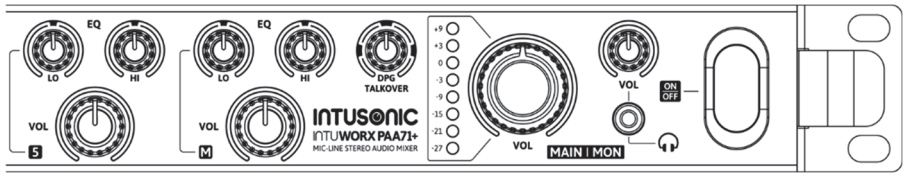
USER MANUAL | PAA71+

INTUSONIC



INTUWORX PAA71+

MIC/LINE Stereo Audio Mixer

RevC

INTUSONIC

INTUSONIC™ is a brand of
Unitec Industries Limited

WWW.INTUSONIC.COM

Welcome

Thank you for choosing INTUSONIC for your sound system. To make sure that this product meets your expectations and provides long-term, reliable performance, please read and follow this instruction manual carefully.

Manual language

UK This user manual is written in English. For other languages, please use an auto-translation service of your choice.

FR Ce guide est écrit en anglais. Pour les autres langues, veuillez utiliser un service de traduction automatique de votre choix.

DE Diese Anleitung ist in Englisch verfasst. Für andere Sprachen verwenden Sie bitte einen automatischen Übersetzungsdienst Ihrer Wahl.

ES Este manual está escrito en Inglés. Para otros idiomas, utilice un servicio de traducción automática de su elección.

PT Este manual está escrito em Inglês. Para outros idiomas, use um serviço de tradução automática de sua escolha.

IT Questo manuale è scritto in inglese. Per altre lingue, utilizza un servizio di traduzione automatica a tua scelta.

Important safety instructions

- Read these instructions and all markings on the product. Keep these instructions.
- Heed all warnings and instructions, both in this manual and on the product.
- Clean only with a dry cloth. Unplug the unit or its power adaptor/charger from AC supply before cleaning.
- Do not use this product near water and avoid any exposure to water.
- Before connecting this product to any AC supply (if any), make sure to check whether the AC mains voltage and frequency match the indication on the product and its packaging.
- Only connect this product or its power adaptor/charger to an AC supply (if any) with sufficient power handling, protective earth connection, ground-fault (earth-fault) protection and overload protection.
- Disconnect the product or its power adaptor/charger from the AC supply (if any) during thunderstorms or longer periods of being unused.

Warranty

This product is guaranteed to be free of defects in material and workmanship at the time of purchase. Send-in warranty repair is granted for a period determined by

- A period of at least 6 months (from the date of purchase), or the minimum period required by law in the territory of sale, whichever is longer.
- A period of no longer (from the date of purchase) than the specified average lifetime of a component by the component's manufacturer.

- Make sure any heat sink or other cooling surface, or any air convection slot, is exposed sufficiently to free air circulation and is not blocked.
- Do not operate this product in environmental temperatures exceeding 35 degrees Celsius and/or 85% relative humidity.
- Position the product in a safe and stable place for operation, out of reach of unauthorized persons.
- Make sure any cable connections to and from the product are neither subject to potentially destructive mechanical impact nor present any risk of stumbling or other accident risk to people.
- Audio equipment may generate sound pressure levels sufficient to cause permanent hearing damage to persons. Always start up at low volume settings and avoid prolonged exposure to sound pressure levels exceeding 90dB.
- Do not open this product for service purposes. There are no user-serviceable parts inside.
- Warranty will be void in any case of unauthorized service by the user or other not authorized persons.
- Take any precaution required by local law, applicable regulations or good business practice to avoid injury of people or material damage by use of this product.

Symbols used in this manual



DANGER! Safety hazard. Risk of injury or death.



ATTENTION! Read manual before installation and operation.



WARNING! Hazardous voltage. Risk of severe or fatal electric shock.



WARNING! Fire hazard.

Health Advice

This unit may produce and absorb electromagnetic radiation. The strength of radiation and the sensitivity for disturbing interference matches the CE and FCC requirements. A corresponding sign is printed on the backside of the unit. Any change or modification may affect the behavior of the unit concerning electromagnetic radiation, with the CE and FCC requirements eventually not to be met any more. The manufacturer takes no responsibility in this case.

Functional Advice (only for powered products)

This unit is immune to the presence of electromagnetic disturbances – both conducted and radiated - up to a certain level. Under peak conditions, the unit is classified to show a “class C” performance criteria and may encounter temporary degradation or loss of function which may need manual help to recover. In such case, switch the unit off and back on to recover.

