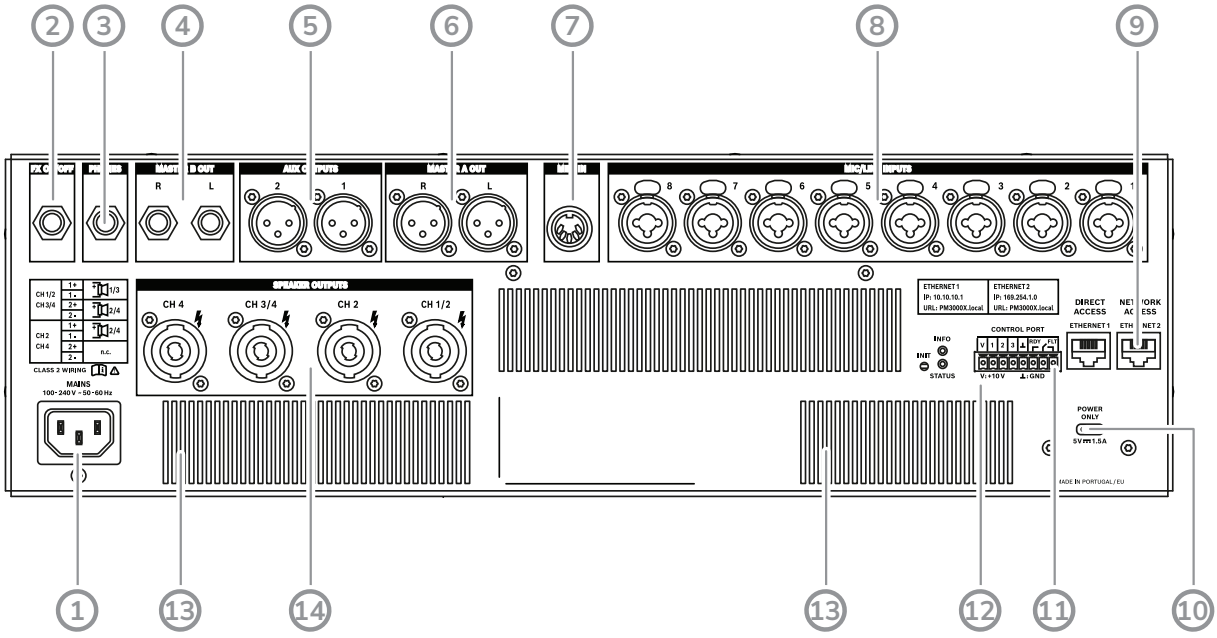



1. Input signal LEDs
2. USB-C port (USB audio interface)
3. Ventilation inlet
4. Standby/Connect button
5. Amplifier output signal LEDs
6. USB Type-A port (USB flash drive)

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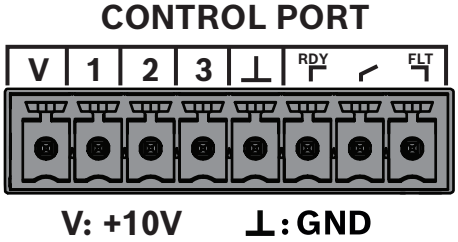
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## 5.2 Rear panel




1. Mains power inlet
2. Footswitch connector (FX on/off)
3. Stereo headphone output
4. MASTER B outputs (L/R)
5. AUX 1 and AUX 2 outputs
6. MASTER A outputs (L/R)
7. MIDI IN connector
8. Mic/line inputs (channel 1-8)
9. Network ports (LAN)
10. USB power output (power only, no audio or data)
11. GPI control ports
12. Reset button and status LEDs
13. Air outlet
14. Amplifier outputs (channel 1-4)

## 5.3 Control port



PRELIMINARY

The control port features:

– three GPIs (**1**, **2**, **3**) for general purpose inputs
– ready (**RDY**) / fault (**FLT**) contacts
– ground (**GND**) / **+10V** reference pins
– 8-pin Euroblock-type connector

The three GPIs are configurable for control inputs:

– Control inputs change device and system parameters, such as channel mute, preset selection, and others.

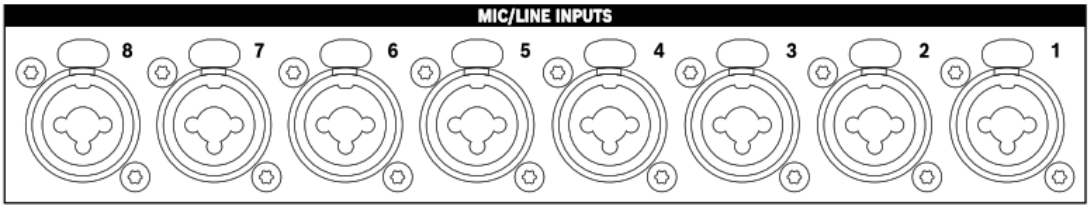
The other ports are potential-free relay toggle contacts for READY (**RDY**) or FAULT (**FLT**) indication.
The GPI port configuration is done in **SETTINGS** > **Control Ports**.

**Ports and operating modes**

| | |
|---|---|
| **Analog Input Range** | 0 V to +13 V, >100 kΩ input resistance |
| **Digital Input Limits** | ON: <1.5 V<br>OFF: >2.0 V, internal Pull Up (10 V/10 kΩ) |
| **Reference Voltage Output** | +10 V, max. 200 mA, supervised, short circuit protected |

## 5.4 Audio connections

### 5.4.1 Mic/line inputs (channel 1-8)

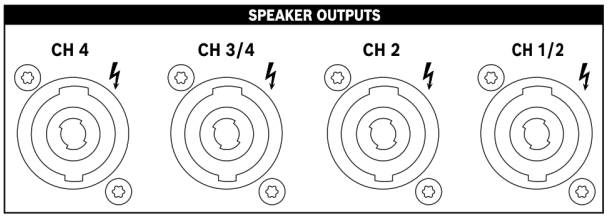



PM3000-X provides combo XLR/TRS connectors. Using the appropriate connector ensures proper level and impedance match.

– Connect microphones to the XLR connectors.
– Connect line level sources to the ¼" TRS connectors.

**Note**: The +48 VDC phantom power is only available on the XLR connectors.
Use balanced cabling whenever possible to prevent unwanted hum and noise.

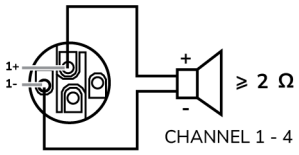
### 5.4.2 Amplifier outputs (channel 1-4)




PM3000-X has four amplifier channels with twist-lock loudspeaker output connectors.
Channels **1** and **2** share one connector, and channels **3** and **4** share one connector. Pins **1+/1-** carry the primary channel, and pins **2+/2-** carry the adjacent channel.
For a single loudspeaker line, connect the loudspeaker to pins **1+** and **1-**.

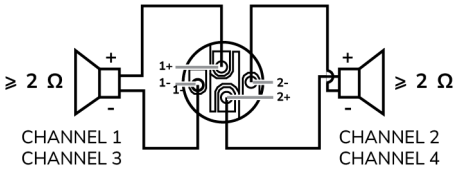
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**CHANNEL 1 - 4**



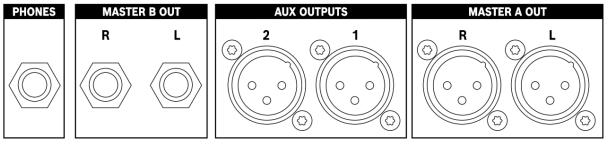

Alternatively, channels **1** and **2** or channels **3** and **4** can be routed through a single four-conductor loudspeaker cable, using pins **1+/1-** for one channel and pins **2+/2-** for the other.

**CHANNEL 1/2, 3/4**




**Note**: For maximum performance, configure the amplifier mode in the **Settings** section to match the impedance of the connected loudspeaker load.

## 5.4.3 Audio outputs



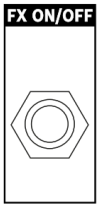

– Use balanced XLR connectors with **MASTER A** outputs (L/R) and **AUX** outputs 1 and 2.
– Use balanced ¼” TRS connectors with **MASTER B** outputs (L/R).

| BALANCED | XLR | ¼” TRS |
|---|---|---|
| + (hot) | Pin 2 | Tip |
| - (cold) | Pin 3 | Ring |
| shield | Pin 1 | Sleeve |

| UNBALANCED | XLR | ¼” TRS |
|---|---|---|
| + (hot) | Pin 2 | Tip |
| - (cold)/shield | Pins 1 + 3 | Ring + Sleeve |

When switched to mono, **MASTER B Left** and **MASTER B Right** outputs provide the same signal. The **PHONES** output uses a ¼" TRS stereo connector and is designed for headphones with an impedance greater than 30 Ω.

## 5.4.4 Footswitch connector



PRELIMINARY

The ¼" TRS footswitch connector allows connection of third-party footswitches for remote activation and deactivation of the FX1 and FX2 effects processors.
The Tip contact controls either both FX1 and FX2, or FX1 and FX2 separately. For information on settings, refer to *General, page 39*.

## 5.4.5 USB-C port (front panel)




PM3000-X includes a class-compliant 2x2 USB audio interface on a USB-C port. The port also provides power to the connected device (5 V, 1.5 A).
When a compatible device, such as a tablet, smartphone, or computer, is connected, audio playback via the USB channel is automatically enabled. For more information on the audio interface, refer to *Configuration and mixing, page 25*.

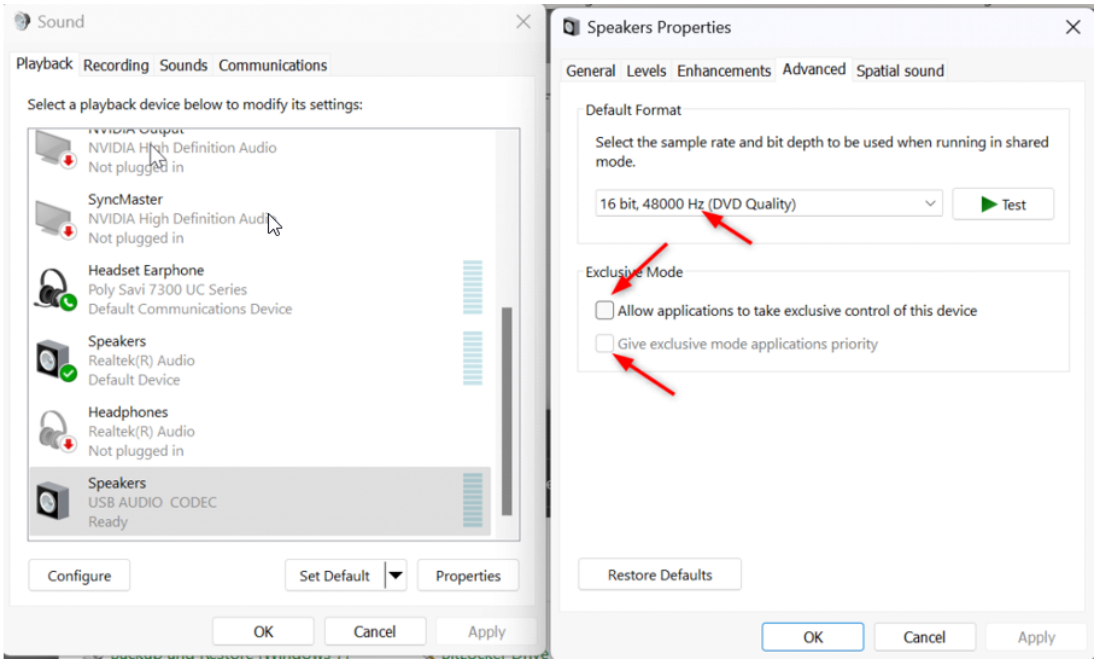
**macOS**

In macOS, the USB audio interface input and output appear as separate audio devices.
To use playback and recording simultaneously with an application that supports only a single audio device, create an **Aggregate Device** in the **Audio MIDI Setup** application.

**Windows**

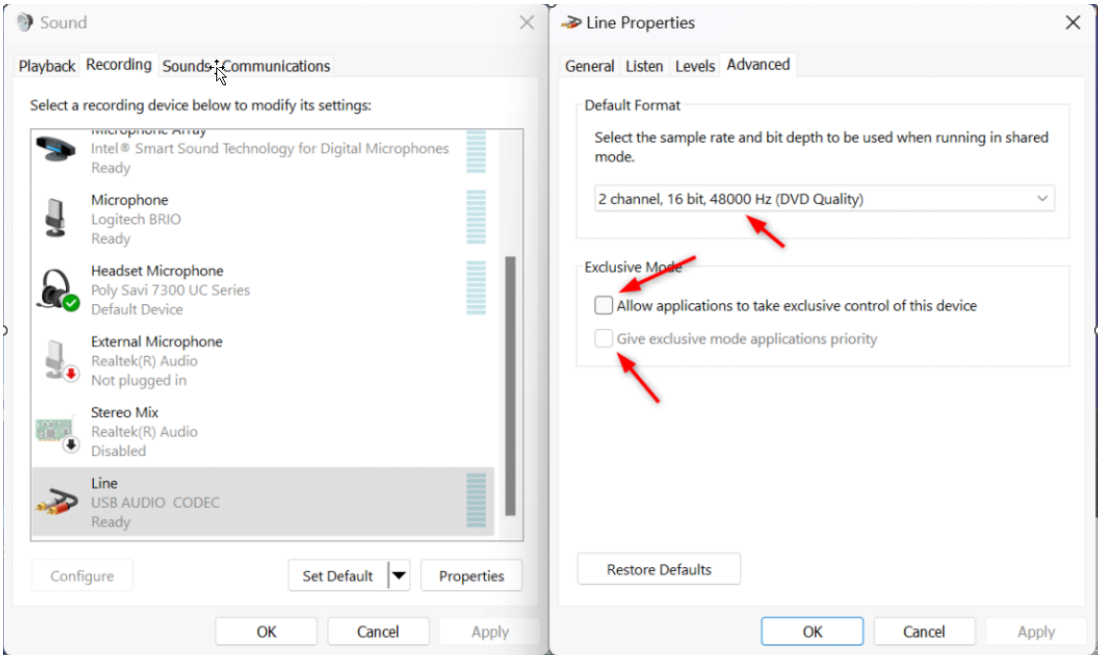
To use playback and recording simultaneously with an application that supports only a single audio device:

– Configure the playback device using the settings described below.



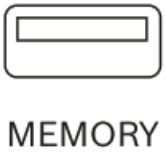

– Configure the recording device using the settings described below.

PRELIMINARY




The sample rate can be selected as required; however, the playback and recording sample rates must be set to the same value.

### 5.4.6 USB Type-A port (front panel)




Located below the USB audio interface, the USB Type-A port supports USB 2.0 flash drives and higher. The port can be used for playback of MP3 and WAV audio files (up to 32-bit/96 kHz). Supported USB flash drive file systems are exFAT and FAT32.

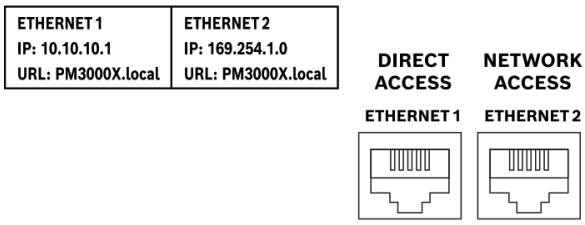
### 5.4.7 USB power output (rear panel)




A USB-C power output is provided on the rear panel and supplies 5 V DC, up to 1.5 A, for powering external devices such as a Wi-Fi access point.
This port is intended for power only and does not support audio or data transmission.

PRELIMINARY

## 5.4.8 Network ports



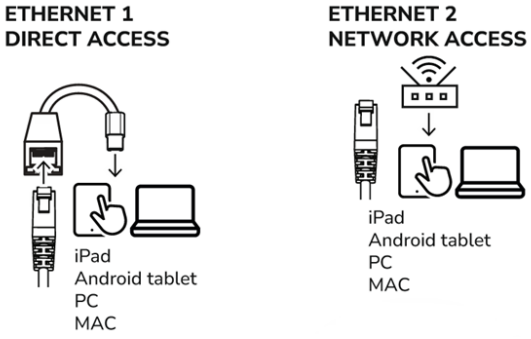

PM3000-X includes two RJ45 Ethernet ports:

- **ETHERNET 1** for direct connection to a computer or mobile device.
- **ETHERNET 2** for connection through a network, including a network with a Wi-Fi access point.

