

PRE220/240

User Manual



www.audac.eu

ADDITIONAL INFORMATION

This manual is put together with much care, and is as complete as could be on the publication date. However, updates on the specifications, functionality or software may have occurred since publication. To obtain the latest version of both manual and software, please visit the Audac website @ www.audac.eu.

Index

Introduction	5
Precautions	6
Safety requirements	6
Caution servicing	6
EC Declaration of Conformity	6
Waste of Electrical and Electronic Equipment (WEEE)	7
Caution	7
Chapter 1: Pin connections and connectors	9
Connection standards	9
Chapter 2: Front & rear panel	10
Front panel overview	10
Front panel description	10
Rear panel overview	11
Rear panel description	11
Enabling phantom power & talkover	12
Chapter 3: Additional information	13
Technical specifications	13
Notes	15

Introduction

10-Channel stereo preamplifiers

The PRE2xx series preamplifiers are solutions for applications where a large number (up to 8) of microphones (or other mono balanced audio inputs) need to be mixed to two output zones. The multifunctional stereo design with a total of 10 inputs allows connection for any type of audio source such as microphones, Bluetooth devices or line level audio sources.

Channels one to eight are balanced inputs, allowing the connection of microphones or line level audio sources with the ability of enabling 48V phantom power to each input. They feature 3-band tone control and talk-over for priority announcements. The other two (9 and 10) inputs are unbalanced stereo line inputs allowing connection of any type of line level audio source.

An integrated Bluetooth receiver and a front panel 3.5 mm jack offer convenient wired or wireless connection possibilities for mobile and portable devices including laptops, smartphones and tablets. The front panel includes a master volume control with 2-band tone control and LED VU bar for each output.

Each input section is accommodated with input mixing dials and output selection switches. A priority mute for each zone output suppresses all (non-priority) music sources in case of contact closure, allowing linking autonomous alarm systems.

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. 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.

Note: The Grantee is not responsible for any changes or modifications not expressly approved by the party responsible for compliance. such modifications could void the user's authority to operate the equipment.

Precautions

READ FOLLOWING INSTRUCTIONS FOR YOUR OWN SAFETY

ALWAYS KEEP THESE INSTRUCTIONS. NEVER THROW THEM AWAY

ALWAYS HANDLE THIS UNIT WITH CARE

HEED ALL WARNINGS

FOLLOW ALL INSTRUCTIONS

NEVER EXPOSE THIS EQUIPMENT TO RAIN, MOISTURE, ANY DRIPPING OR SPLASHING LIQUID. AND NEVER PLACE AN OBJECT FILLED WITH LIQUID ON TOP OF THIS DEVICE.

DO NOT PLACE THIS UNIT IN AN ENCLOSED ENVIRONMENT SUCH AS A BOOKSHELF OR CLOSET. ENSURE THERE IS ADEQUATE VENTILATION TO COOL THE UNIT. DO NOT BLOCK THE VENTILATION OPENINGS.

DO NOT STICK ANY OBJECTS THROUGH THE VENTILATION OPENINGS.

DO NOT INSTALL THIS UNIT NEAR ANY HEAT SOURCES SUCH AS RADIATORS OR OTHER APPARATUS THAT PRODUCE HEAT

DO NOT PLACE THIS UNIT IN ENVIRONMENTS WHICH CONTAIN HIGH LEVELS OF DUST, HEAT, MOISTURE OR VIBRATION

THIS UNIT IS DEVELOPED FOR INDOOR USE ONLY. DO NOT USE IT OUTDOORS

PLACE THE UNIT ON A STABLE BASE OR MOUNT IT IN A STABLE RACK

ONLY USE ATTACHMENTS & ACCESSORIES SPECIFIED BY THE MANUFACTURER

UNPLUG THIS APPARATUS DURING LIGHTNING STORMS OR WHEN UNUSED FOR LONG PERIODS OF TIME

ONLY CONNECT THIS UNIT TO A MAINS SOCKET OUTLET WITH PROTECTIVE EARTHING CONNECTION

THE MAINS PLUG OR APPLIANCE COUPLER IS USED AS THE DISCONNECT DEVICE, SO THE DISCONNECT DEVICE SHALL BE READILY OPERABLE

THIS DEVICE IS NOT SUITABLE FOR USE IN LOCATIONS WHERE CHILDREN ARE LIKELY TO BE PRESENT



CAUTION – SERVICING

This product contains no user serviceable parts. Refer all servicing to qualified service personnel. Do not perform any servicing (unless you are qualified to)



EC DECLARATION OF CONFORMITY

This product conforms to all the essential requirements and further relevant specifications described in following directives: 2014/30/EU (EMC) and 2014/35/EU (LVD)



WASTE ELECTRICAL AND ELECTRONIC EQUIPMENT (WEEE)

The WEEE marking indicates that this product should not be disposed with regular household waste at the end of its life cycle. This regulation is created to prevent any possible harm to the environment or human health.