Environmental Advice

This unit is built to conform to the ROHS-2 standard according to directive 2011/65/EU and the WEEE directive 2012/19/EU of the European Parliament and of the Council of the European Union. Under these regulations, the product shall not be discarded into regular garbage at the end of its life, but shall be returned to authorized recycling stations.

Battery Advice (only for battery-powered products)

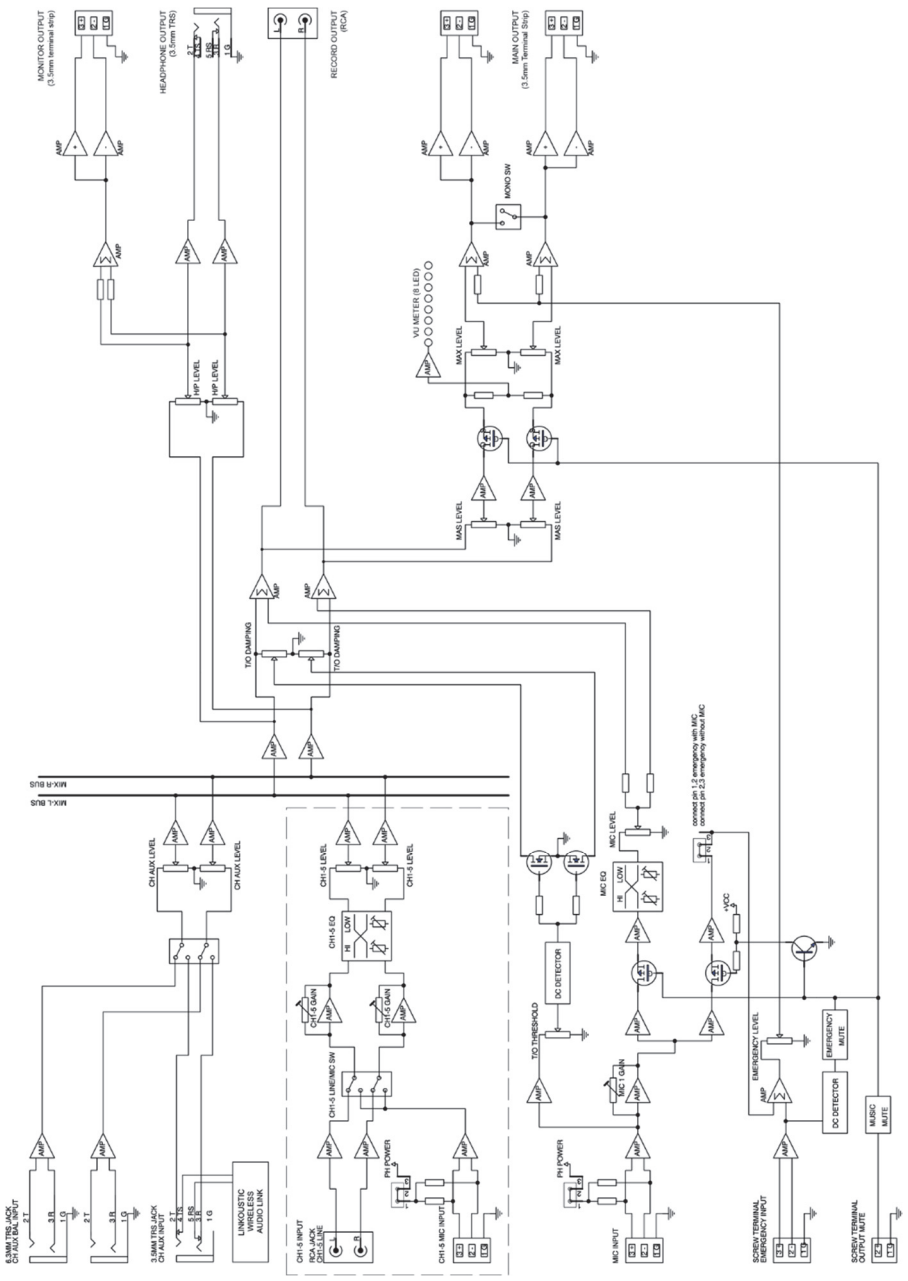
- Some products may contain a battery. Refer to the further chapters of this manual to determine whether this product contains a battery, and whether this is removable and/or rechargeable.
- Where applicable, adhere to the relative regulations in aviation transport.
- If the battery is rechargeable, the battery might not be fully charged or partly discharged at the time of purchase. Recharge before use. Only use recommended or included chargers with appropriate voltage/current rating.

WARNING! Fire hazard. Batteries might heat up during charging. Only charge in a place with sufficient air convection.