A network connection to a device running a supported web browser is required for configuration, monitoring, and mixing. The Web UI is designed to operate with commonly used web browsers. However, future browser updates may affect functionality or performance.

The PM3000-X can be accessed in either of the following ways:

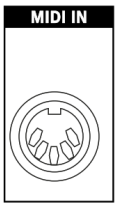
- Direct connection using an RJ45 Ethernet cable connected to ETHERNET 1.
- Network connection through an external Wi-Fi access point or network switch connected to ETHERNET 2.




Many modern computers and mobile devices do not include a built-in RJ45 Ethernet port. In these cases, a compatible USB-C-to-Ethernet adapter may be required.

**Note**: Most Windows PCs, Mac computers, and iPads support wired Ethernet connections through compatible USB-C-to-Ethernet adapters. Some Android devices do not support Ethernet connectivity through their USB-C port. In such cases, connect to the PM3000-X wirelessly through a Wi-Fi network.

## 5.4.9 MIDI IN connector




PM3000-X includes a **MIDI IN** connector for remote control of supported parameters using an external MIDI controller.

For information on available MIDI-controllable parameters, refer to MIDI-controllable parameters.

MIDI settings can be configured in the **Settings** section of the Web UI.

# 6 DSP architecture and routing

The PM3000-X combines a digital mixing engine, signal processing, flexible routing, and a four-channel power amplifier within a single device. The internal routing architecture allows microphone, line, USB audio, and effect signals to be processed, mixed, and distributed to multiple outputs, including the master buses, AUX buses, headphone output, USB recording output, line outputs, and amplifier channels.

Each input channel provides dedicated signal processing, including filtering, dynamics, equalization, and routing functions. Signals can be routed to the main mix, AUX buses, and internal effects processors, allowing the PM3000-X to support a wide range of sound reinforcement applications.

The output section includes independent processing for the amplifier channels, master outputs, and AUX outputs. Available processing functions include delay, equalization, crossover filters, FIR-Drive loudspeaker processing, and loudspeaker protection limiters, enabling the system to be optimized for a wide variety of loudspeaker configurations.

The following block diagrams provide an overview of the signal flow and processing stages within the PM3000-X.

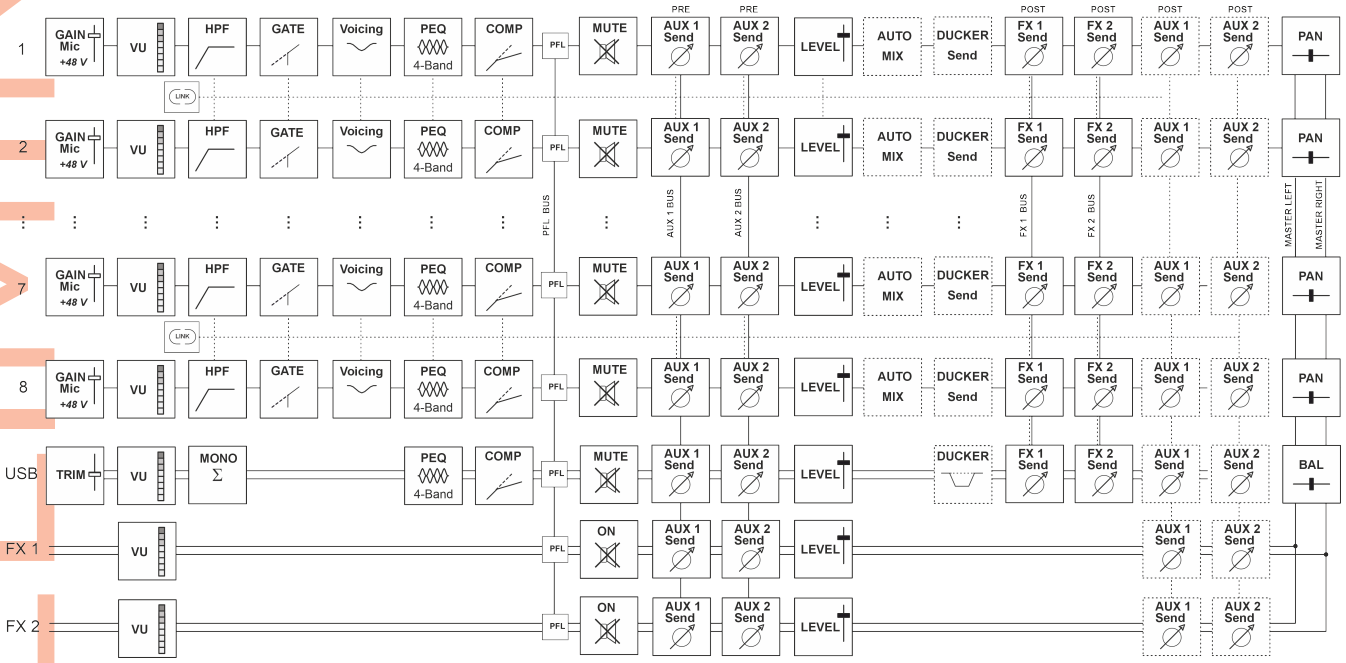



**Figure 6.1:** Block diagram for inputs



PRELIMINARY

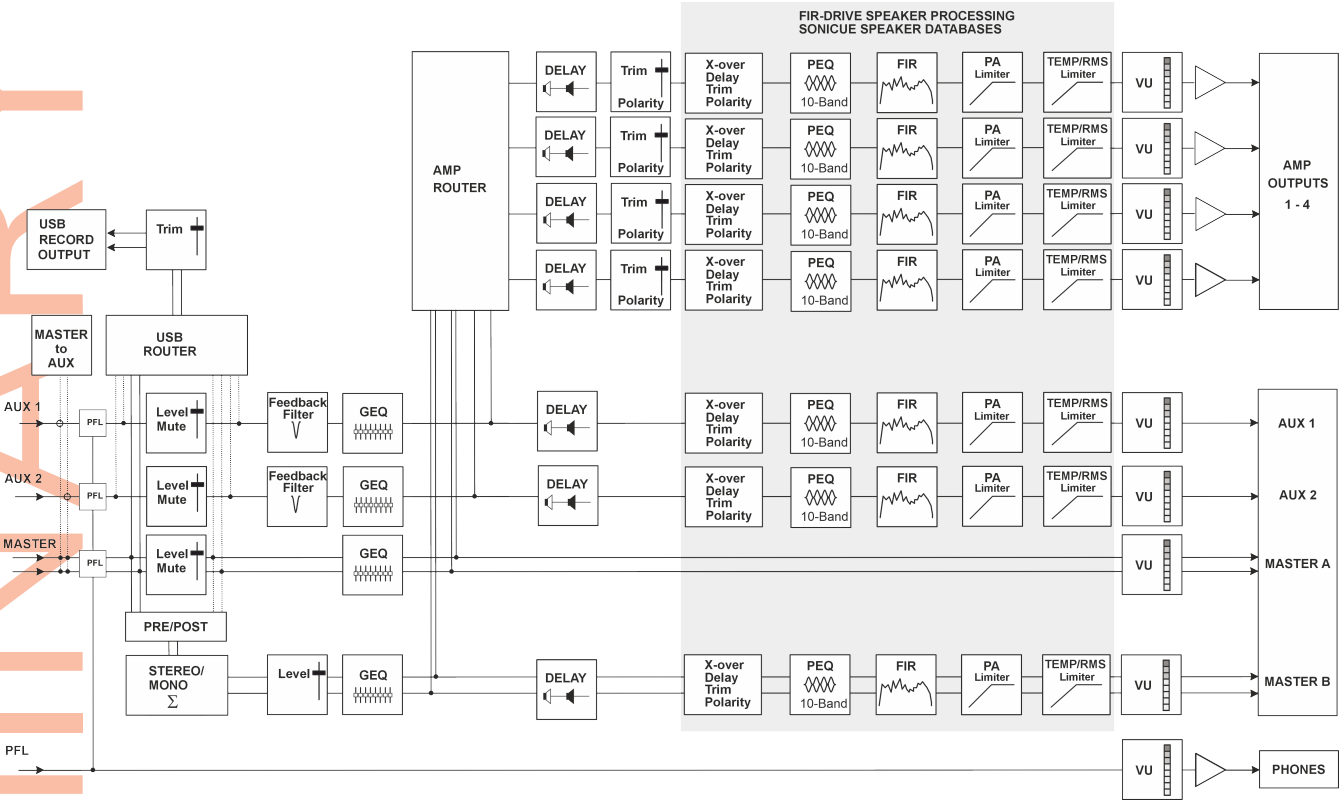



**Figure 6.2:** Block diagram for outputs

PRELIMINARY

PRELIMINARY

# 7 Configuration and mixing

## 7.1 Accessing the Web UI

The PM3000-X is configured and operated through a web-based user interface (Web UI).
To access the Web UI:

1. Connect a computer, tablet, or mobile device to the PM3000-X network.
2. Open a supported web browser.
3. Enter the following address in the browser address bar:
   PM3000X.local

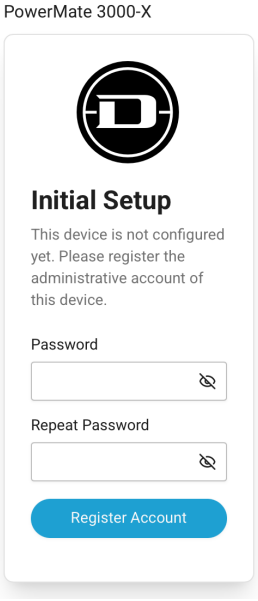
The PM3000-X can also be accessed using its IP address.

| Connection | IP address |
|---|---|
| ETHERNET 1 (direct connection) | 10.10.10.1 |
| ETHERNET 2 (network connection) | 169.254.1.10 |

**Table 7.1:** Default IP addresses

### Administrator login

When connecting to the PM3000-X for the first time, you will be prompted to create an administrator password.




The administrator account provides full access to:

- Mixer settings
- Output configuration
- User management
- Virtual Control Panel configuration
- System administration

**Notice!**

Record the administrator password and store it in a secure location. If the password is lost, the device must be reset to factory defaults to regain administrator access.

If enabled in **Settings** > **Administration** > **Security**, the front-panel button can be used as an alternative administrator login method.

## 7.2 Mixer interface overview

After login, the mixer page opens.




**Figure 7.1:** PM3000-X Web UI

The mixer page contains two primary elements:

- Mixer workspace
- Ribbon bar

### Ribbon bar

The ribbon bar is the primary control element used to adjust parameter values.

The ribbon bar provides an alternative method for adjusting parameter values and is particularly useful when operating the PM3000-X from a touchscreen device. It performs a similar function to a mouse scroll wheel, allowing precise adjustment of the selected parameter.

After selecting a parameter, its current value appears in the ribbon bar. Values can be adjusted using:

- Ribbon slider
- Mouse scroll wheel (if connected to the device)
- Buttons (+/-)

The + and - buttons provide fine adjustment in predefined increments.

The ribbon bar also provides access to:

PRELIMINARY




- **Settings** - Opens the Settings menu.
- **USB** - Opens the USB player window.
  - It requires a USB flash drive with audio files connected to the USB Media port on the front.
- **MOVE** - Moves the ribbon bar to the left or right side of the screen.

**GUI operation**

Buttons act immediately when clicked or touched.

- Illuminated buttons indicate active functions.
- Dark buttons indicate inactive functions.

Faders and rotary controls can be adjusted directly or through the ribbon bar.

Multiple faders can be adjusted simultaneously on supported touchscreen devices.

## 7.3 Input channels

### 7.3.1 Mono input channels 1-8

The PM3000-X provides eight mono microphone/line input channels.




**48V**

Indication LED for phantom power. Activation in **Settings** > **MIXER** > **Inputs**.

**LINK**

Links two adjacent mono channels as a stereo channel pair. All channel parameters are linked except PAN.

**GAIN**

Adjusts the input gain from 0 dB to +60 dB.

**HPF**

Activates an 80 Hz, 24 dB/oct high-pass filter to reduce unwanted low-frequency.

**VOICE**

Activates Dynacord's Vocal Voicing filter, optimized to improve speech intelligibility and to bring vocals to the front of the mix.

**4-Band EQ**

Each channel provides:

- Lo-Shelf (60 Hz)
- Low-Mid (300 Hz)
- High-Mid (3 kHz)
- Hi-Shelf (12 kHz)

Each band provides +/- 15 dB adjustment.

Additional equalizer options are available in *X-TRA processing, page 35*.

PRELIMINARY

PRELIMINARY




**FX1 and FX2**

Adjust the amount of signal sent to the internal effects processors.

FX sends are post-fader.

**AUX 1 and AUX 2**

Adjust the amount of signal sent to the AUX buses.

AUX sends are pre-fader by default.

The AUX send configuration can be changed in:

– **Settings** > **MIXER** > **General**

**PAN**

Positions the mono channel signal within the stereo master image.

**BAL**

Positions the stereo USB channel signal within the stereo master image.

**MUTE**

Mutes the channel and all associated sends.

**LABEL**

Names the channel.

The label name can be changed in:

– **Settings** > **MIXER** > **Inputs**

**PFL**

Routes the channel to the headphone monitoring bus.

**AUTO**

Indicates participation in the automixer.

– Blue: Channel assigned to Automixer
– Green: Currently dominant channel

To assign a channel to the automixer go to **Settings** > **MIXER.**

**VU meter**

Displays the input signal level.

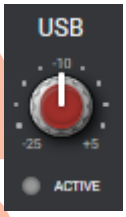
Range: -60 dB to +18 dB (peak)

**Channel fader**

Adjusts the channel level sent to the master bus.

Range: ∞ to +10 dB

## 7.3.2 USB input channel




The USB channel supports both:

– USB audio interface playback
– USB Player playback

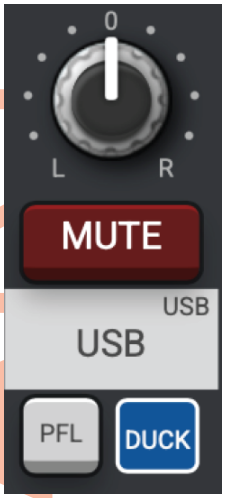
By default, the USB channel uses the USB audio interface and the File player as source.

**ACTIVE** LED on indicates that USB audio interface is active.

The USB channel provides the same processing and send functions as the mono input channels.

Additional controls include:

– **TRIM**
  – Adjusts the USB input level from -25 dB to +5 dB.
– **BAL**
  – Adjusts the stereo image of the USB audio signal.




- **DUCK**
  - Enabled under **Settings** > **MIXER**
  - Indicates that USB ducking is enabled
  - When active, selected microphone channels automatically reduce the USB source level whenever the signal level is above the set threshold.

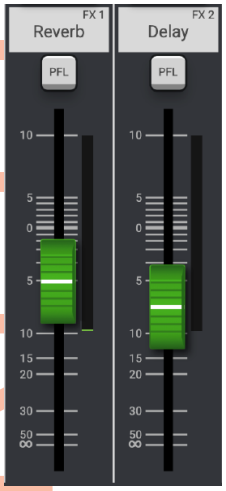
## 7.4 Effects processing




The PM3000-X includes two independent stereo effects processors.
Each effects processor provides a range of reverb, delay, and modulation effects derived from the PowerMate platform.

**FX to AUX**
Adjusts the amount of FX signal sent to the AUX buses.
When an AUX bus is configured for post-fader operation, the FX return fader also affects the signal level sent to that AUX bus.