This product is developed and manufactured with high quality materials and components which can be recycled and/or reused. Please dispose this product at your local collection point or recycling centre for electrical and electronic waste. This will make sure that it will be recycled on an environmentally friendly manner, and will help to protect the environment in which we all live.

CAUTION

The symbols shown are internationally recognized symbols that warn about potential hazards of electrical products. The lightning flash with arrow point in an equilateral triangle means that the unit contains dangerous voltages. The exclamation point in an equilateral triangle indicates that it is necessary for the user to refer to the users manual.



These symbols warn that there are no user serviceable parts inside the unit. Do not open the unit. Do not attempt to service the unit yourself. Refer all servicing to qualified personnel. Opening the chassis for any reason will void the manufacturer's warranty. Do not get the unit wet. If liquid is spilled on the unit, shut it off immediately and take it to a dealer for service. Disconnect the unit during storms to prevent damage.

CAUTION HOT SURFACE



POWER SUPPLY AND POWER CORD REQUIREMENTS

Power supply class I grounding requirements:

For protection from fault currents, the equipment shall be connected to a grounding terminal. Plug the system power cord into an AC outlet that provides a ground connection. Substitute cords may not provide adequate fault protection. Only use the power cord supplied with this product or an authorized/equivalent replacement

Safety notices:

Denmark:

Apparatets stikprop skal tilsluttes en stikkontakt med jord, som giver forbindelse til stikproppens jord.

Finland:

Laite on liitettävä suojakoskettimilla varustettuun pistorasiaan.

Norway:

Apparatet må tilkoples jordet stikkontakt.

Sweden:

Apparaten skall anslutas till jordat uttag.

ATTENTION

The fuse (T500mAL/250V) provides a safeguard function to the device. When replacing the fuse, make sure that the value of the replacement matches the value of the original fuse. Identification of a suitable replacement component or substitute shall be done by qualified technicians.

The device has been evaluated to meet general RF exposure requirement. To maintain compliance with FCC's RF exposure guidelines, the distance must be at least 20 cm between the radiator and your body, and fully supported by the operating and installation configurations of the transmitter and its antenna(s).

Chapter 1

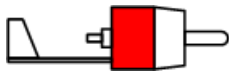
Pin connections and connectors

CONNECTION STANDARDS

The in- and output connections for AUDAC audio equipment are performed corresponding to international wiring standards for professional audio equipment.

Cinch (RCA):

For unbalanced line input connections



Tip: Signal
White: Left

Sleeve: Ground
Red: Right

XLR:

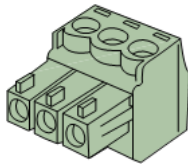
For balanced signal input connections



Pin 1: Ground
Pin 2: Signal +
Pin 3: Signal -

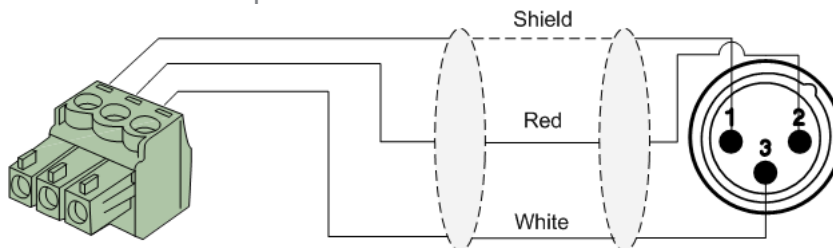
3-Pin Terminal Block:

For balanced signal input & link output connections.

