the t.amp

PA 4080 Package

User Manual

Powermixer

Thomann GmbH
Hans-Thomann-Straße 1
96138 Burgebrach
Germany
Telephone: +49 (0) 9546 9223-0
Internet: www.thomann.de

19.02.2024, ID: 143753 (V3)

Table of contents

1 General information **5**

1.1 Symbols and signal words 5

2 Safety instructions **7**

3 Features and scope of delivery **10**

4 Installation and starting up **11**

4.1 Tips on handling speakers 12

5 Connections and operating elements **13**

6 Operation **17**

7 Technical specifications **19**

8 Plug and pin assignments **23**

9 Cleaning **26**

10 Protecting the environment **27**


MASTER
PA-4080

1 General information

This document contains important instructions for the safe operation of the product. Read and follow the safety instructions and all other instructions. Keep the document for future reference. Make sure that it is available to all those using the product. If you sell the product to another user, be sure that they also receive this document.

Our products and documentation are subject to a process of continuous development. They are therefore subject to change. Please refer to the latest version of the documentation, which is ready for download under *www.thomann.de*.

1.1 Symbols and signal words

In this section you will find an overview of the meaning of symbols and signal words that are used in this document.

Signal word	Meaning
DANGER!	This combination of symbol and signal word indicates an immediate dangerous situation that will result in death or serious injury if it is not avoided.
WARNING!	This combination of symbol and signal word indicates a possible dangerous situation that can result in death or serious injury if it is not avoided.
NOTICE!	This combination of symbol and signal word indicates a possible dangerous situation that can result in material and environmental damage if it is not avoided.

Warning signs	Type of danger
	Warning – high-voltage.
	Warning – danger zone.

2 Safety instructions

Intended use

This device is intended to be used for amplification and playback of signals from musical instruments and microphones. Use the unit only as described in this manual. Any other use or use under other operating conditions is considered to be improper and may result in personal injury or property damage. No liability will be assumed for damages resulting from improper use.

This device may be used only by persons with sufficient physical, sensorial, and intellectual abilities and having corresponding knowledge and experience. Other persons may use this device only if they are supervised or instructed by a person who is responsible for their safety.

Safety

DANGER!

Risk of injury and choking hazard for children!

Children can suffocate on packaging material and small parts. Children can injure themselves when handling the device. Never allow children to play with the packaging material and the device. Always store packaging material out of the reach of babies and small children. Always dispose of packaging material properly when it is not in use. Never allow children to use the device without supervision. Keep small parts away from children and make sure that the device does not shed any small parts (such knobs) that children could play with.

DANGER!

Danger to life due to electric current!

Within the device there are areas where high voltages may be present. Never remove any covers. There are no user-serviceable parts inside. Do not use the device when covers, safety equipment or optical components are missing or damaged.

DANGER!

Danger to life due to electric current!

A short circuit could lead to a fire hazard and risk of death. Always use proper ready-made insulated triple-core mains cable with a safety plug. Do not modify the mains cable or the plug. In case of isolation damage, disconnect immediately the power supply and arrange repair. If in doubt, seek advice from a qualified electrician.

WARNING!

Possible hearing damage due to high volumes on speakers or headphones!

With speakers or headphones connected, the device can produce volume levels that may cause temporary or permanent hearing impairment. Over an extended period of time, even levels that seem to be uncritical can cause hearing damage. Do not operate the device permanently at a high volume level. Decrease the volume level immediately if you experience ringing in your ears or hearing impairment.

NOTICE!

Risk of fire due to covered vents and neighbouring heat sources!

If the vents of the device are covered or the device is operated in the immediate vicinity of other heat sources, the device can overheat and burst into flames. Never cover the device or the vents. Do not install the device in the immediate vicinity of other heat sources. Never operate the device in the immediate vicinity of naked flames.

NOTICE!

Damage to the device if operated in unsuitable ambient conditions!