**ON**
Enables or disables the effects processor.




**LABEL**
Edited in **Settings** > **MIXER** > **Inputs**

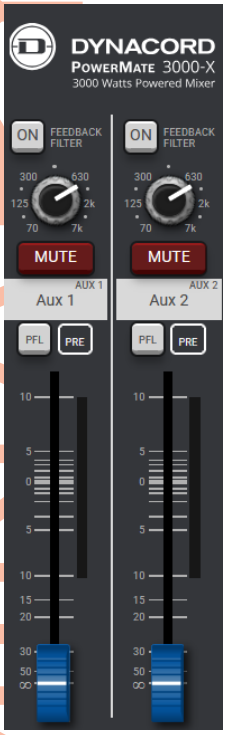
**PFL**
Routes the FX return signal to the headphone monitoring bus.

**VU meter**
Displays the FX return level. Range is from -60 dB to +18 dB (peak).

**FX channel fader**
Adjusts the FX return level sent to the master bus. Range is from -80 dB to +10 dB.

PRELIMINARY

## 7.5 Output mixing




**AUX 1 & 2 OUTPUTS**

AUX 1 and AUX 2 provide independent mono mix buses.

Signals from input channels and FX returns can be mixed independently and routed to:

– AUX line outputs (XLR outputs on the rear panel that feed powered speakers or external amplifiers)
– Amplifier channels

**ON**

Enables the feedback filter for the selected AUX bus.

**Frequency knob**

Allows to adjust the frequency of the feedback filter. Notch filters have a very narrow bandwidth (or very high Q) and are barely audible, so ideal to reduce a feedback frequency in a monitor application. They are in addition to the 12-band GEQ that's available for the aux sends.

**PFL**

Routes the AUX bus to the headphone monitoring bus.

**PRE**

Indicates post-fader AUX operation.

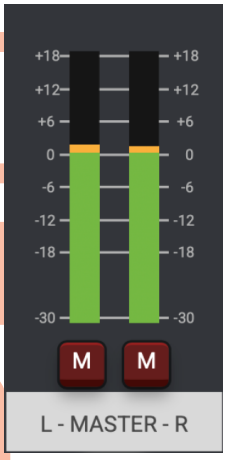
AUX pre/post can be set in **Settings** > **Mixer** > **General**. The default setting is pre-fader.

**VU meter**

Displays AUX bus level. Range is from -60 dB to +18 dB (peak).

**Output fader**

Adjusts AUX output level. Range is from ∞ to +10 dB.




**Master Left-Right Output**

The MASTER bus provides stereo left and right outputs.

The master signal is always present on MASTER (A) and MASTER B output on the rear panel, and can also be routed to:

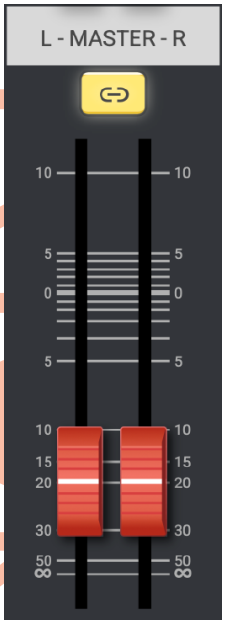
– Amplifier channels
– USB recording output

The VU meter indicates the bus level from -30 dB to +18 dB (peak).

**M**

Mutes the selected output channel. When linked to stereo any of the two mute buttons will also activate the other.

PRELIMINARY




**Stereo link**

Puts a link to faders and mute buttons (default). When not activated Master Left and Master Right outputs can be adjusted individually, which is used when the master outputs are not driving a stereo system but two mono systems that need independent control of volume and mute.

**Output fader**

Adjusts master output level from ∞ to +10 dB.

**Note**: The stereo master features a 12-band stereo graphic equalizer (GEQ). This GEQ is always linked for both master busses.

## 7.5.1 12-band graphic equalizers




The PM3000-X includes four 12-band graphic equalizers (GEQ):

- Two stereo GEQs for MASTER (A) and MASTER B
- Two mono GEQs for AUX1 and AUX2 busses

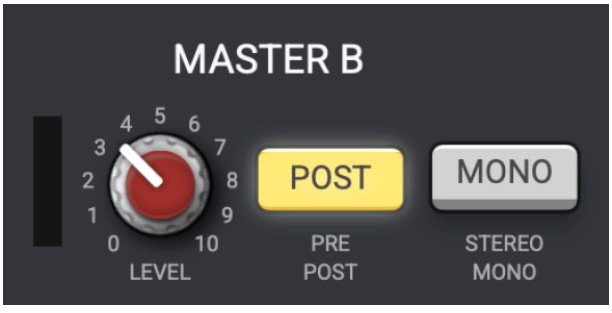
GEQs are used to compensate for room acoustics and optimize system response.

The blue heighted tab shows the GEQ currently selected. Press any other tab to select another GEQ.

**ON** activates the GEQ. This button is also helpful for making fast comparison (with/without GEQ).

The green LED in the selection tab indicates GEQ active: the ON button is activated and at least one frequency is unequal to 0 dB.

## 7.5.2 MASTER B




MASTER B provides an additional output derived from the MASTER bus.

While MASTER B contains the same content as MASTER (A), the output level can be controlled individually.

PRELIMINARY

**POST**

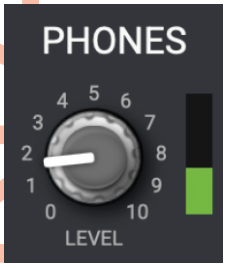
Selects pre- or post-master-fader operation.

- Use PRE if you want to control the MASTER B signal independent of the MASTER (A) fader settings
- Use POST if MASTER B shall be controlled via MASTER (A) faders.

**MONO**

Creates a mono sum of the stereo master signal and delivers this sum to both outputs of MASTER B.
For example, a mono sum of MASTER B can be used to drive a single powered subwoofer.
The output VU meter shows the maximum level of left or right channel.

### 7.5.3 PHONES



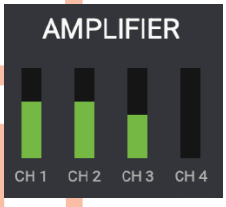

**PHONES** adjusts the headphone output level.
If no PFL source is selected, the headphone output follows the MASTER bus by default. This can be deactivated in **Settings** > **Outputs**.
The VU meter is showing the maximum of left or right channel.

### 7.5.4 MUTE CH1-8




Mutes all microphone/line input channels simultaneously.
The USB input channel remains active.
This function is commonly used for background music playback during breaks.

### 7.5.5 AMPLIFIER VU




The amplifier meters display the output level of each amplifier channel.
Meter colors indicate:

- Green: Normal operation
- Yellow: Limiting active. A gain reduction occurs because of a limiter in a speaker setting, or a limiter in the amplifier.
- Red: Protection mode, amplifier channel switched off, no audio.

## 7.6 Mixer and effects (FX) presets

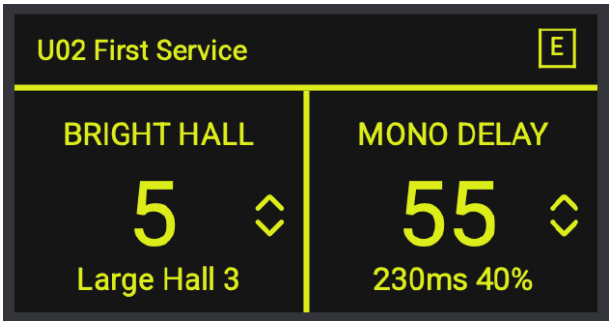
The mixing page of the PM3000-X provides two different types of presets:

- Mixer presets, which store mixer settings.
- FX presets, which store effect processor settings, including the selected FX.

The currently selected FX presets for FX1 and FX2 are displayed in the FX display area. The current mixer preset is shown above the FX display.

PRELIMINARY

PRELIMINARY




## 7.6.1 FX presets

The PM3000-X includes 100 factory effect presets derived from the PowerMate effects platform.

**Selecting an FX preset**

To select an FX preset:

1. Select the desired FX processor (FX1 or FX2).
2. Select the preset number using the ribbon bar or the increment/decrement buttons.
   The selected preset is loaded immediately.

**Editing an FX preset**

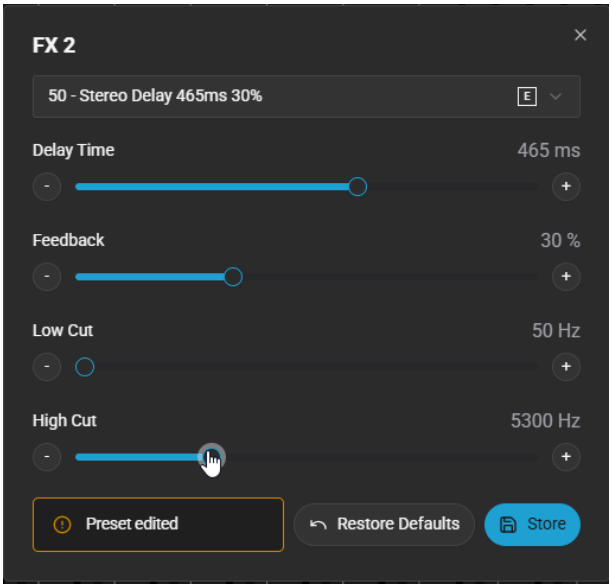
Any of 2x 100 FX presets can be edited.

To edit a preset:

1. Select FX1 or FX2.
2. Press the EDIT icon on the ribbon bar.




The FX Edit window opens and displays four editable parameters, depending on the selected effect type. Parameter changes are applied immediately.




If a parameter differs from its original value, an **E** (Edited) indicator appears next to the preset number.




**TAP tempo**

For delay-based effects, the **TAP** button on the ribbon bar can be used to set the delay time manually. Press the TAP button repeatedly at the desired tempo.

**Saving an edited FX preset**

Edited FX presets can be stored in user preset locations 101 to 120.

Select a user preset location and store the edited effect. User presets can be recalled in the same way as factory presets.

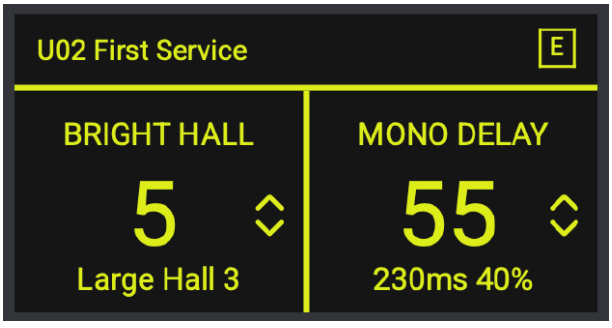
FX1 and FX2 operate independently and provide identical preset management and editing functions.

**Restore defaults**

**Restore Defaults** resets all editable parameters to their original factory values.

## 7.6.2 Mixer presets

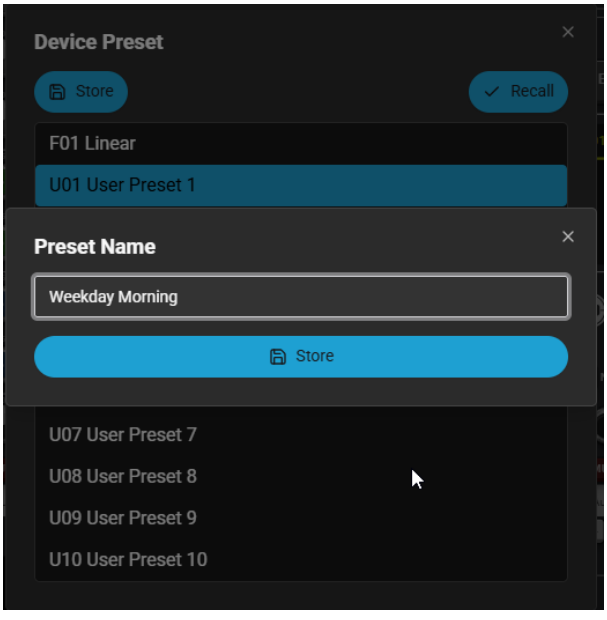
The PM3000-X provides 10 user mixer presets (U01-U10) for storing and recalling mixer configurations.




**Saving a mixer preset**

To save the current mixer configuration:

1. Select the preset name bar.
2. Select a user preset location (U01-U10).
3. Press **Store**.
4. Enter a preset name.




**Recalling a mixer preset**

To recall a mixer preset:



PRELIMINARY

PRELIMINARY

– Select the desired preset and press **Recall**.
  The restored mixer settings are applied immediately.

**Stored in Mixer presets**

Mixer presets store the following settings:

Input channels 1-8 and USB input
- Gain (Trim for USB input)
- Phantom power
- Vocal Voicing filter
- High-pass filter
- EQ settings
- EQ+ settings
- Compressor settings
- Noise gate settings
- FX send levels
- AUX send levels
- PAN (BAL for USB input)
- Mute status
- Channel levels
- Automixer settings

FX and output mixing
- Selected FX presets
- FX-to-AUX levels
- FX return levels
- AUX output levels
- Notch filter settings
- MASTER level and mute status
- MASTER B level and configuration
- AUX pre/post-fader status

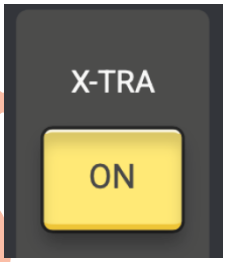
**Not stored in Mixer presets**

Mixer presets do not store output related settings:
- Amplifier configuration
- GEQ settings
- FIR-Drive loudspeaker settings (speaker preset)
- Output level, delay and polarity
- Amplifier routing

Output-related settings are stored separately as **Output Preset** in the Settings > **OUTPUTS**. This allows loudspeaker and amplifier configurations to be managed independently from mixer presets.

## 7.7 X-TRA processing

The X-TRA section provides additional processing tools beyond the standard PowerMate-style channel controls. By default, the X-TRA features are not active and the PM3000-X operates using the standard PowerMate-style channel processing: four EQ-bands.




– Select **ON** to enable X-TRA processing. The available options include:
  – **EQ+** - Additional equalizing options
  – **COMP -** Compressor
  – **GATE** - Noise gate

Selecting ON also allows to quickly A/B your mix using the X-TRA parameters versus using only the feature set of a classic PowerMate.
Turning X-TRA off will set the compressor and noise gate to bypass and reset EQ frequencies and filter types to default. The EQ gains however remain in the current position.




**EQ+**

EQ+ provides additional options to customize the 4-band EQ beyond the default settings.

| EQ band | Frequency | | Type/Q | |
|---|---|---|---|---|
| | **Default** | **EQ+** | **Default** | **EQ+** |
| HIGH | 12 kHz | 2 - 20 kHz | Hi-Shelf | Bell (Q=3) |
| HI MID | 3 kHz | 400 Hz - 8 kHz | Q=1 | Q=3 |
| LO MID | 300 Hz | 100 HZ - 2 kHz | Q=1 | Q=3 |
| LOW | 60 Hz | 20 - 200 Hz | LO-Shelf | Bell (Q=3) |

The green LED on the **EQ+** button indicates that at least one parameter has been changed from default.
Selecting **BYPASS** allows for quick A/B listening.
**Note**: When **EQ BYPASS** is active, all EQ knobs are faded out to indicate that they are not audible. This applies also to the home view.




**COMP**

The compressor on PM3000-X helps control dynamic range and improve level consistency, or reduce harsh transients and peaks of percussions.
Selecting **COMP** enables following parameters:
– **THRESH** - Adjusts the threshold level from -40 dB to +10 dB.
– **RATIO** - Adjusts the ratio the signal gets compressed from 1:1 (no effect) to 1:20.
– **GAIN** - Adds make up gain to compensate level reduction.
– **ON / FAST** - **ON** makes the compressor audible. **FAST** allows to switch the attack / release times from the default values 30/500 ms to 10 / 100 ms for percussive signals.

The green LED on the **COMP** button indicates that at least one parameter has been changed from default.
**Note**: Using compressors intensively on microphone inputs can increase the risk of feedback between speakers in the same room. Add gain carefully.