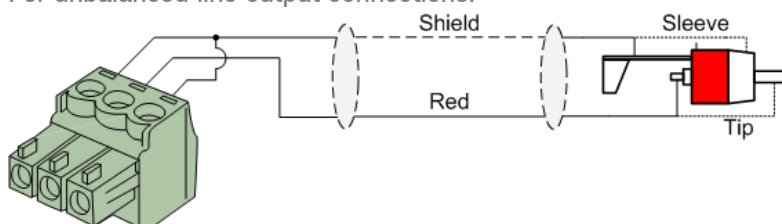


Left: Signal - (XLR Pin 3)
Center: Signal + (XLR Pin 2)
Right: Ground (XLR Pin 1)

For balanced line output connections:



For unbalanced line output connections:



Chapter 2

Front & rear panel

Front panel overview



Front panel description

Input mixing controls:

Using the input mixing controls, the individual level for each input can be adjusted. Each input control is provided with a clip indicator LED which illuminates when the maximum level (clipping) is almost reached. To ensure the best signal-to-noise ratio, illumination of this indicator should only occur at peak levels. When it illuminates frequently, the channel will be overdriven and a distorted 'clipping' sound will occur.

Signal routing selection buttons:

The signal routing buttons located on the right side of each input mixing control (indicated with 'Z1' and 'Z2' for PRE220 and 'Z1 to Z4' for PRE240) are used for selection for routing each input to one or both output channels. Press this button to enable the input routing to the corresponding output. The corresponding routing indicator LED illuminates when routed.

Bluetooth (CH1):

The integrated Bluetooth receiver is mixed with channel 1 and contains a pairing button besides the input mixing control. This allows connection of the pre-amplifier with any supporting audio source device such as smartphone or tablet. The LED positioned beside this button indicates the current operation mode. When non illuminating, the device cannot be discovered by (new) Bluetooth devices. When blinking, the device is not connected but can be discovered through Bluetooth devices, and when illuminated it is connected and doesn't allow pairing with another device.

When pairing with your device for the first time, the 'PAIR' button should be pressed and the LED will start blinking for about 2 minutes. During this period, the device can be discovered and is indicated as Bluetooth ID 'AUDAC PRE series xxxx' (where the xxxx stands for an unique ID for each single device). When both devices have been paired before, the transmitter will be recognized by the receiver and will allow continuous pairing without pressing the 'PAIR' button.

3.5 mm Jack input (CH2):

A 3.5 mm jack input connection is provided on the front panel of the unit on top of the channel 2 mixing control. This input is an unbalanced stereo line input, mixed with the rear panel input of channel 2. Any portable device (such as laptop, smartphone or tablet) with 3.5 mm jack audio output can be connected to this easy accessible input.

NOTE
The gain control potentiometers for channel 1 (mixed with Bluetooth receiver) and channel 2 (mixed with front 3.5 mm jack input) are also affecting the level for these secondary inputs.

Output master control:

Each output section contains a master volume control, two band tone control and 6-segment VU LED bar. The master volume control allows regulation of the overall output level, while two-band tone control allows bass / treble adjustment within a range of ± 15 dB and the VU LED bar indicates the overall output level.

Power switch:

Allows to power the system ON and OFF. The blue indicator LED illuminates when switched on.

Rear panel overview



Rear panel description

AC Power inlet with fuse:

The mains power supply (100–240V AC – 50/60 Hz) has to be applied to this AC power inlet. The connection is made by an IEC C14 power connector and is fitted with a fuse. When replacing the fuse, make sure that the value of the replacement fuse matches the value of the original fuse. (T500mA/250V)

Balanced stereo line output:

The balanced stereo line outputs are implemented using two 3-pin terminal block output connectors. The audio signal available on these connectors allows it to be fed to any amplifier. A mode switch allows to convert the output between stereo and mono. In mono mode, a summed mono signal will be available on both left & right outputs, allowing the signal be fed to mono systems such as 100V PA systems.

Priority mute contact:

A priority mute contact is provided with each output, allowing to completely mute the music at presence of a contact closure between both terminals. This contact is convenient for situations where a separate emergency system is installed and complete background music muting is required at occasion of a (fire) alarm. The emergency system contact outputs can be connected to this contact input.

Bluetooth antenna connection:

The included Bluetooth antenna should be connected to this terminal for good signal reception. It is connected using an SMA type connector and allows antenna extension (with an optional extension cable) for mounting outside of closed rack cabinets.

Unbalanced stereo line inputs:

Unbalanced line level input sources (e.g. media-players, radio tuners, ...) can be connected to line inputs channel 1 and channel 2. These standard line inputs are implemented using RCA connectors and fitted with a gain control potentiometer whereby the input sensitivity can be controlled within a range of +4 dB ~ -20 dB.