The device can be damaged if it is operated in unsuitable ambient conditions. Only operate the device indoors within the ambient conditions specified in the “Technical specifications” chapter of this user manual. Avoid operating it in environments with direct sunlight, heavy dirt and strong vibrations. Avoid operating it in environments with strong temperature fluctuations. If temperature fluctuations cannot be avoided (for example after transport in low outside temperatures), do not switch on the device immediately. Never subject the device to liquids or moisture. Never move the device to another location while it is in operation. In environments with increased dirt levels (for example due to dust, smoke, nicotine or mist): Have the device cleaned by qualified specialists at regular intervals to prevent damage due to overheating and other malfunctions.

NOTICE!

Damage to the device due to high voltages!

The device can be damaged if it is operated with the incorrect voltage or if high voltage peaks occur. In the worst case, excess voltages can also cause a risk of injury and fires. Make sure that the voltage specification on the device matches the local power grid before plugging in the device. Only operate the device from professionally installed mains sockets that are protected by a residual current circuit breaker (FI). As a precaution, disconnect the device from the power grid when storms are approaching or it the device will not be used for a longer period.

NOTICE!

Possible staining due to plasticiser in rubber feet!

The plasticiser contained in the rubber feet of this product may react with the coating of the floor and cause permanent dark stains after some time. If necessary, use a suitable mat or felt slide to prevent direct contact between the device's rubber feet and the floor.

3 Features and scope of delivery

Special features of this 4-channel powermixer:

- Output power 80 watt (sinus)
- Built-in spring reverb
- 1 × MIC-input (XLR, balanced) and 1 × MIC/LINE-input (6.35-mm jack) per channel
- Each channel with an independent control for volume, sound and reverb.
- 2 additional tape inputs and outputs
- Master 3-band EQ
- A looping-in of external effects is possible
- 2 × speaker boxes each with a 10-inch speaker, tweeter and speaker box flange.

Included accessories: 1 × dynamic microphone, 1 × microphone cable, 2 × speaker cables

4 Installation and starting up

Unpack and check carefully there is no transportation damage before using the unit. Keep the equipment packaging. To fully protect the product against vibration, dust and moisture during transportation or storage use the original packaging or your own packaging material suitable for transport or storage, respectively.

Create all connections while the device is off. Use the shortest possible high-quality cables for all connections. Take care when running the cables to prevent tripping hazards.

NOTICE!

Possible property damage to adjacent devices due to magnetic fields.

Speakers generate a static magnetic field. This magnetic field can affect other neighbouring units and in unfavourable cases damage them.

Ensure that speakers are always a sufficient distance away from sensitive equipment that may be affected by an external magnetic field.

4.1 Tips on handling speakers

We recommend you to set up the speakers in a way, that the sound signals can reach the audience unobstructedly. It will often be helpful to mount the speakers on tripods. Thus, the sound will be evenly spread with maximum range throughout the audience area.

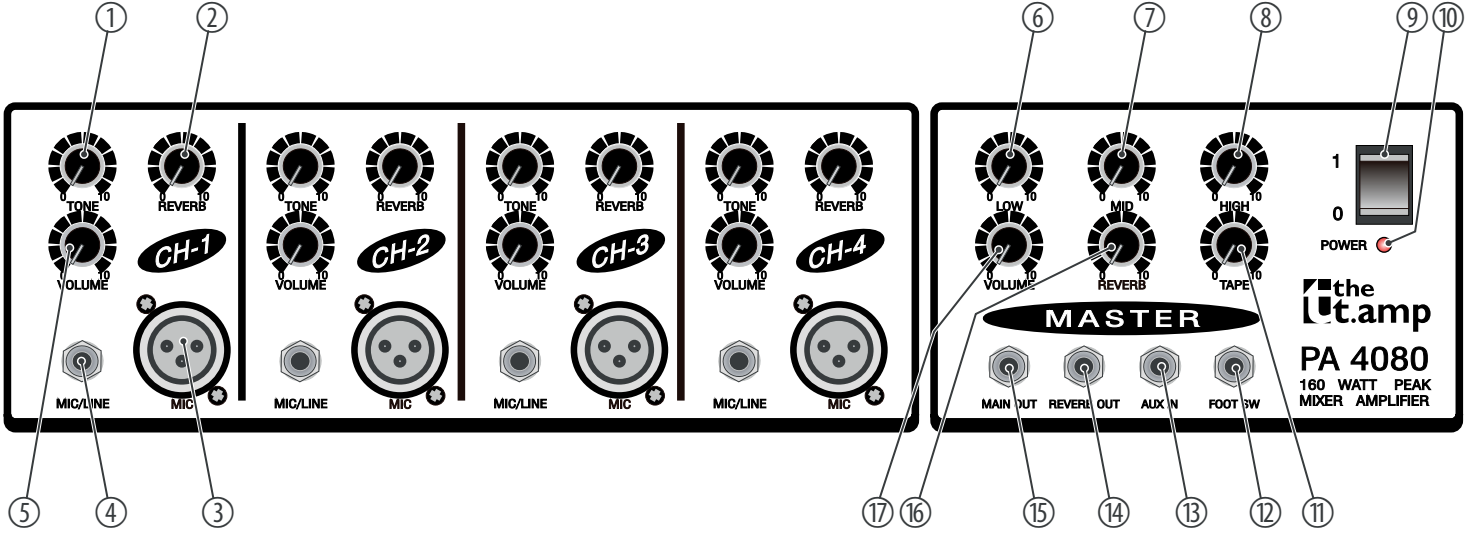
Always use high grade cable to connect your equipment. Otherwise you won't reach maximum sound quality.