PRELIMINARY




### GATE

The noise gate allows to reduce unwanted background noise and crosstalk from other microphones. Selecting **GATE** enables following parameters:

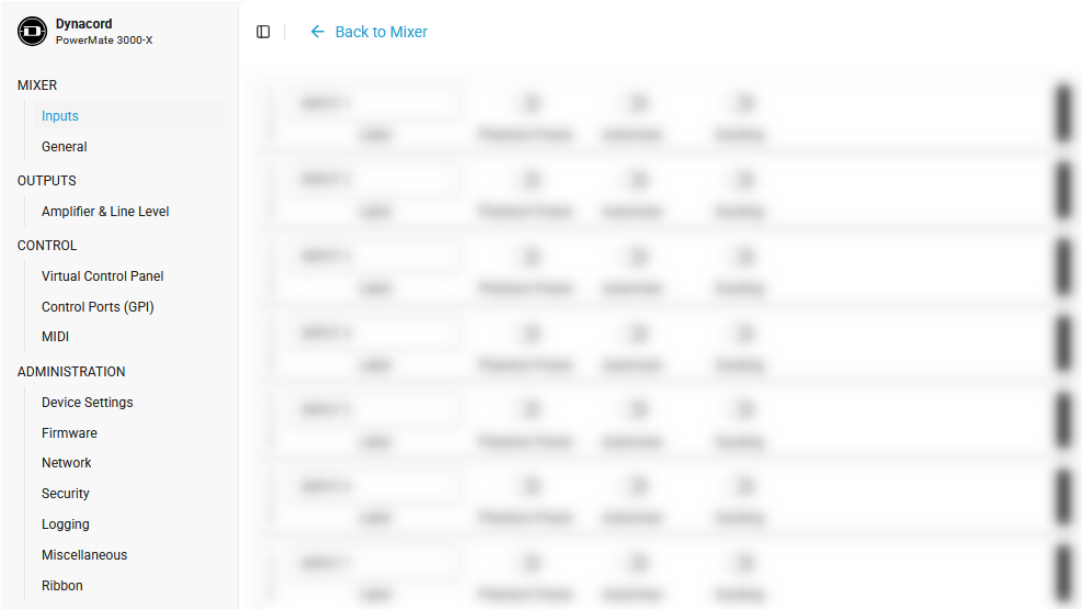
- **THRESH** - Allows to adjust the threshold level from -60 dB to 0 dB.
- **DEPTH** - Adjusts the attenuation of the signal from 0 dB to -80 dB.
- **HOLD** - Sets the time the gate will close after the level has dropped below threshold.
- **ON /FAST** - **ON** makes the noise gate audible. **FAST** allows to switch the attack/ release times from the default values 50/500 ms to 5/100 ms for percussive signals.

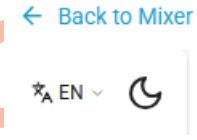
The green LED on the **GATE** button indicates that at least one parameter has been changed from default.

## 7.8 Settings



The **Settings** menu provides access to configuration and administration functions that are not directly related to creating or operating a mix. From here, you can configure mixer behavior, manage output processing, create user control interfaces, configure remote control options, and perform device administration tasks such as firmware updates and network configuration.




To return to the mixing page, select **Back to Mixer** in the upper left corner of the page.

In the upper-right corner, you can select the user interface language and choose between the Light and Dark appearance themes to match the operating environment.

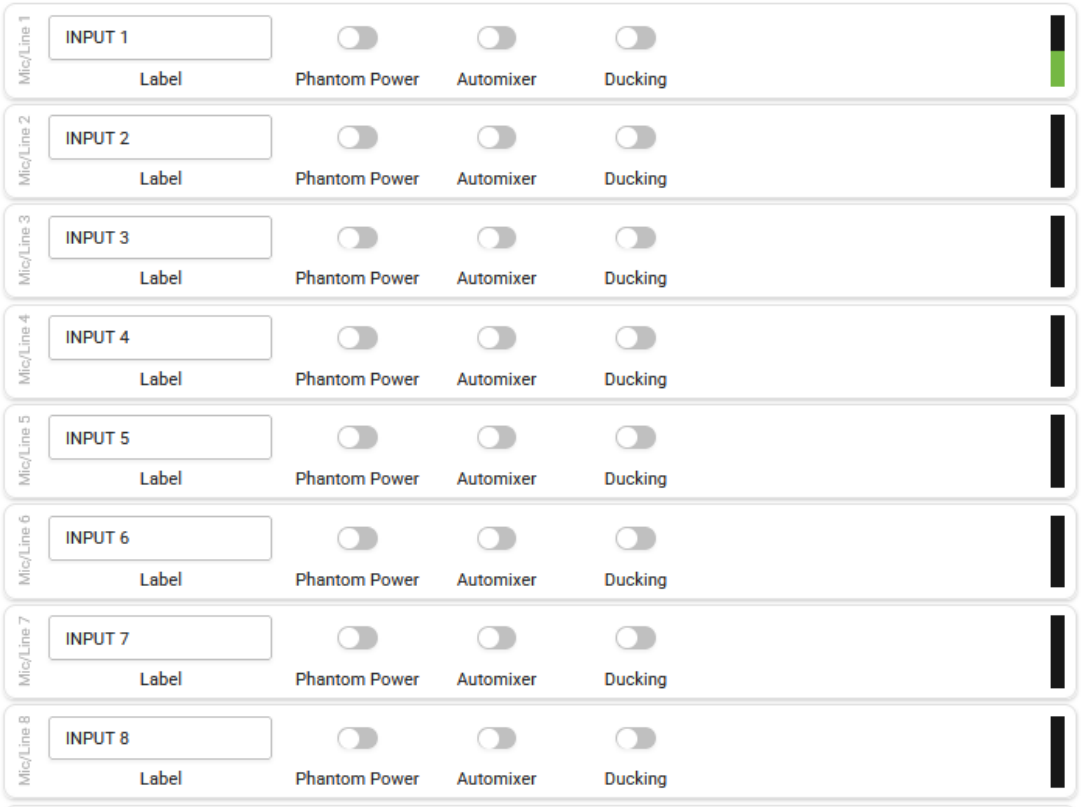
PRELIMINARY

PRELIMINARY

## 7.8.1 Mixer

### 7.8.1.1 Inputs

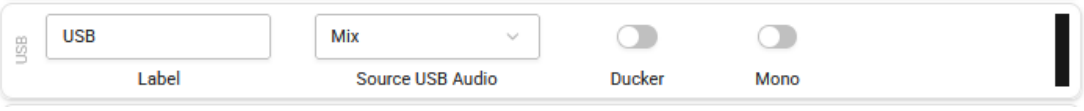
#### Mono input channels 1-8




Available settings:

- **Label**
  - Assigns a custom name to the input channel. The label is shown throughout the mixer interface.
- **Phantom Power**
  - Enables +48 V phantom power for the corresponding microphone input. Use phantom power only with compatible microphones and active DI boxes.
- **Automixer**
  - Assigns the channel to the automixer system. The automixer must also be enabled globally in **MIXER** > **General**.
- **Ducking**
  - Determines which mic/line inputs trigger ducking of the USB channel.
- **Input meter**
  - Displays the current input signal level.

#### USB input channel



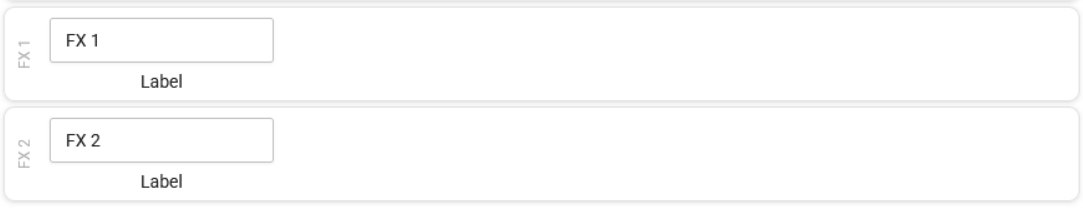

Available settings:

- **Label**
  - Assigns a custom name to the USB channel.

PRELIMINARY

- **Source USB Audio**
  - Selects the USB source: Mix, USB Audio Interface, or File Player
  - The default is USB Audio Interface + USB Player Mix. It can be set to only accept one or the other.
- **Ducker**
  - Enables attenuation of the USB signal when selected microphone channels become active.
- **Mono**
  - Switches Mono on and off, which can be useful when Master Left and Master Right are used for different zones.

**FX1 and FX2 channels**

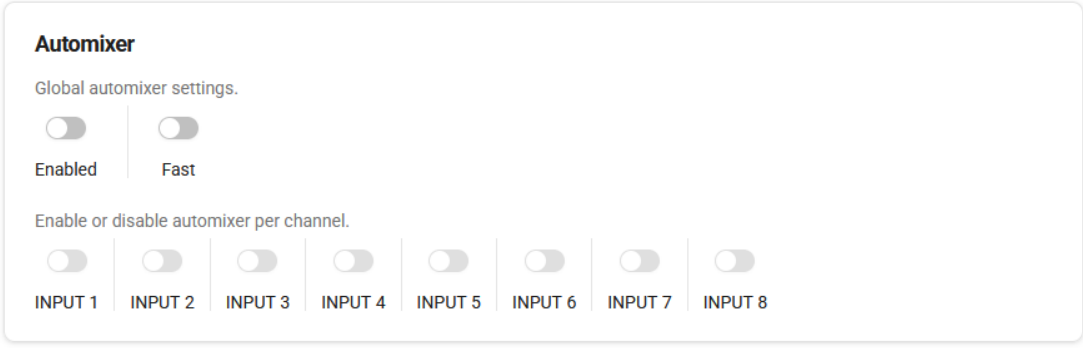



Available settings:

- **Label**
  - Allows individual custom naming of the FX return channels.

### 7.8.1.2 General

**Automixer**




The automixer automatically adjusts channel gain relationships between assigned inputs to improve speech intelligibility by putting the "shared gain" on the loudest channels, while reducing gain on all others.

Available settings:

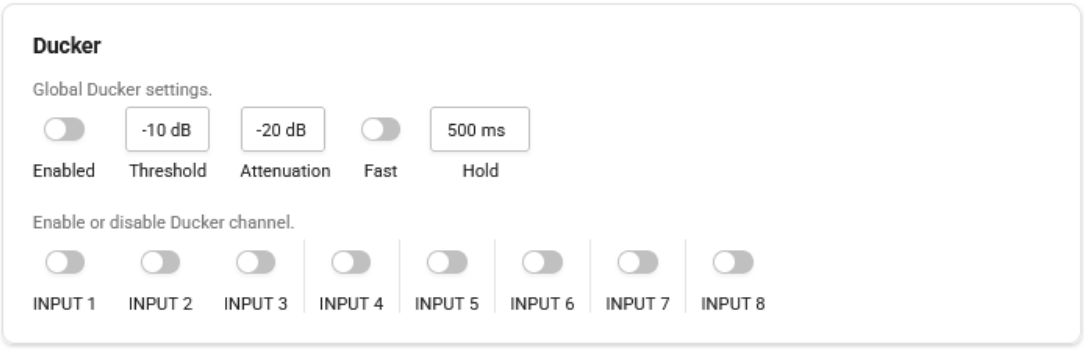
- **Enabled**
  - Globally enables automixer operation.
- **Fast**
  - Changes the automixer response time from 1000 ms to 100 ms.
  - For applications with only one microphone used at a time the default timing is ideal. The "fast" setting is preferred in conference applications when multiple people are speaking.

Indication on mixing page:

- Blue AUTO: Channel assigned to automixer.
- Green AUTO: Dominant channel currently receiving priority gain.
- White AUTO: Channel not assigned to automixer.

PRELIMINARY

### Ducker

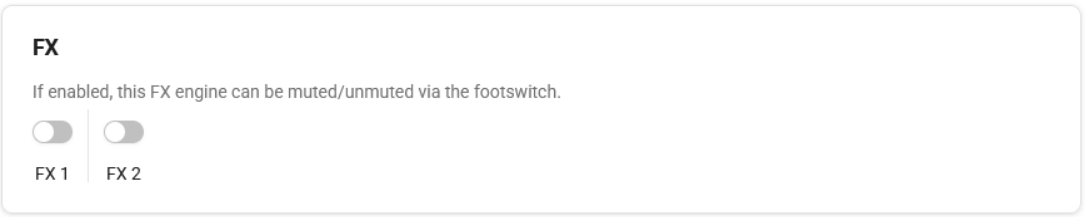



This setting affects the USB input channel.

Available settings:

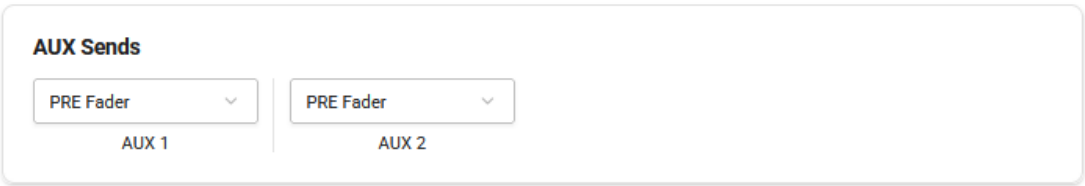
- **Enabled**
  - Globally enables ducking for the USB input channel.
- **Threshold**
  - Sets the signal level required to activate ducking.
  - Range: -40 dB to +10 dB.
- **Attenuation**
  - Determines how much the USB signal level is reduced.
  - Range: 0 dB to -80 dB.
- **Fast**
  - Enables a shorter attack and release time.
- **Hold**
  - Determines how long attenuation remains active after the trigger signal falls below the threshold.
- **Input selection**
  - Selects which microphone channels trigger ducking.

### FX




Select which FX engine shall be available to be muted via a footswitch.

### AUX Sends




Available settings for AUX1 and AUX2:

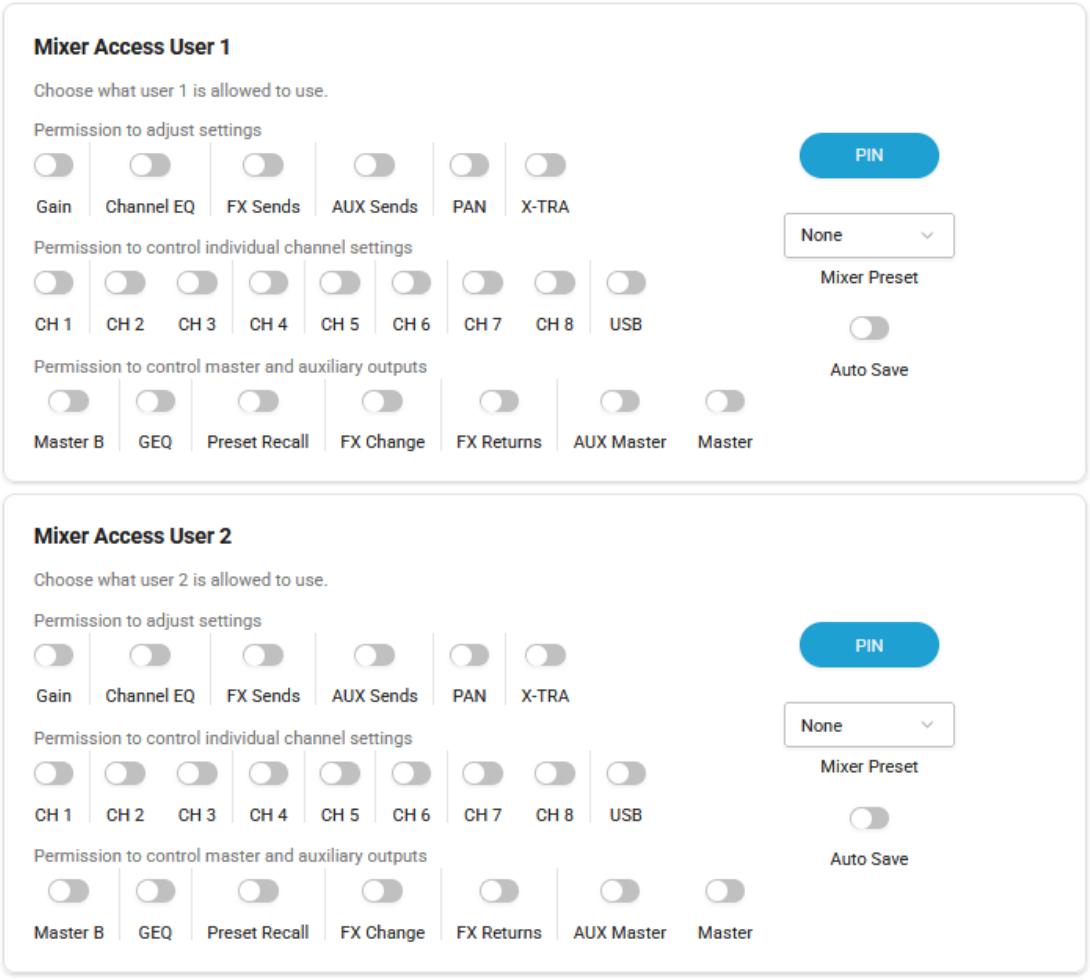
- **PRE Fader**
  - Enables pre fader operation.
- **POST Fader**

PRELIMINARY

– Enables post fader operation.