Balanced microphone inputs:

Balanced mono sources (e.g. microphones) can be connected to inputs mic 1 to mic 8 which are implemented using XLR connectors. They are fitted with a gain control potentiometer whereby the sensitivity can be adjusted within a range of -6 dB ~ -50 dB.

These inputs are fitted with a three-band tone control, allowing signal equalization within a range of ± 15 dB.

Enabling phantom power & talkover



Phantom power:

The phantom power switches on the rear side of the pre-amplifier enable phantom power (48V) to the inputs for powering condenser microphones. The first switch 'MIC 1' enables phantom power to the first input, the second switch 'MIC 2' enables phantom power to the second input while switch 'Mic 3–8' enables phantom power to all other microphone inputs. Make sure the connected devices are supporting phantom power before enabled, to avoid damage to the connected equipment.

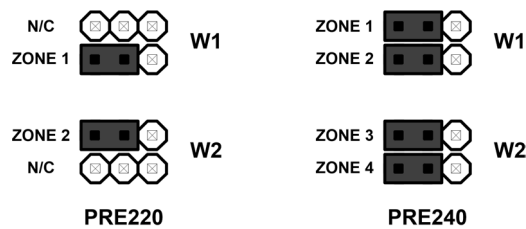
Talkover (Mic 1/2):

When talkover switches for 'Mic 1' and/or 'Mic 2' are enabled, it suppresses all other audio sources in case of presence of a signal on these inputs. All other audio signals are suppressed with -24 dB. This function is useful when used in combination with priority audio sources which shall be heard clearly under all circumstances (e.g. priority microphones, voice announcement systems, alarm systems, ...).

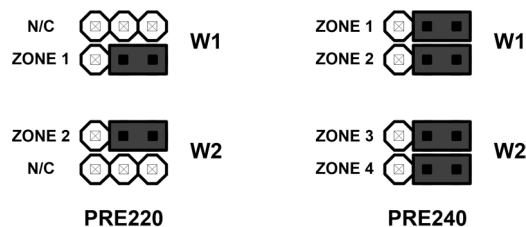
Talkover (Mic 3–8):

When talkover for more than two inputs is required, this can be enabled for microphone inputs 3 to 8 through jumpers located internally in the device (on the front PCB board). For enabling this, the top cover of the device shall be removed and the jumper settings shall be made as shown in the below diagram.

The talkover is enabled when the jumpers are placed in the left position, while the talkover is disabled when the jumpers are in the right position.



Jumper settings for enabled talkover



Jumper settings for disabled talkover

Jumpers with positions 'W1' and 'W2' are affecting input 3, while higher numbers are related with higher input numbers.

ATTENTION

Because these jumper settings require the housing from the electronic device to be opened, these settings are allowed to be made by qualified technicians only.

Chapter 3

Additional information

Technical specifications

Inputs	Mic 1 to 8	Type	Balanced microphone
		Connector	Female XLR
		Sensitivity	-6 dB ~ -50 dB
		Other	3-Band tone control Phantom power (48V DC) Talkover
	Channel 1 & 2	Type	Unbalanced stereo line
	Connector	Female RCA (2x)	
	Sensitivity	+4 dB ~ -20 dB	
Bluetooth		Type	Integrated Bluetooth receiver
			Mixed with Channel 1
		Connector	Male SMA connector
		Other	Included antenna
	Front line input	Type	Unbalanced stereo line
		Mixed with Channel 2	
	Connector	3.5 mm stereo jack	
	Priority mute contact	Type	Priority mute
			2-pin terminal block ~ 3.81 mm
Outputs		Type	Balanced stereo line
		Connector	(2 x for PRE220 – 4 x for PRE240) 3-pin terminal block ~ 3.81 pitch
Frequency response			20 Hz – 20 kHz
Signal to Noise ratio			> 90 dB
Total Harmonic Distortion + Noise			< 0.05%
Crosstalk			> 70 dB
Controls			Front panel control
Bluetooth receiver			Bluetooth spec V4.1 Class 2 output power
Indicators			Power Clip (input & output) Output VU
Power supply	Type		Switching mode
	Range		100–240V~, 50/60 Hz
Power consumption			26 Watt

Dimensions (W x H x D)		482 x 88 x 330 mm
Unit height		2 HE
Weight	PRE220	4.45 Kg
	PRE240	4.50 Kg