Wireless Advice

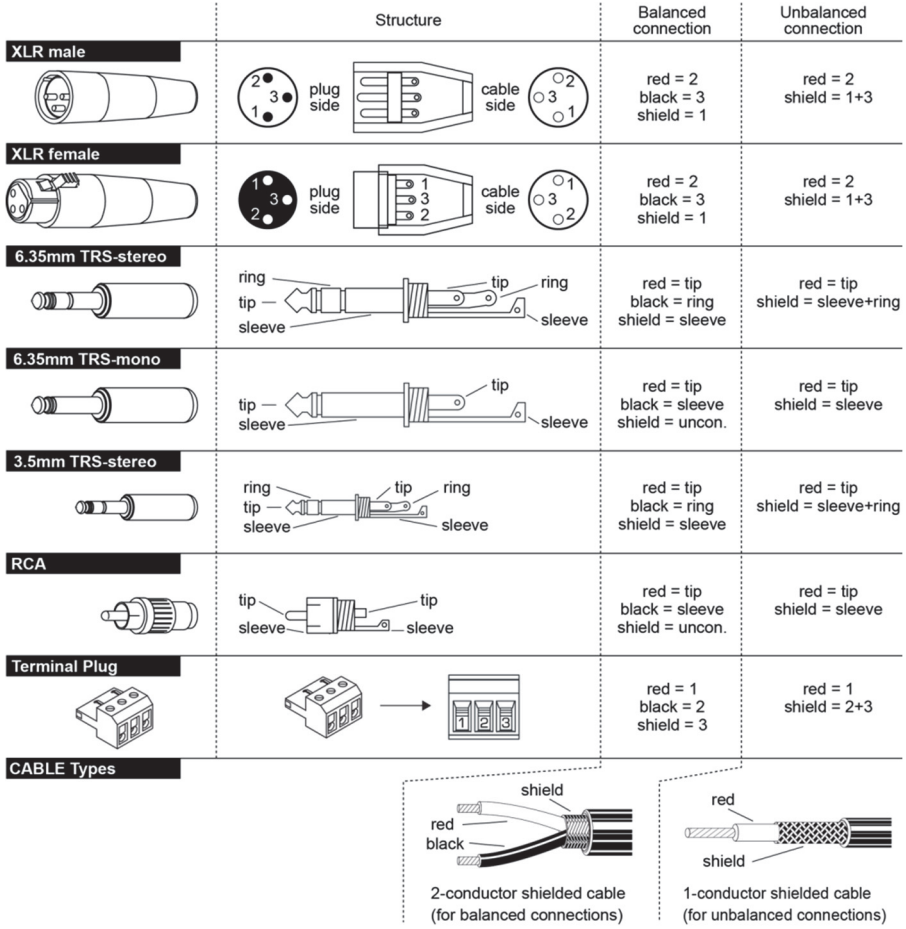
- Some products may contain a wireless transmitter, receiver or transceiver. Refer to the further chapters of this manual to determine whether this product contains a wireless function, and in which frequency this operates.
- Make sure the frequency of operation does not require a specific license in the territory you operate the product in. If it does, obtain such license prior to any operation.
- Certain wireless technologies are designed for short distance operation. The actual distance will depend on how jammed the

Block diagram



Cabling

This product may use all or a selection of the below connector types, for which the pin assignment must comply with the following specification. Always make sure to use good connectors and cables to ensure proper operation. Balanced connections are to be preferred over unbalanced connections where applicable and feasible. Avoid unbalanced connections exceeding 2m of cable length.



frequency band is at the location of use. In adverse cases, operational distances might be as low as 5m. In normal circumstances, 10m can be assumed. Test the operational distance prior to relying on the wireless functionality in a specific application.

Unpacking

Please check that the box contains the following items:

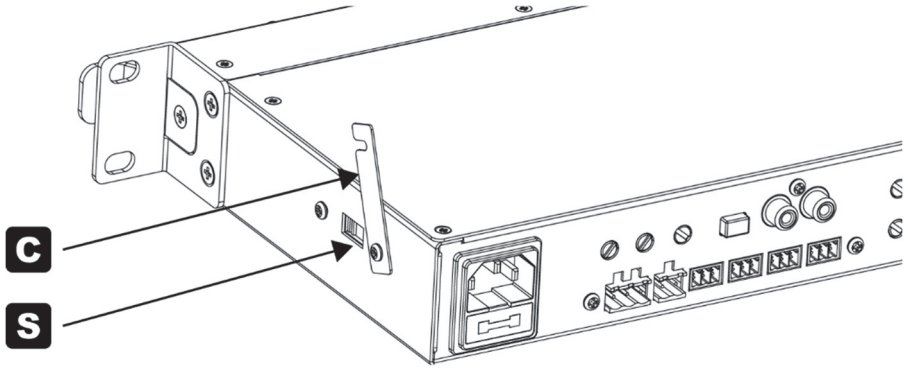
- 1 pc. main unit
- 1 pc. AC cord set
- 1 pc. instruction manual

If any part is missing, please contact your dealer immediately for replacement.