Pre Fader operation is independent from the channel fader, and is typically used for monitor mixes.
Post Fader operation follows the channel fader position and is typically used for effects or zone feeds

### Mixer Access User 1 and 2




Administrators can create two simplified mixer interfaces with restricted access rights.
Each user:

– Uses a dedicated PIN.
– Can have access to selected controls only.
– Can automatically recall a dedicated mixer preset at login.

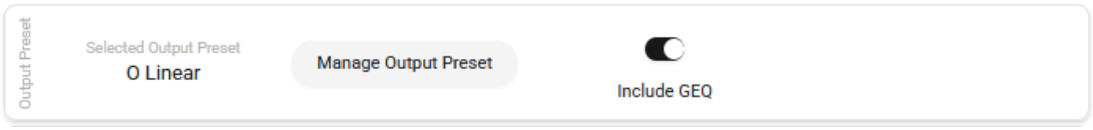
When **Auto Save** is enabled, all changes made by the user are written back to the assigned preset.
Selecting **PIN** opens the **Security** settings.

– Assign a 4 digit PIN for each user.
  – This PIN will determine at log-in if a user will see USER1 or USER 2 mixing surface.

PRELIMINARY

## 7.8.2 Outputs

### 7.8.2.1 Output presets

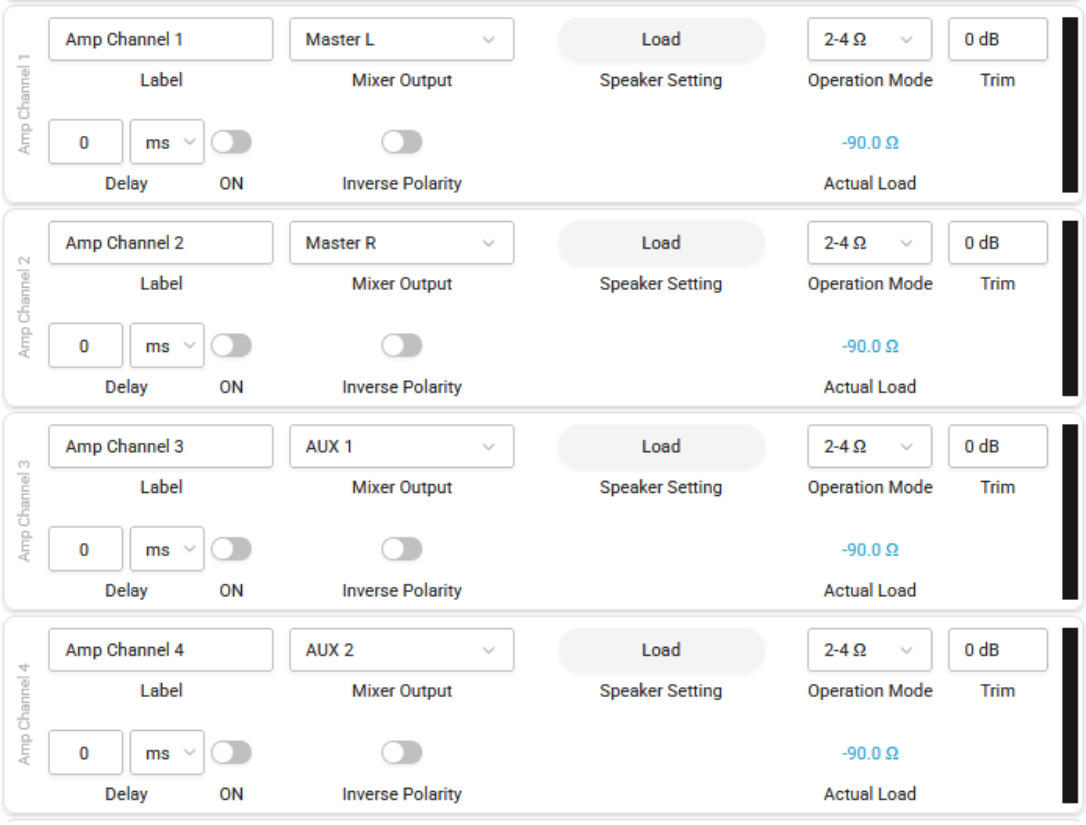



Output presets store the configuration of the amplifier- and line-level outputs independently from the mixer settings.
In addition to the factory default preset (F01), the PM3000-X provides 20 user output presets. Output presets allow loudspeaker-, amplifier-, and output-processing configurations to be changed without affecting the mixer settings stored in Mixer Presets. They are labeled with O-xx for Output.
Typical applications include changing loudspeaker models, updating speaker settings, or modifying output processing while preserving the existing mixer configuration.
**Selected Output Preset** shows the currently selected preset.

**Include GEQ**
Determines whether the graphic equalizer (GEQ) settings are included when the output preset is stored and recalled.
When enabled, the GEQ settings are saved as part of the output preset. When disabled, the current GEQ settings remain unchanged when the output preset is recalled.

**Notice!**
GEQ settings are not stored in Mixer Presets and can only be stored as part of an Output Preset.

### 7.8.2.2 Amplifier outputs



PRELIMINARY

**Label**

Assigns a custom name to the amplifier channel. The label is displayed throughout the user interface.

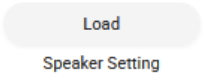
**Mixer Output**

Selects the source signal routed to the amplifier channel.

Available sources include:

- Master L
- Master R
- Master Mono
- Aux 1
- Aux 2
- Master B L
- Master B R
- Master B Mono
- None

**Load Speaker Setting**




Loads a loudspeaker preset from the speaker database. Speaker databases for PowerMate Classic (LPN), Electro-Voice and generic loudspeakers are available by default. Additional speaker databases can be downloaded from the Dynacord website, and custom loudspeaker presets can be created using the **Dynacord Speaker Database Creator**.

The PM3000-X supports the same FIR-Drive loudspeaker processing technology used in Dynacord TGX, IPX, and IX Series DSP amplifiers.

For more information, refer to *Loading speaker settings, page 44*.

**Operation Mode**

Selects the amplifier output mode to match the connected loudspeaker system.

- **2-4 Ω**
  - For low-impedance loudspeaker systems with a total load impedance of 4 Ω or less, such as two 8 Ω loudspeakers connected in parallel.
- **5-16 Ω**
  - For low-impedance loudspeaker systems with a load impedance greater than 5 Ω, such as a single 8 Ω loudspeaker.
- **70 V**
  - For direct connection of constant-voltage loudspeaker systems using a 70 V distribution line.
- **100 V**
  - For direct connection of constant-voltage loudspeaker systems using a 100 V distribution line.

**Trim**

Adjusts the output level of the amplifier channel. This can be used to balance loudspeaker levels within the system, for example when matching a subwoofer to full-range loudspeakers.

**Delay**

Applies delay to the amplifier output to compensate for loudspeaker placement and system alignment requirements up to 300 ms per output.

Delay can be entered in:

- Milliseconds (ms)
- Meters (m)
- Feet (ft)

Toggle Delay **ON** to enable or bypass the delay for quick A/B comparison during system tuning.

PRELIMINARY

**Inverse Polarity**

Changes the phase polarity of the signal. In normal operation polarity is not inverted.

**Actual Load**

Displays the impedance currently measured at the selected amplifier output.

7.8.2.2.1

Load

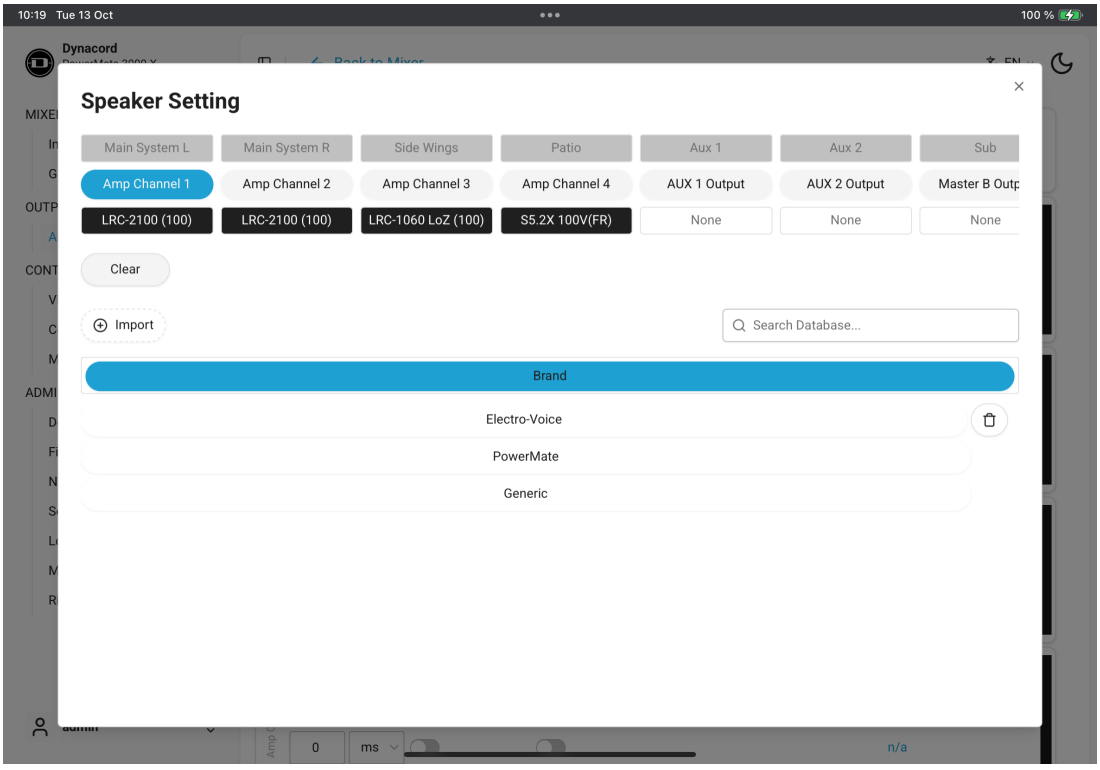
Speaker Setting

### Loading speaker settings

The **Load Speaker Setting** option is used to assign loudspeaker processing presets to amplifier and line outputs. Speaker settings include FIR-Drive processing and loudspeaker-specific tuning data compatible with the same processing platform used by Dynacord TGX, IPX, and IX Series DSP amplifiers.

Speaker databases are available for Dynacord and Electro-Voice loudspeakers, as well as generic loudspeaker settings. Additional speaker databases for selected third-party manufacturers can be downloaded from the Dynacord website. You can also create custom loudspeaker settings using the **Dynacord Speaker Database Creator**.

The Speaker Setting window opens for the currently selected output channel and provides a central location for managing speaker settings for all amplifier and line outputs.




– The first row displays the output labels.
– The second row allows navigation between the four amplifier channels and three line outputs.
– The third row displays the currently loaded speaker setting for each output. Outputs with no assigned speaker setting are shown as **None**.

**Loading a speaker setting**

1. Select the amplifier or line output to be configured.
2. Select the **Brand** (or **Generic**) and then choose the **Family**, **Model**, and **Operation Mode**.
3. Select the desired operation mode to load the speaker setting. The selected preset is immediately assigned to the output and its name appears in the output overview.
4. Repeat the procedure for additional outputs as required.

**Copying a speaker setting**

To apply the same speaker setting to another output:

PRELIMINARY

– Select **Copy these settings to another amplifier channel**.
– Select the destination amplifier or line output.

The speaker setting is copied to the selected output.

**Clearing a speaker setting**

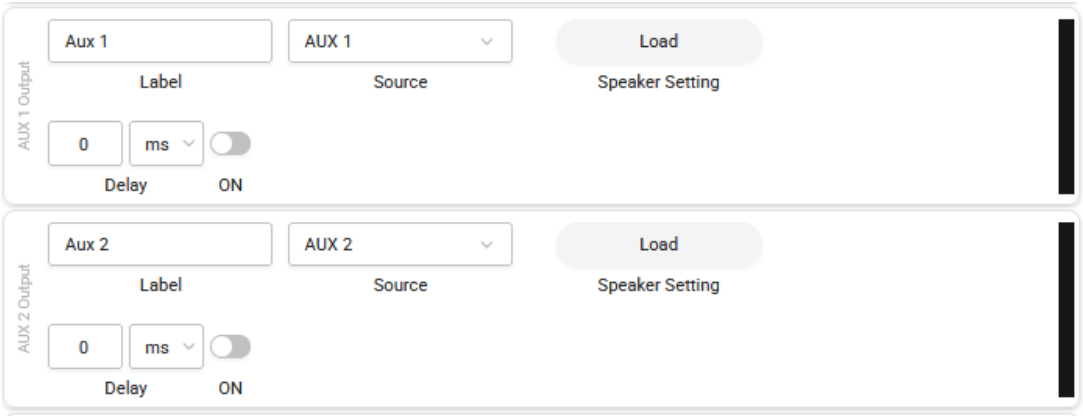
– Select **Clear** to remove the currently assigned speaker setting from the selected output.

**Importing speaker databases**

– Select **Import** to add a new speaker database to the PM3000-X.

Additional speaker databases can be downloaded from:
https://sonicue.com/permalink/sonicue-speakerdb-update/

### 7.8.2.3 AUX outputs 1 and 2 (XLR)




**Label**

Assigns a custom name to the AUX output. The label is also displayed on the mixing page.

**Source**

Selects the source signal routed to the AUX output.

Available options are:

– AUX 1 or AUX 2
– Master L PRE
– Master R PRE
– Master Mono PRE
– Master L POST
– Master R POST
– Master Mono POST

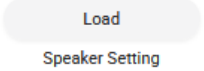
**AUX Source**

By default, AUX Output 1 uses the **AUX1** mix bus and AUX Output 2 uses the **AUX2** mix bus. Alternatively, an AUX output can be assigned to carry a signal from the master bus. Available source options include left, right, mono-summed, pre-fader, and post-fader master signals.

When a master bus source is assigned to an AUX output:

– The corresponding AUX bus becomes inactive.
– The AUX send controls on the mixing page are greyed out.
– The associated AUX master fader changes from blue to red, indicating that it is now controlling a master bus signal rather than an AUX mix.

This feature provides additional master outputs when independent AUX mixes are not required.




**Load Speaker Setting**

Loads a speaker setting into the signal path of the selected AUX output. Speaker settings can be used to apply loudspeaker-specific processing, including FIR-Drive presets, to the AUX output signal.

**Notice!**
When an AUX bus is used as the source for an amplifier channel, the AUX XLR output and the amplifier channel can use different speaker settings. The AUX master level continues to control both outputs simultaneously.

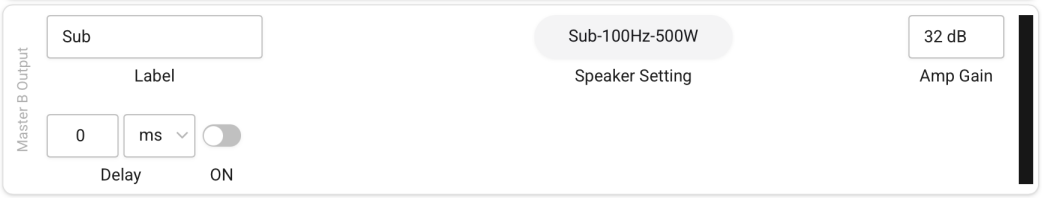
Refer to *Loading speaker settings, page 44*.

**Delay**
Applies delay to the AUX output to compensate for loudspeaker placement and system alignment requirements up to 300 ms per output.
Delay can be entered in:
- Milliseconds (ms)
- Meters (m)
- Feet (ft)

Toggle Delay **ON** to enable or bypass the delay for quick A/B comparison during system tuning.

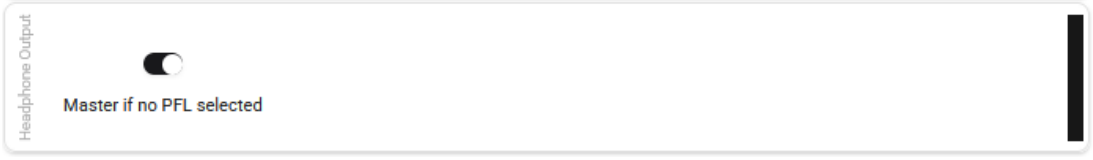
**Refer to**
- *Amplifier outputs, page 42*

### 7.8.2.4 Master B output (1/4” TRS)




The **MASTER B** output provides a line-level signal on the rear-panel ¼" TRS connectors. The output signal follows the settings configured on the mixing page, including **Pre/Post Fader** and **Stereo/Mono** operation.
The MASTER B output supports the same processing and configuration options as the AUX outputs, including speaker settings and output delay. If a speaker setting is loaded, it is important to adjust the gain of the connected amplifier to ensure the proper function of the limiter (default is 32 dB gain).

### 7.8.2.5 Headphone output

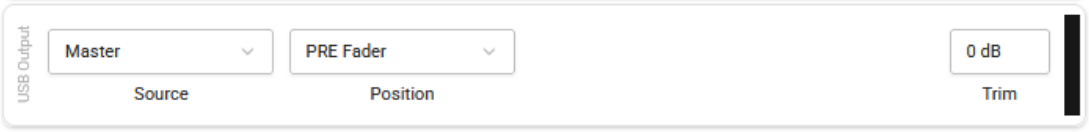



**Master if No PFL Selected**
When **Master if no PFL selected** is enabled, the headphone output monitors the **MASTER** bus whenever no PFL source is active.
Selecting **PFL** on any channel or bus automatically routes the corresponding PFL signal to the headphone output and overrides the MASTER signal.

**Warning!**
Listening at high volume levels for extended periods may cause permanent hearing damage. Always reduce the headphone level before selecting a different monitoring source to avoid unexpected high sound pressure levels.

PRELIMINARY

#### 7.8.2.6 USB output




The PM3000-X includes a class-compliant 2-in/2-out USB audio interface, allowing audio playback and recording without the need for additional drivers on supported operating systems.

**Source**

Selects the signal routed to the USB output:

- Master
- AUX 1 / AUX 2
- AUX 1
- AUX 2

**Position**

Determines whether the USB output signal is taken before or after the corresponding output fader.

- **PRE Fader** is typically recommended for recording applications, as recording levels remain independent of live mix adjustments.
- **POST Fader** records the signal after fader adjustments and reflects changes made during operation.

**Trim**

Adjusts the USB output level from -30 dB to +6 dB to optimize the recording level of the connected device.

### 7.8.3 Control

#### 7.8.3.1 Virtual Control Panel

The **Virtual Control Panel** provides remote control of the PM3000-X through a standard web browser. Unlike a traditional wall controller with fixed controls, the Virtual Control Panel is fully configurable and can be deployed on any device connected to the PM3000-X network, either through a wired or wireless connection.

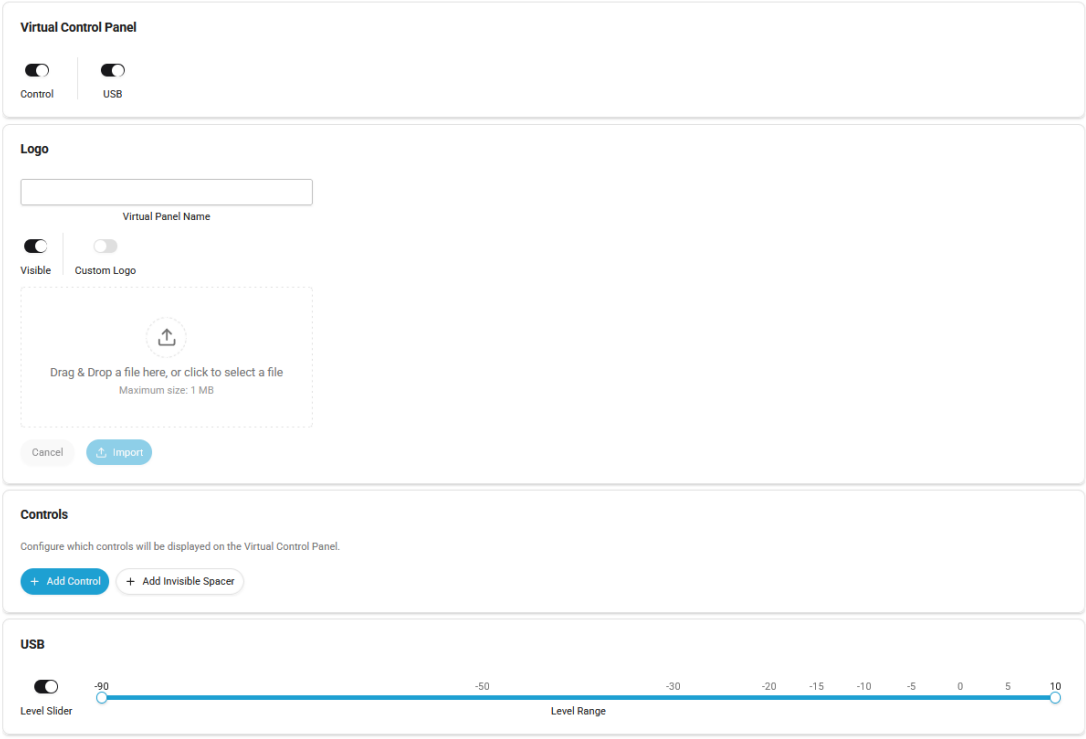
The Virtual Control Panel can be accessed at:

- PM3000X.local/panel

Depending on the browser and operating system, a shortcut can be added to the device home screen or desktop for direct access. Installing the SONICUE Control apk on an Android devices in combination with the web viewer allows to use it as an exclusive touch panel controller.

PRELIMINARY

PRELIMINARY




The Virtual Control Panel includes two pages:

– **Control** page for user controls
– **USB** page for operation of the USB media player

### Logo



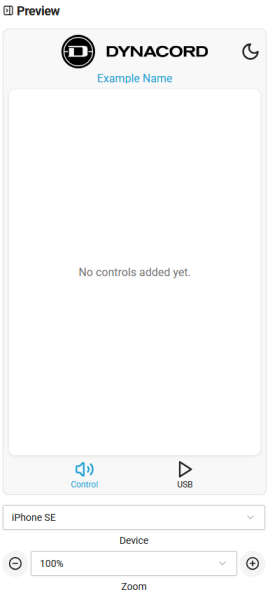

Configures the header displayed on the Virtual Control Panel.

– **Visible** - Show or hide the logo.
– **Custom Logo** - Upload a custom logo image.
– **Virtual Panel Name** - Enter a custom title.

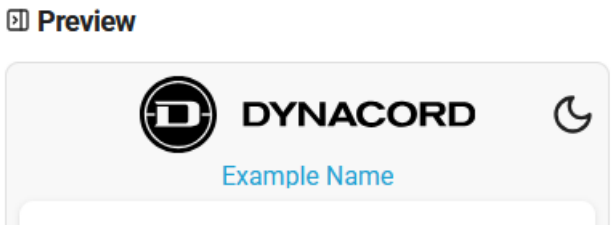
### Preview

The **Preview** window displays the current panel layout.

PRELIMINARY




**Theme**




The sun/moon icon on the upper right corner of the Preview window switches the theme between light (sun) and dark (moon) appearance. The selected theme is applied throughout the PM3000-X user interface, including the Virtual Control Panel.

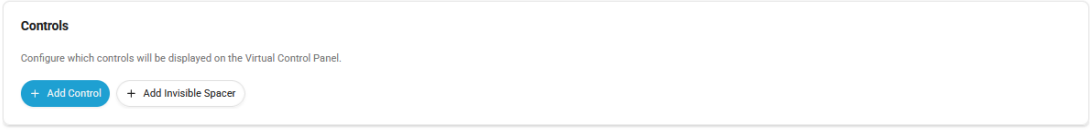
**Device**

A selection of common display resolutions is provided below the preview area. Use **Custom** for displays with other resolutions.

**Zoom**

Adjusts the size of the preview display.

#### 7.8.3.1.1 Configuring user controls




Controls can be added to the Virtual Control Panel as buttons or sliders.

**Add Control**

Creates a new control element.

Available control types include:

- Mute
- Level
- FX On/Off
- FX1 Recall
- FX2 Recall
- Preset Recall

PRELIMINARY

Depending on the selected control type, additional options become available.
For example, a Mute control can operate multiple channels and outputs simultaneously.

### Reorder and delete controls

Use the drag handle to move a control element within the layout.
Select the delete icon to remove a control element.

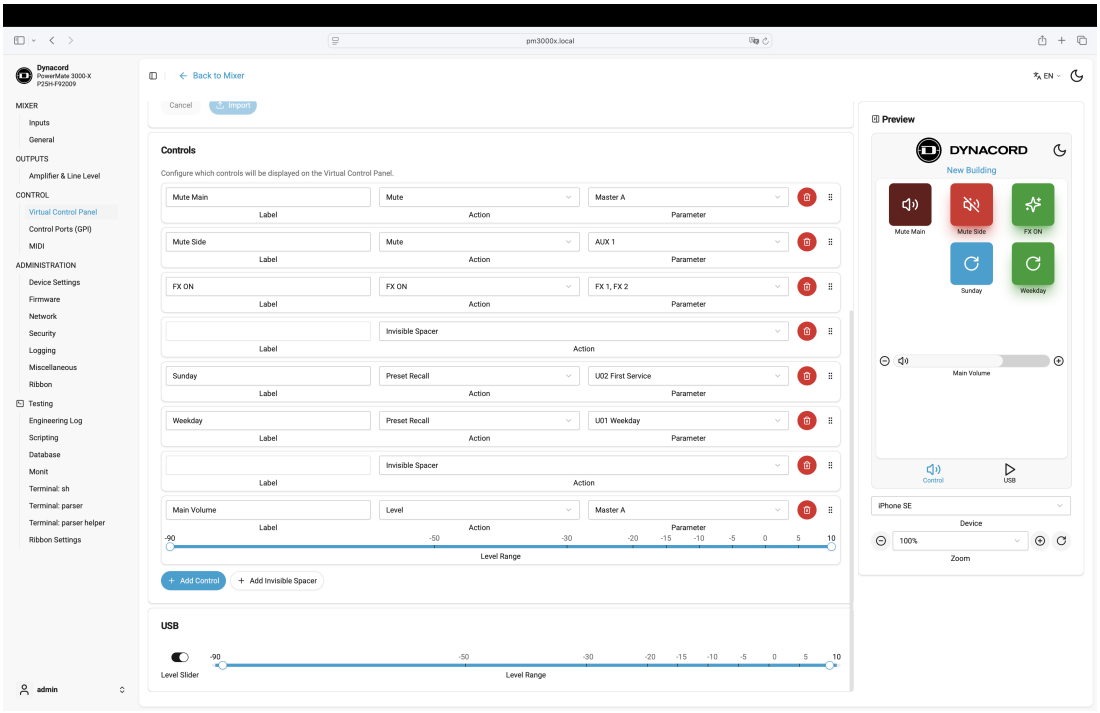
### Level control limits

Level controls can be configured with minimum and maximum values to limit the adjustment range available to the user.
This can be used, for example, to prevent excessive volume levels or reduce the risk of feedback.

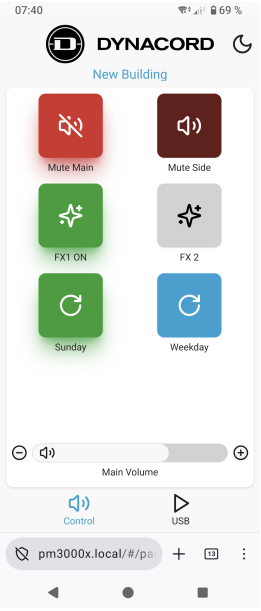
### Add Invisible Spacer

Adds an empty space to the Virtual Control Panel layout. Invisible spacers can be used to separate groups of controls and improve the organization and readability of the user interface. Invisible spacers are not visible to the user during operation.

### Example of a Virtual Control Panel



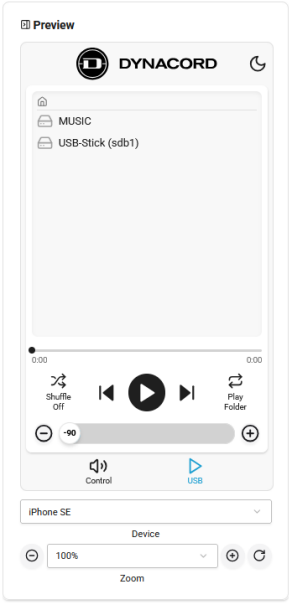
PRELIMINARY




**Notice!**

Virtual Control Panel level controls operate independently of the channel faders and function similarly to a DCA/VCA control to allow a relative level control of multiple channels. A blue icon is shown on the mixer page when a level control has been assigned.

#### 7.8.3.1.2 USB player page




When USB is enabled, the Virtual Control Panel provides access to the USB media player connected to the front-panel USB-A port.

Supported audio formats:

- MP3
- WAV (44.1 kHz and 48 kHz)

Supported storage formats:

- FAT32
- exFAT

PRELIMINARY

When a USB storage device is connected, folders and audio files can be browsed and selected for playback.

Available playback controls:

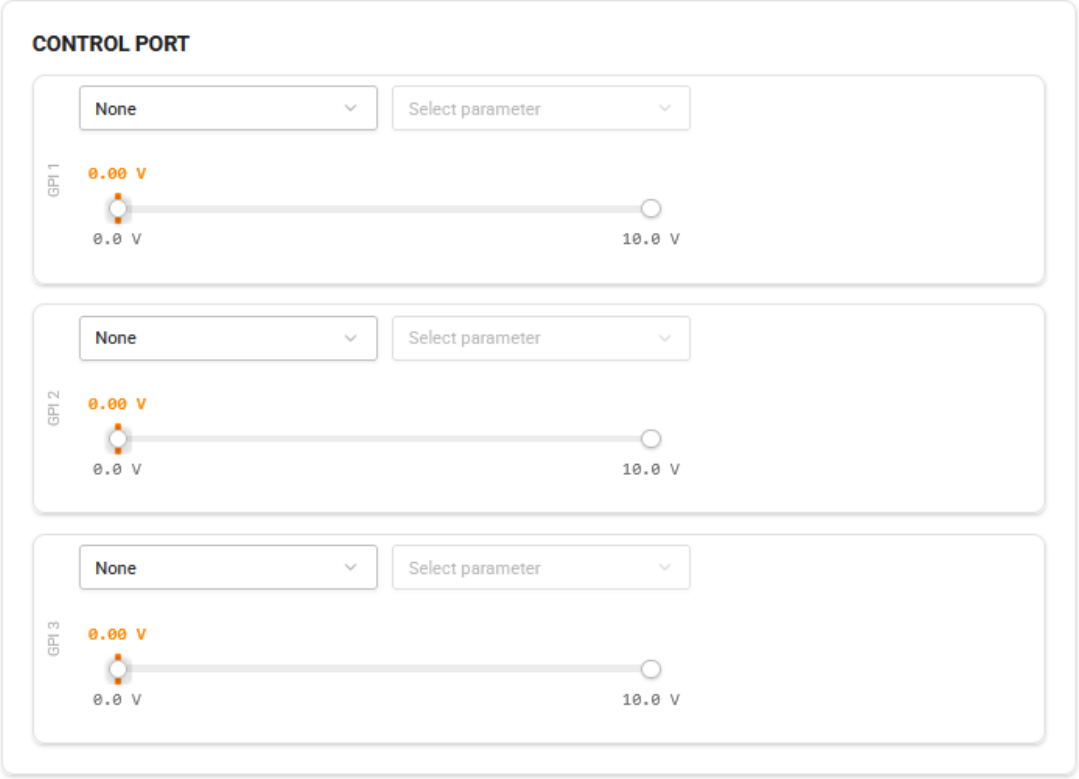
- Shuffle Off / Shuffle On
- Previous
- Play/Pause
- Next

Available playback modes:

- Play Folder
- Repeat Folder
- Repeat Single
- Play Single

An optional USB channel level control can be displayed on this page. Minimum and maximum level limits can also be configured.