WARNING! After unpacking, and before plugging the AC cord in the wall outlet, check whether the AC mains voltage and frequency is the same as this product is specified for (see rear panel of product). Whenever the specified voltage or your AC plug should not match the local conditions, do NOT plug the AC cord into the wall outlet and contact your dealer immediately.

AC Mains Voltage Setting

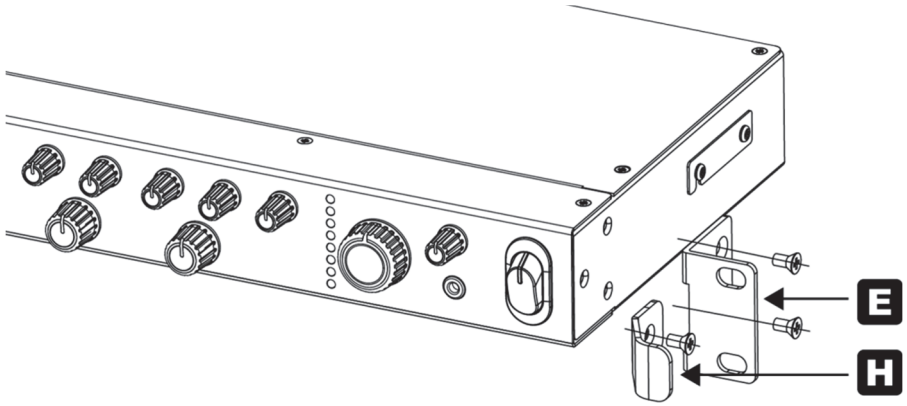
If the AC mains voltage of your power outlet and the setting of the AC supply voltage on your unit do not match, contact your dealer, contractor or a qualified service workshop to change the setting of the AC voltage selector. The AC voltage selector switch is located on the side panel of the unit, close to the AC inlet.



For a qualified technician to change the AC voltage setting, the AC cord shall be detached, the security cover (C) shall be flipped up, and the Voltage selector switch (S) shall be set to the new position. Afterwards, the security cover (C) shall be set back into a protective position to avoid tampering with the switch.

Rack/Cabinet Mounting

This product comes pre-assembled with 19'' rack ears and handles. Depending on the location of installation and use, it might be commendable to remove either only the handles, or both the rack ears and handles. To do so, remove the screws at the side panel of the units as shown: To remove the handle (H), remove the single center screw out of the group of 3 screws at the front side of the metal cabinet. Pull the handles out to the front. To also remove the rack ears (E), remove the remaining two screws and then remove the rack ear.



Removal / Retrofit of wireless option (Linkoustic™)

Depending on the location and period of purchase, your product may be fitted with a Linkoustic™ wireless audio receiver option. This is not in all applications a wanted feature, and may be removed by the installer when required. Likewise, if at any point of time required, it may be retrofitted again. For the latter purpose, keep all removed parts in a safe and dry storage location. To start removing the wireless audio receiver option, follow the below procedure.

Linkoustic™ Wireless Audio Link

If your product is fitted with the optional Linkoustic™ wireless audio link, you can enjoy the ease of wireless audio replay from compatible devices. Operation is simple and convenient:

- When powering the unit on, it will be ready to pair with a Linkoustic™-compatible device, indicated by the pairing LED (19) blinking.
- It will then automatically pair with the previously known compatible device if this device is available. The LED will then be constantly lit.
- If no previously known device is available, the unit will keep being available for pairing, which is indicated by the pairing LED (19) blinking, until a pairing process is executed from a new compatible device. Once paired with this new compatible device, the pairing LED (19) will turn to be constantly lit.
- If during the "ready to pair" status (LED blinking) or the "paired" status (LED on) the button is pressed and held for a prolonged period, the wireless audio link will be turned off. The pairing LED (19) will then be off. Pressing the button again, will turn the wireless audio link on again and the same process starts as from powering the unit on.