### 7.8.3.2 Control Ports (GPI)




The PM3000-X provides three configurable control ports (GPI) for connection of external analog control devices such as switches and potentiometers.

The selected function must match the connected hardware type.

Examples:

- **Level control** requires a **10 kΩ potentiometer**.
- **Mute**, **Preset Recall**, and similar functions require a **switch or contact closure**.

Available control functions include:

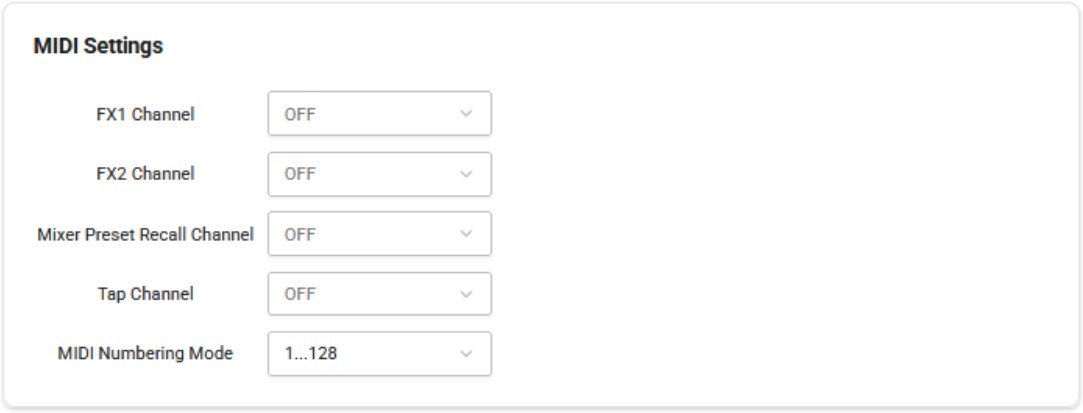
- Mute
- Level
- FX1 Recall
- FX2 Recall

– Preset Recall
– Power

Depending on the selected function, a channel, bus, preset, or other target can be assigned.
Mute and Level functions allow multiple assignments, while preset recalls operate on a single preset.

**Notice!**
Hardware control overrides the corresponding controls in the graphical user interface. Parameters currently controlled by a GPI are greyed out in the mixer interface.

#### 7.8.3.3 MIDI




The PM3000-X supports remote control through external MIDI controllers connected to the **MIDI IN** connector.
The following channel can be set for control via MIDI:
– FX1 Channel
– FX2 Channel
– Mixer Preset Recall Channel
– TAP Channel

MIDI channel assignments are configurable for each function.

**Numbering mode**
Select the MIDI numbering convention used by the external controller:
– 0-127
– 1-128

Choose the setting that matches the numbering scheme used by the connected MIDI device.

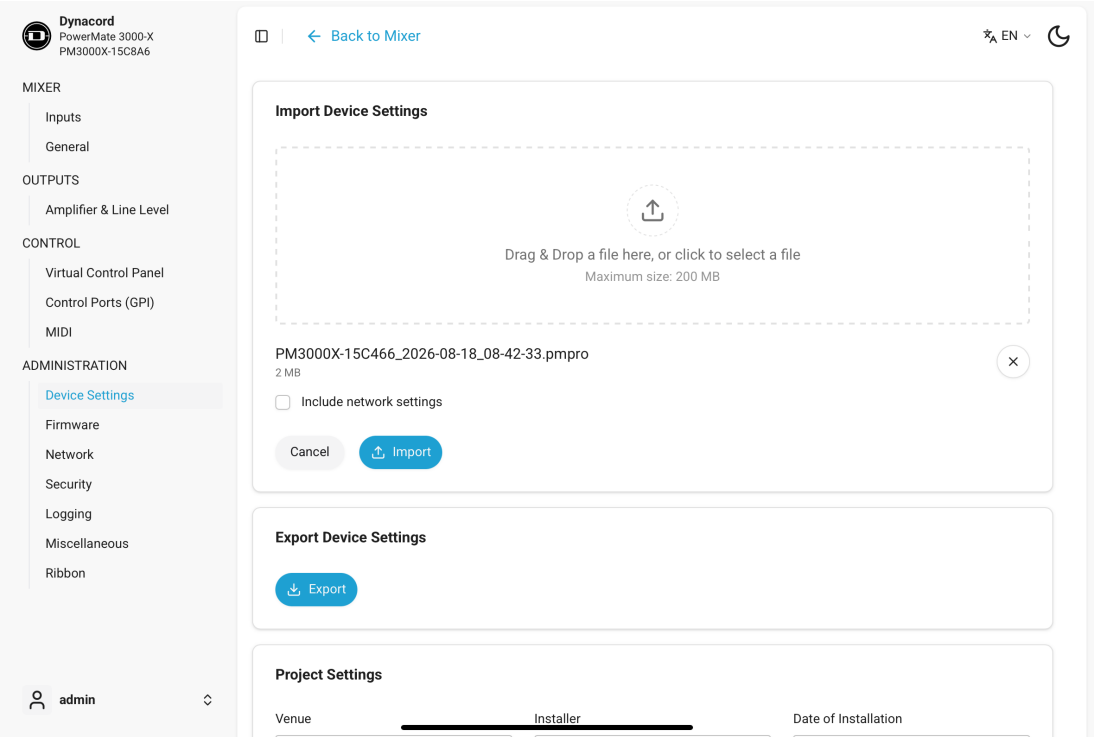
### 7.8.4 Administration

The **ADMINISTRATION** menu contains functions for device management, backup and restore, firmware updates, network configuration, security settings, and system diagnostics.

PRELIMINARY

PRELIMINARY

### 7.8.4.1 Device Settings




Device settings can be exported for backup purposes or to duplicate the configuration of one PM3000-X to other devices.

A device settings file contains all device-specific settings, including:

- Mixer settings
- Output settings
- Virtual Control Panel configuration
- Control port settings
- MIDI settings
- Administration settings

To import a configuration file, drag and drop the file into the workspace or select it using the file browser.

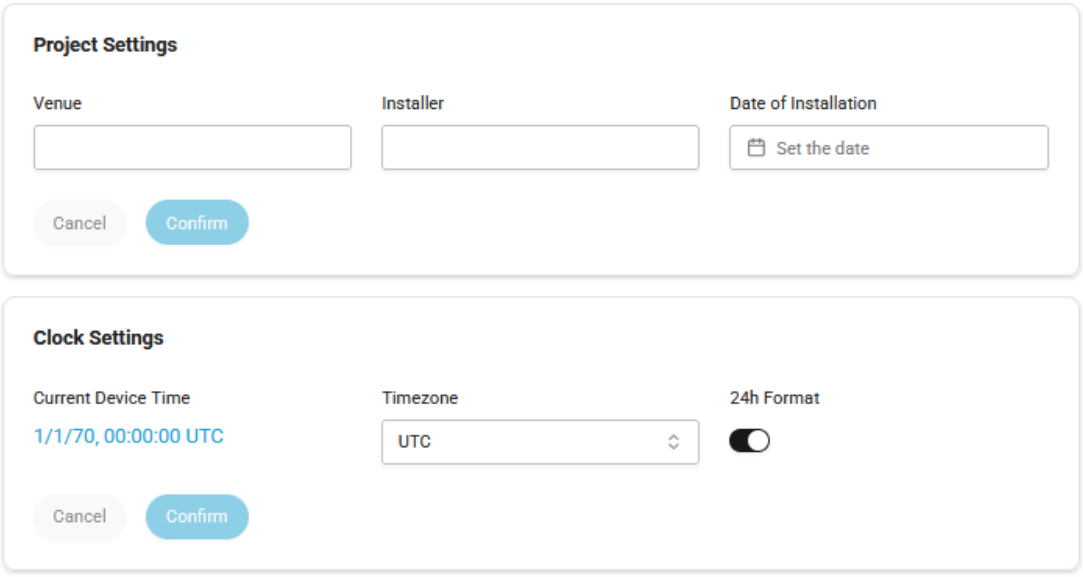
When importing a device setting, you have the option to include or exclude the network settings. This might become important if you have modified network settings e.g. fixed IP address.

**Notice!**

Importing a device settings file replaces the current device configuration.

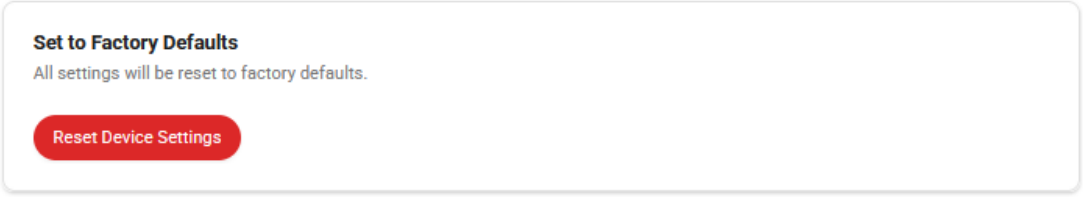
PRELIMINARY

### Project Settings and Clock Settings




**Project Settings** allow to add some information about the project.
When a connection is established, the PM3000-X automatically synchronizes its date and time with the device running the web browser.
The date and time information is primarily used to timestamp entries in the system log and assist with troubleshooting and technical support.

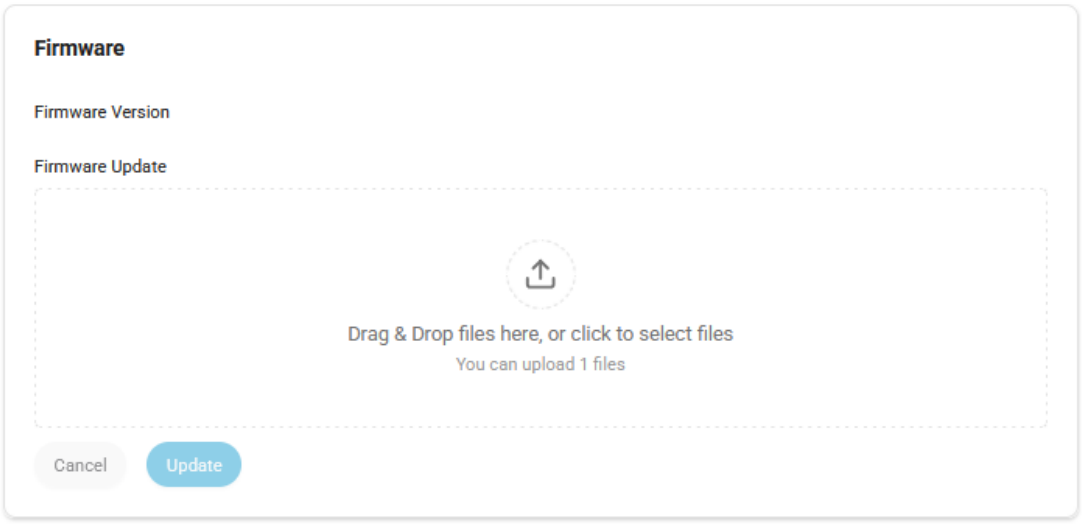
### Resetting the device to factory default




**Reset Device Settings** allows to reset the PM3000-X to factory default. Note that this action will erase all data on the device. Consider making an export of the settings beforehand.
A factory reset can also be done on the rear panel, using a paper clip and pressing and holding the **INIT** button for 30 seconds. During reset you will see all front LEDs circle in green.
Once reset is done you can connect again and start with setting an initial administrator account.

PRELIMINARY

### 7.8.4.2 Firmware




Firmware updates may provide new features, performance improvements, and bug fixes. Firmware files are available from the Dynacord website.

To update the firmware:

1. Drag and drop the firmware file (.pmfw) into the workspace, or select it using the file browser.
2. Select **Update**.
   The LEDS on the front panel will turn orange and start to circulate.
3. Wait for the update process to complete.

**Notice!**

Do not disconnect power, close the browser, or interrupt the update process while a firmware update is in progress. The PM3000-X is unavailable during the update.

**Notice!**

If power is lost during a firmware update, the device may start in bootloader mode. Recovery requires the OMNEO Firmware Upload Tool running on a Windows PC.

PRELIMINARY

### 7.8.4.3 Network - Ethernet 2




The PM3000-X supports both automatic and fixed IP address configuration.

**DHCP Link-Local**

This is the default network mode. The device automatically assigns itself a network address, allowing operation without additional network configuration.

**Fixed IP**

Allows manual configuration of:

- IP address
- Subnet mask
- Gateway

Fixed IP settings should only be used when integrating the PM3000-X into an existing managed network.

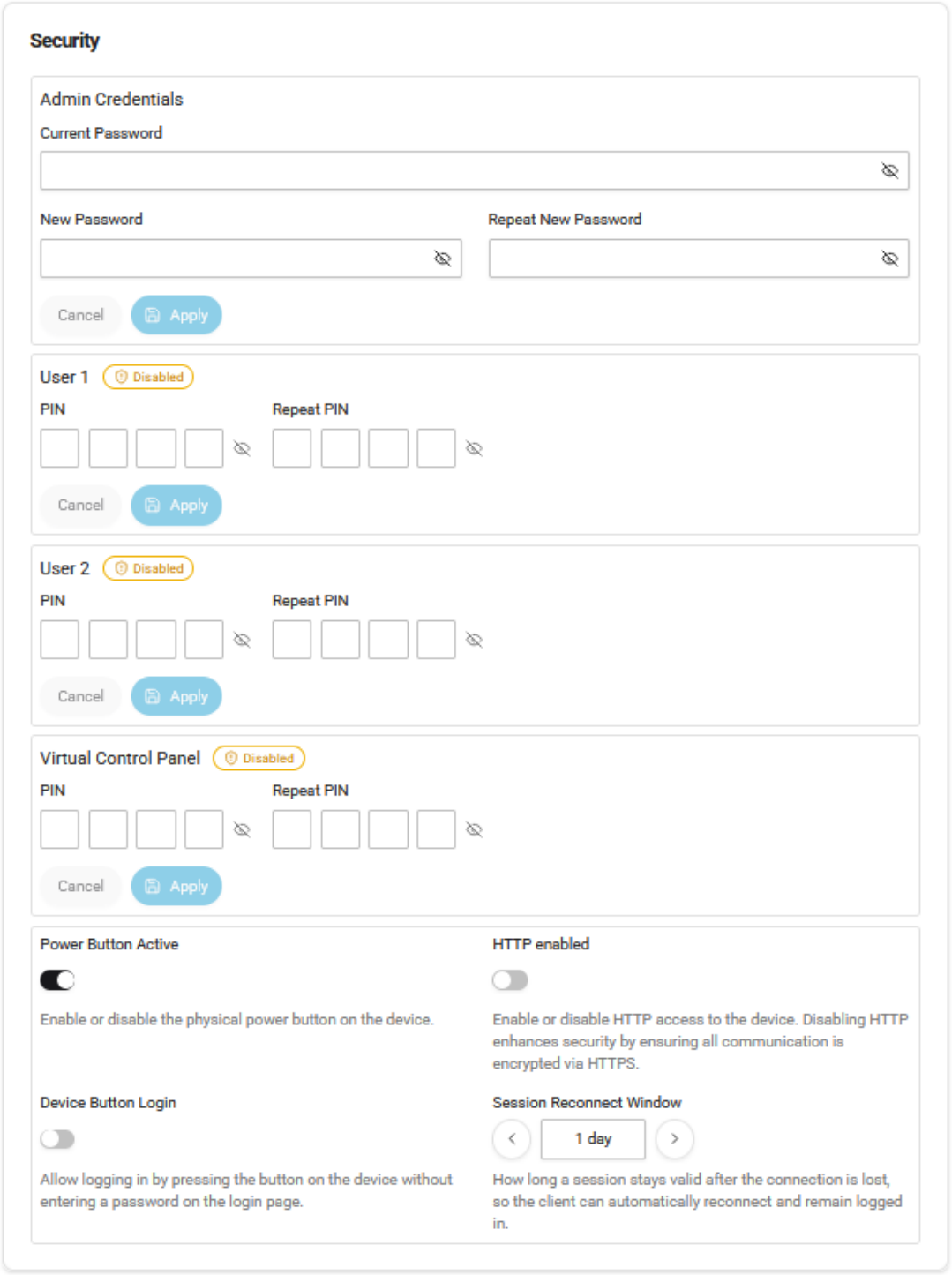
**Rescue IP Address (ETHERNET 1)**

If the configured network settings are unknown or inaccessible, the PM3000-X can always be reached through the rescue IP address:

- 10.10.10.1

PRELIMINARY

### 7.8.4.4 Security




The **Security** page manages access permissions and authentication settings.

**Administrator credentials**

Change the administrator password used to access all device functions.

**User PINs**

Configures the four-digit PINs used by User 1 and User 2 for access to their assigned mixer interfaces.

**Virtual Control Panel PIN**

Enables PIN protection for the Virtual Control Panel and configures the required access PIN.

PRELIMINARY

**Device Button Login**

Allows the front-panel **Standby/Connect** button to be used as an alternative administrator authentication method.

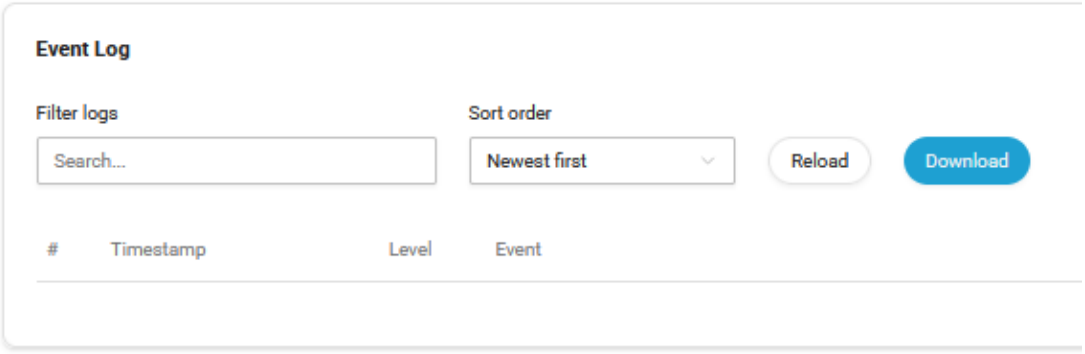
When **Device Button Login** is selected during login, the front-panel button flashes for 30 seconds. Pressing the button during this period authorizes administrator access without entering the administrator password.

**Power Button Active**

Enables or disables the power button on the front panel.

**Note**: To shut down the PM3000-X completely you need to terminate the connection to mains power.

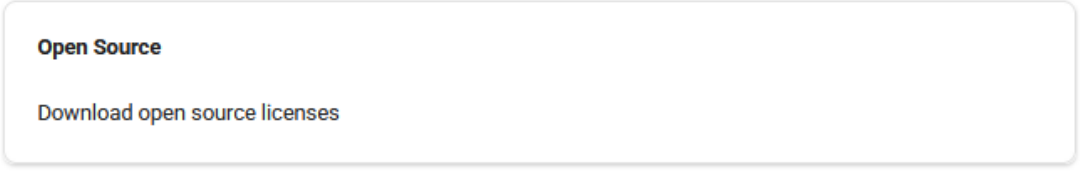
### 7.8.4.5 Logging




Displays the system log.

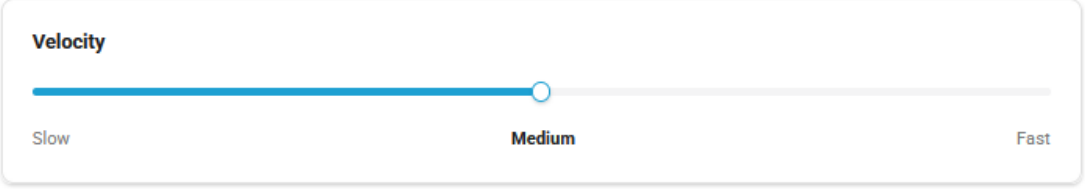
The log contains information about device operation, configuration changes, warnings, and system events. This information may be requested by technical support when troubleshooting a problem.

### 7.8.4.6 Miscellaneous




Provides access to licenses and copyright notices for third-party open-source software used by the PM3000-X.

### 7.8.4.7 Ribbon




Adjusts the sensitivity of the **Ribbon Bar** used for parameter adjustment on the mixing page.

Available settings determine how quickly parameter values change when using the Ribbon Bar.

The default setting is **Medium**.

PRELIMINARY

# 8 Technical data

## 8.1 Output power

| OUTPUT POWER | |
|---|---|
| Total rated output power[1] | 3000 W |
| Number of amplifier channels | 4 |

| Load | 2 Ω | 2.7 Ω | 4 Ω | 8 Ω |
|---|---|---|---|---|
| **Maximum Output Power**[1] | | | | |
| All channels equally driven | 750 W | 750 W | 600 W | 750 W |
| Max. per channel | 1000 W | 800 W | 600 W | 1000 W |

| Direct Drive | 70 V | 100 V |
|---|---|---|
| **Maximum Output Power**[1] | | |
| All channels equally driven | 750 W | 750 W |
| Max. per channel | 750 W | 1000 W |

| | |
|---|---|
| Maximum Output Voltage, 5 - 16 Ω mode, per channel | 145 $V_{peak}$ |
| Maximum Output Current, 2 - 4 Ω mode, per channel | 33 $A_{peak}$ |

[1]Test signal for max. output power according to IHF-A-202 (Dynamic-Headroom, burst 1 kHz / 20 ms on / 480 ms off / low level -20 dB)

## 8.2 Amplifier

| AMPLIFIER | |
|---|---|
| Voltage Gain, ref. Line Out Lo-Z / 70V / 100V mode | 30 dB / 33 dB / 36 dB |

PRELIMINARY

| AMPLIFIER | |
|---|---|
| Input Sensitivity, Mic in, all level controls in max. position, 100V mode | -74 dBu (155 µV) |
| THD+N<br>3 dB below max, 1 kHz, AES17 | < 0.1% |
| Crosstalk<br>ref. 1 kHz, 12 dB below max, 8 Ω | < -75 dB |
| Frequency Response<br>ref. 1 kHz, Mic In to Speaker Out | 20 Hz to 20 kHz (±1 dB) |
| Damping Factor<br>20 Hz to 200 Hz, 8 Ω | > 200 |
| Output Stage Topology | Class D, fixed frequency |
| Output Noise, A-weighted,<br>Fader down, Eco mode | < -70 dBu |

## 8.3 Mixer

| MIXER | |
|---|---|
| **Mic/Line Inputs** | |
| Channels | 8 |
| Gain | 0 to 60 dB |
| Phantom power | +48 V, switchable per input |
| Line Attenuation | 14 dB |
| Max. Input Level Mic,<br>balanced / unbalanced | +18 dBu / +12 dBu |
| Max. Input Level Line, balanced / unbalanced | +32 dBu / +22 dBu |
| Input Impedance Mic / Line, balanced | 3.4 kΩ / 18 kΩ |
| E.I.N. (A-weighted) @ 150 Ω | -127 dBu |
| CMRR, 30 dB Gain, 1 kHz | > 80 dB |
| AD conversion | 24 bit, 120 dB(A) dynamic range |
| **Line Outputs** | |
| Mix Busses | Aux 1, Aux 2, Master, PFL |
| Mix Outputs | Aux 1, Aux 2, Master, Master B, Phones |
| Max. Output Level | +18 dBu |
| Line output impedance | 100 Ω, active balanced |

PRELIMINARY

| | | |
|---|---|---|
| **MIXER** | | |
| Output Noise, A-weighted, Fader down | < -96 dBu | |
| Phones output | to drive 16 - 250 Ω | |
| DA conversion | 24 bit, 115 dB(A) dynamic range | |
| **Mic Inputs to Line Outputs** | | |
| Frequency response, ref. 1 kHz | 20 Hz to 20 kHz (±0.5 dB) | |
| THD+N, +15 dBu, 1 kHz, AES17 | < 0.003% | |
| Latency | 0.96 ms | |
| Reference level for 0 dBFS | +18 dBu | |
| **Channel Signal Processing** | | |
| High-Pass Filter | 80 Hz, 24 dB/Oct. | |
| Vocal Voicing Filter | special filter for voice enhancement | |
| 4-Band EQ | Lo-Shelf (60 Hz), Lo-Mid (300 Hz), Hi-Mid (3 kHz), Hi-Shelf (12 kHz), ±15 dB | |
| X-TRA EQ+ | Low | Shelf/Bell (Q = 3.0), 20 Hz - 200 Hz, ±15 dB |
| | Lo-Mid | Q = 1.0 / 3.0, 100 Hz - 2 kHz, ±15 dB |
| | Hi-Mid | Q = 1.0 / 3.0, 400 Hz - 8 kHz, ±15 dB |
| | High | Shelf/Bell (Q = 3.0), 2 kHz - 20 kHz, ±15 dB |
| X-TRA Compressor | Threshold, Ratio, Gain, slow/fast, Bypass | |
| X-TRA Noise-Gate | Threshold, Depth, Hold, slow/fast, Bypass | |
| Automixer | gain-sharing for channels 1 - 8 | |
| Ducker | for USB input (triggered by channels 1 - 8) | |
| PAN / BAL | Channels 1 - 8 / USB | |
| Level, Mute, input VU | Channels 1 - 8, USB input | |
| Graphic EQs | 2 x stereo (Master, Master B), 2 x mono (Aux 1, Aux 2) | |
| Graphic EQ frequencies | 63, 100, 160, 250, 400, 630 Hz, 1.0, 1.6, 2.5, 4.0, 6.3, 12.0 kHz, ±10 dB | |
| Feedback Filter (Aux 1 & Aux 2) | Notch filter (Q = 10), 70 Hz - 7 kHz | |
| Mixer Presets | 10 | |
| **Effects** | | |

PRELIMINARY

| MIXER | |
|---|---|
| FX engines | 2 x Classic Dynacord Stereo FX (Reverbs, Delays, ...) |
| Factory presets | 100 with 4 editable parameters |
| User presets for FX | 20 per FX engine |
| **USB** | |
| Audio Interface | 2 in x 2 out, 44.1 / 48 kHz, class-compliant |
| File player (Media) | 44.1 / 48 kHz, wav, mp3 |
| Equivalent input level | +18 dBu @ 0 dBFS |

## 8.4 Output signal processing

| OUTPUT SIGNAL PROCESSING | |
|---|---|
| Sample rate | 48 kHz |
| Speaker processing | FIR-Drive settings for 8 outputs (4 amp channels, Aux 1 & 2, Master B) |
| Output delay | 8 x 300 ms (4 amp channels, Aux 1 & 2, Master B) |
| Output Presets | 10 |

## 8.5 Connectivity

| CONNECTIVITY | |
|---|---|
| Mic/Line Inputs | 8 x Combo XLR/TRS |
| Master and Aux Outputs | 4 x XLR, balanced |
| Master B Outputs | 2 x 1/4" TRS, balanced |
| Headphone Output (Phones) | 1 x 1/4" TRS, stereo |
| USB Audio Interface (front) | 1 x USB-C, power sourcing 5 V / 1.5 A |
| USB Media (front) | 1 x USB-A, 5 V / 0.5 A |
| USB Power Only (rear) | 1 x USB-C, 5 V / 1.5 A |
| Speaker Outputs | 4 x 4-pole twist-lock |
| Footswitch | 1 x 1/4" TRS, (T: on/off, R: 3.5V / 20mA, S: GND) |
| MIDI IN | 1 x 5-pin DIN |

PRELIMINARY

| CONNECTIVITY | |
|---|---|
| Ethernet | 2 x RJ45 |
| Mains Input | 1 x IEC C14, V-Lock |
| **Control Port** | |
| GPI Control Port | 3 x GPI, Analog In / Digital In mode |
| Type | 1 x 8-pin Euroblock, male |
| Analog input range | 0 V to +13 V, 133 kΩ input resistance |
| Digital input | ON: < 1.5 V, OFF: > 2.0 V, internal pull-up (10 kΩ / 10 V) |
| Reference voltage output | +10 V, max. 200 mA, supervised, short-circuit protected |
| READY/FAULT contact | Galvanically isolated relay, max. 30 $V_{DC}$ / 500 $mA_{DC}$ |

## 8.6 General

| GENERAL | |
|---|---|
| **Power consumption** | |
| Rated power consumption | 550 W |
| Idle/Eco mode (output power < 1 W) | 26 W |
| Standby mode | 10 W |
| Power Requirements | 100 V to 240 V, 50 Hz to 60 Hz AC |
| Power Supply Topology | Switching Mode Power Supply with digitally controlled power factor correction (PFC) |
| Protections | Audio Limiters, High Temperature, DC, HF, Short Circuit, Back-EMF, Peak Current Limiters, Inrush Current Limiters, Mains Current Limiter, Mains Over-/ Under Voltage Protection |
| Cooling | Front-to-rear, temperature controlled fans |
| Operating Temperature Range | +5 °C to +40 °C (+41 °F to +104 °F) |
| IEC Protection Class | Class I (grounded) |
| Electromagnetic Environment | E1, E2, E3 acc. EN 55103 |
| Safety | IEC 62368-1:2018,<br>UL 62368-1, CSA C22.2 No. 62368-1 |
| EMC | EN 55032:2015+A11:2020,<br>EN 55035:2017+A11:2020,<br>EN 61000-3-2:2019+A2:2024, EN 61000-3-3:2013 |
| FCC/ICES | 47 CFR Part 15 (Class B) (US), ICES-003 (Canada) |

PRELIMINARY

| GENERAL | |
|---|---|
| Color | Black |
| Dimensions (W x H x D), without rack ears | 444 mm x 133 mm x 300 mm (17.5 in x 5.3 in x 11.9 in) |
| Weight | 10.4 kg (23.0 lb) |
| Shipping weight | 13.4 kg (29.5 lb) |

Device at rated conditions: Mic in, Gain 0 dB, Faders 0 dB, 2 - 4 Ω mode, 4 Ω loads, all channels driven, unless otherwise specified.

## 8.7 Mains operation and resulting temperature

| | $U_{mains}$ [V] | $I_{mains}$ [A][1] | $P_{mains}$ [W][4] | $P_{out}$ [W] | $P_d$ [W][3] | BTU/hr[2] |
|---|---|---|---|---|---|---|
| Standby | 230 | 0.3 | 11 | 0 | 11 | 37 |
| ecoRAIL (idle) | 230 | 0.4 | 24 | ≤1 | 23 | 78 |
| 1/8 of 750 W Pink Noise @ 8 Ω, (5-16 Ω mode) | 230 | 2.4 | 544 | 375 | 169 | 577 |
| 1/8 of 600 W Pink Noise @ 4 Ω, (2-4 Ω mode) | 230 | 2.1 | 425 | 300 | 125 | 427 |
| 1/8 of 750 W Pink Noise 70 V mode | 230 | 2.2 | 561 | 375 | 186 | 635 |
| 1/8 of 750 W 1 kHz sine 70 V mode | 230 | 2.7 | 591 | 375 | 216 | 737 |
| 1/8 of 750 W Pink Noise 100 V mode | 230 | 2.2 | 511 | 375 | 136 | 464 |
| 1/8 of 750 W 1 kHz sine 100 V mode | 230 | 2.4 | 524 | 375 | 149 | 508 |

[1]Conversion factors for mains current 100 V = 2.3, 120 V = 1.9, 240 V = 0.96
[2]1 BTU = 1055.06 J = 1055.06 Ws
[3]Power dissipation
[4]All powers measured without PoE provided. With PoE the mains power will drop, but device power loss will remain the same.

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