Technical Data

Line Inputs, Input Impedance	……...……...50kΩ
Line Inputs, residual noise	……...……-81dBu
Line Inputs, THD	……...……0.0085%
Mic Inputs, Input Impedance	……...……...6kΩ
Mic Inputs, residual noise	……...……-76dBu
Mic Inputs, THD	……...……0.017%
Main Out, Stereo Crosstalk	……...……-65dBu
Main Out, FQ response	……..20H-20kHz (+-0.5dB)
AC IN	……115/230V~, 50/60Hz, 12W
Dimensions WxDxH	……482.6x180x44 mm
Weight	……...2.5 kg

27 **Equalizer for priority microphone channel "M"**. Allows the adjustment of the tonal balance for the priority microphone in two frequency bands with an adjustment range of ±12dB.

28 **Talkover Damping Control for priority microphone channel "M"**. This control determines the amount of damping applied to the program signal when the priority microphone is spoken into. Being fully turned clockwise, once speaking into the microphone, the program signal is completely suppressed. Being turned fully counter-clockwise, the talkover function is off. Any position in between allows seamless adjustment of the amount of damping applied to the program signal. The threshold level from which on this function is enabled can be set by the rear panel threshold level control (5).

29 **Main (stereo) output level control.** Determines the main output level present at the main stereo output (2).

30 **Main (stereo) output level meter.** Displays the output level of the stereo main output (2). Note that the level limitation applied by means of the rear-side maximum level control (4) is not displayed on this meter.

31 **Monitor level.** Determines the signal volume at the front-panel headphone output (32) and the rear-panel monitor output (7). Note that the volumes for the front and the rear panel cannot be set individually. This signal does not include the microphone signal, and is likewise unaffected by the Talkover (5/25), Mute (8) and Emergency (9/10) functions. When using headphones, always set this control to minimum before putting on headphones, as sudden high-volume impact may damage your ears. See further health advice below.

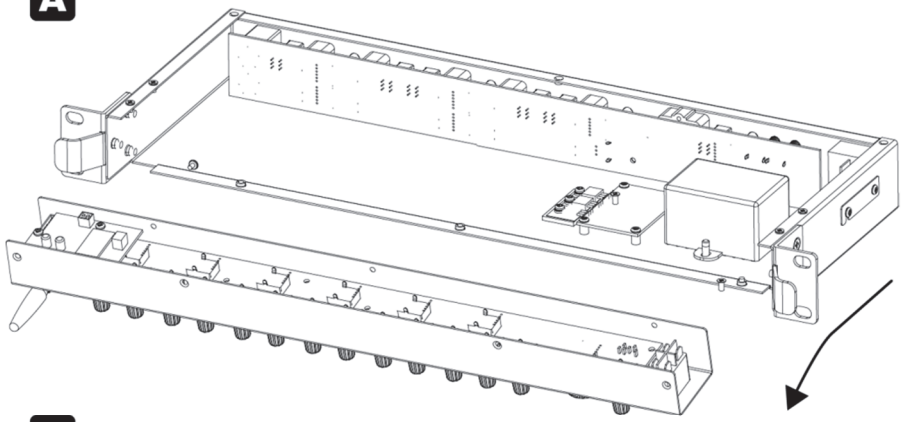
32 **Headphones output.** A 3.5mm TRS connector to connect a headphone. Turn the Monitor level (31) down before plugging in any headphones.

33 **Power switch.** Switches the unit on and off. Make sure to switch the unit off when not in use. The ON position is indicated by a backlight.

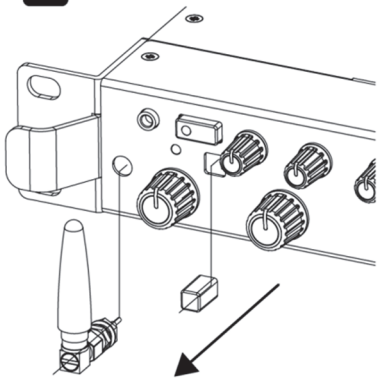
WARNING! Any action which requires opening the product shall only be expedited by qualified service technicians. Remove the AC cord before opening the product. Be aware that the warranty may be void unless you are an appointed Intusonic installer, contractor or technical service provider.

- Unscrew the top lid from the product and remove it. Unscrew the front panel assembly from the main body of the unit and detach it to gain access to the rear side of the front panel. (A)
- Loosen the antenna socket and unplug the antenna cable from the audio receiver PCB, then remove the antenna. Also remove the relative switch cap. (B)
- Re-assemble the unit and close the open apertures with the provided rubber plugs. (C)

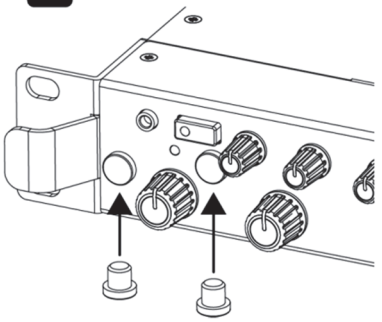
A



B



C



About this product

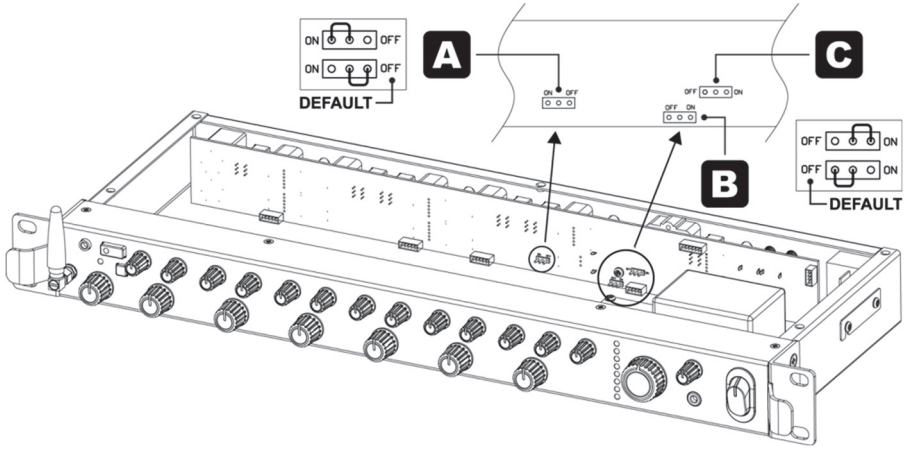
The PAA-71+ is a 7-Channel mic/line mixer with 5 multi-purpose mic/line inputs, one dedicated microphone input and talkover feature. All inputs feature EQ's and Gain control. The balanced output is provided both on TRS jacks as well as Phoenix-compatible connectors. Remote muting and emergency signal replay facilitate the use in installed sound systems. Certain versions of this product may be fitted with an additional Linkoustic™ wireless audio received module.

Configuration

The PAA71+ can be configured to meet certain operational requirements by setting internal jumpers. As a factory default, all jumpers are set to the OFF position.

WARNING! Any action which requires opening the product shall only be expedited by qualified service technicians. Remove the AC cord before opening the product. Be aware that the warranty may be void unless you are an appointed Intusonic installer, contractor or technical service provider.

To change the jumper settings, unscrew the top lid from the product and remove it. The jumpers are located on the rear PCB assembly as per following illustration and functional description:



18 **Wireless Audio Link antenna.** If your product is fitted with the optional Linkoustic™ wireless audio link, then this is the antenna mounting position.

19 **Wireless Audio Link pair button.** If your product is fitted with the optional Linkoustic™ wireless audio link, then this button invokes pairing and un-pairing functionality. Refer to the chapter for the operation of the Linkoustic™ wireless audio link.

20 **Wireless Audio Link status LED.** If your product is fitted with the optional Linkoustic™ wireless audio link, then this LED indicates the current operational status. Refer to the chapter for the operation of the Linkoustic™ wireless audio link.

21 **AUX Input for Channel A.** This is a 3.5mm Mini-TRS stereo socket which allows the connection of sources like MP3 players etc. without removing the mixer from its mounting position. Once a plug is inserted, the optional Linkoustic™ wireless audio link is disabled and the source connected to this 3.5mm Mini-TRS is active. Note that Channel A can also be re-routed via the source switch (22) to play the signal from the rear-side balanced TRS audio input ("FOH").

22 **Source switch for Channel A.** This switch assigns either the rear-side balanced TRS audio input ("FOH") to Channel A, or the optional Linkoustic™ wireless audio link (which itself can be disabled and replaced by inserting a source to the 3.5mm Mini-TRS). Release the button (the control LED in the switch cap is off) to activate the rear-side balanced TRS audio input ("FOH"), or press the switch (the control LED in the switch cap is lit) to activate the optional Linkoustic™ wireless audio link / 3.5mm Mini-TRS input.

23 **Volume control for channel A.** Controls the volume of the signal inserted in the balanced rear-panel input (17) or the front-panel TRS input (21) / optional Linkoustic™ wireless audio link respectively.

24 **Volume controls for channels 1/2/3/4/5.** Control the volume of the signal inserted in the rear-panel microphone inputs (13) or line inputs (14) depending on the setting of the source selector switch (15). The maximum attainable volume is adjustable by the rear-panel gain control (16).

25 **Equalizer for channels 1/2/3/4/5.** Allows the adjustment of the tonal balance for the respective input in two frequency bands with an adjustment range of ±12dB.

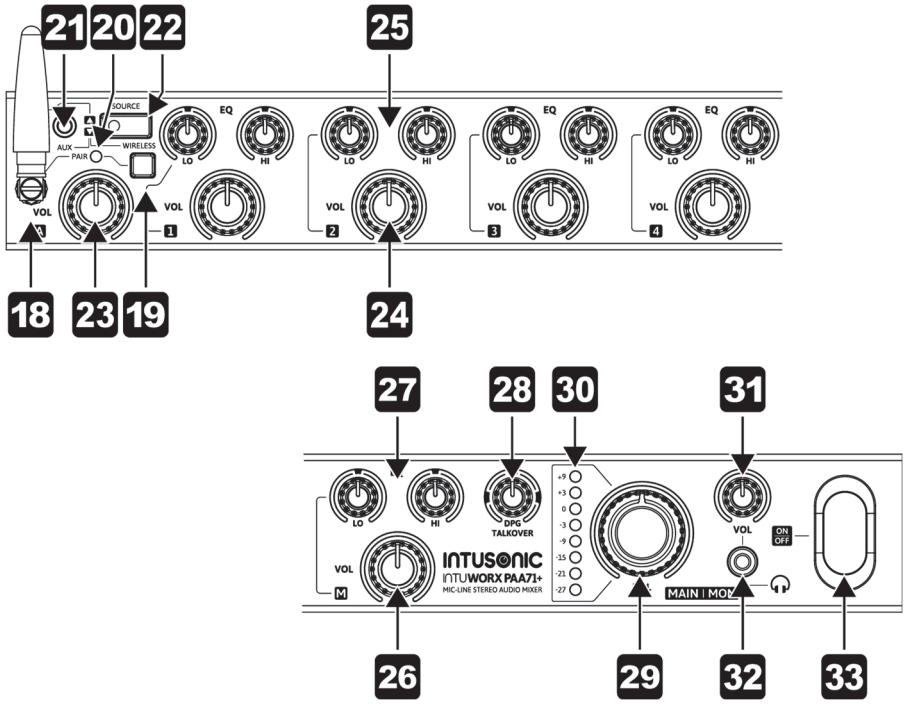
26 **VOLUME control for priority microphone channel "M".** Controls the volume of the signal inserted in the rear-panel priority microphone input (11). The maximum attainable volume is adjustable by the rear-panel gain control (12).

14 **Line** input for CH1/2/3/4/5. These dual RCA connectors provide inputs for line-level signals to the assigned channels.

15 **Source selector switch** for CH1/2/3/4/5. Allows to switch the input source between the connected LINE signal (14) or microphone signal (15) of the respective channel.

16 **GAIN control** for input channels 1/2/3/4/5. This allows the sensitivity (input gain) for every input to be adjusted, so that sources of different output level can be mixed at properly balanced levels.

17 **LINE input for channel A (FOH).** This is a ¼'' TRS balanced stereo input specifically designed to allow the connection of the output of a stage mixer or any other balanced audio source at larger distance, in order to use the connected sound system for the replay of such source's signal. This is useful in applications where e.g. apart from stereo source replay also live music is performed over the same sound system, or where a source signal from a different room/area needs to be replayed. The volume of this input is controlled by a rotary front-panel control (23). Note that this input is disabled when a connector is inserted into the front-panel AUX jack (21).

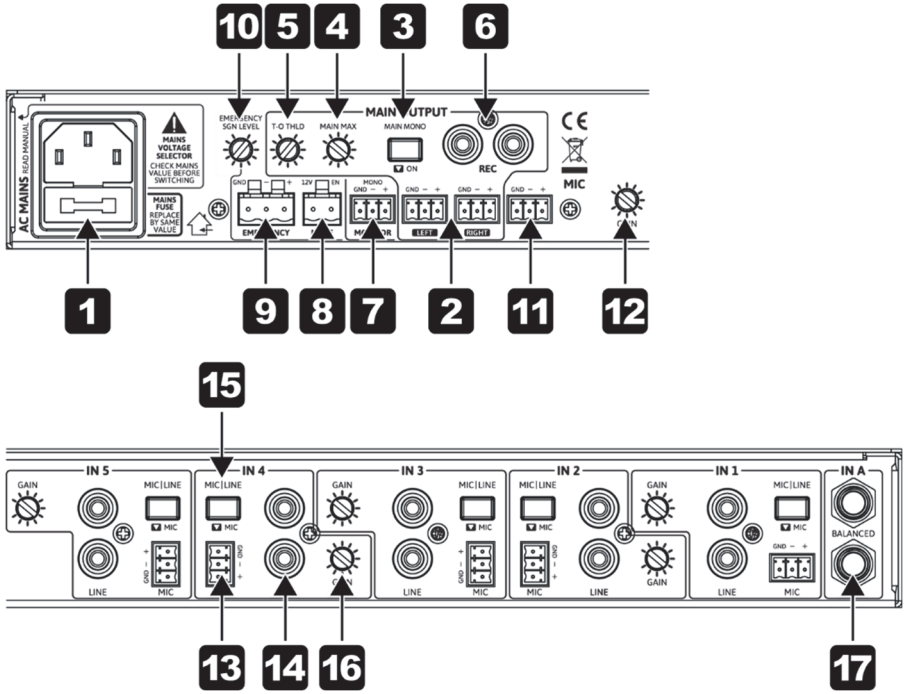


A **Microphone phantom power setting (CH1….5).** While most applications will work well with dynamic microphones, on certain occasions the use of a condenser microphone may be required. To supply the necessary voltage to the microphone, the PAA71+ provides an internal option to activate phantom power, separately for the priority microphone (microphone channel "M") and for all other microphone inputs (CH1...CH5). Please note that the phantom power settings for channels 1-5 can only be made globally, not individually. Set the jumper to ON if required. Note that the phantom power is set to 12V DC, which is sufficient for most microphone used in installation applications, but may not work with studio recording microphones which may demand up to 48V.

B **Microphone phantom power setting (CH M).** As per above explanation, this jumper sets the phantom power for the microphone channel individually.

C **Microphone emergency priority setting.** In the case of an external emergency signal muting the unit's outputs, an internal jumper can be set to either mute the connected microphones ("off") as well or to to keep them active (so that aside of a emergency message broadcasted, additional instructions can be given by a local microphone - "on"). To make the setting, locate and set the jumper on the rear PCB as shown above.

Controls and Connections



1 **AC inlet and fuse holder.** Use the supplied AC cord to connect the unit to AC mains. Make sure voltage and frequency stated and set on the unit comply with your local AC supply. The fuse can be accessed by the small drawer at the AC inlet. To change the fuse, unplug the AC cord first, pull out the fuse drawer and replace the fuse ONLY with a fuse of SAME voltage and rating. If the fuse blows again after replacement, hand over the unit to qualified service personnel.

2 **Stereo Main output.** This is a balanced terminal block output carrying the main output signal controlled by the main volume control (29).

3 **Mono switch for main output.** Sums the left and right channel to a mono signal when pressed. The signal is then available on both the L and R outputs of the stereo main output (2).

4 **Maximum level setting for Stereo Main output.** This control allows to limit the maximum level at the stereo main output (2) in order to match the connected sound system. Adjustments made on this control will not be displayed by the output level meter (30). Adjustments shall be made with a small screw driver. Note that the total angle is 300 degrees; do not apply excessive force with the screw driver.

5 **Talkover threshold adjustment for Stereo Main output.** This control allows to set the level at which the talkover is enabled. The amount of damping which is applied once the talkover is active (DPG) is set by a front panel control (28). Adjustments shall be made with a small screw driver. Note that the total angle is 300 degrees; do not apply excessive force with the screw driver.

6 **Record output.** This is an unbalanced stereo output carrying the same signal as the stereo main outputs (2), but not influenced by the main volume control (29). This is normally used for recording the output to an external tape, CD or memory device.

7 **Mono Monitor output.** This is a balanced terminal block output carrying the monitor output signal controlled by the monitor volume control (31). Please note that - unlike the main output (2) - this output does not include the microphone signal, and is thus not affected by the Talkover (5/25), Mute (8) and Emergency (9/10) functions.

8 **Music Mute input.** This is a terminal block input which allows to remotely mute the stereo main output (2) by simply shortening the contacts.

9 **Emergency input.** This is an auto-sensing, balanced terminal block input which allows the connection to an emergency evacuation system. Once a signal is present on this input, the stereo main output signal (2) will be muted and the emergency message/signal from this input will become audible instead. Note that the unit can be set to include or exclude the microphone signals from this muting process, please see section “configuration”.

10 **Emergency volume control.** This control allows to set the level with which the signal fed into the emergency input (9) will be replayed at the stereo main output (2).

11 **Priority microphone input “M”.** This is a balanced terminal block input with adjustable priority over other signals by means of the talkover control (5) and the damping control (28). Phantom power can be enabled or disabled depending on the connected microphone type, see section “configuration”.

12 **Gain control** for priority microphone input. “M” This allows the sensitivity (input gain) for input (11) to be adjusted to match different microphone output levels.

13 **Microphone** input for CH1/2/3/4/5. These are balanced terminal block inputs, which can be internally set to either carry phantom power or not, thus these inputs can be used both with condenser and dynamic microphones. Please see section “configuration”. The signal of these inputs is controlled by the front panel controls (24)/(25).