For optimum results both impedance and power handling of the speakers must match the requirements of the amplifier. Always follow the technical specifications of the speakers! The overall impedance of the connected loudspeakers must not deceed the minimum output impedance of the amp. The amps max. RMS output power should be 50 % above the power handling capacity of the connected speakers.

If you notice distortion during operation, either the amp or the speaker is overloaded. This may permanently damage the amp or the speaker. Always reduce the volume when you hear distortion.

5 Connections and operating elements

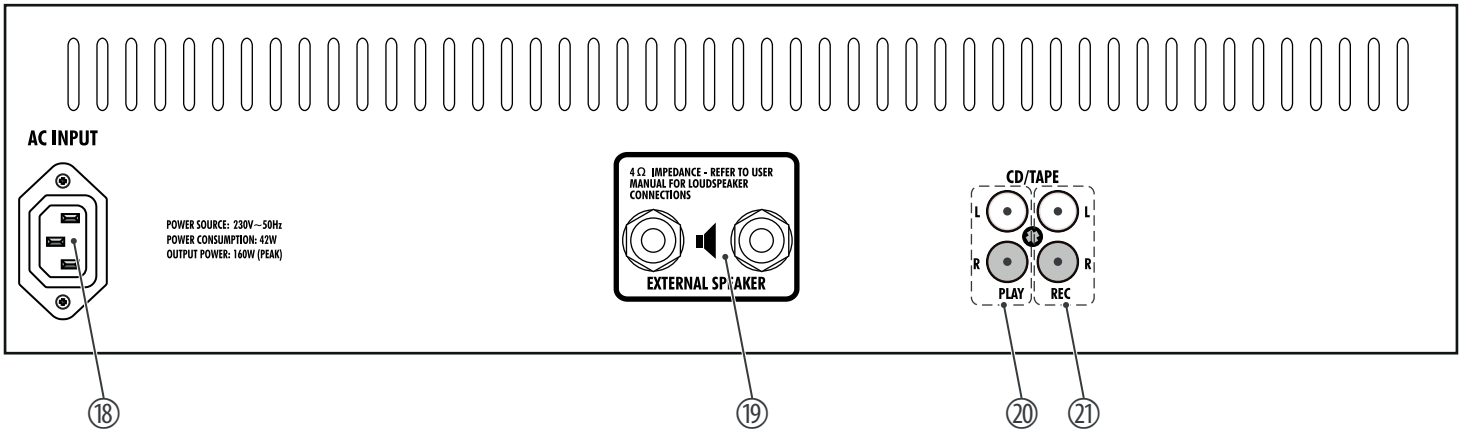
Front



1	*[TONE]*	Tone control for setting the required sound in the respective channel.
2	*[REVERB]*	Reverb control for adjusting the reverb level in the respective channel
3	*[MIC]*	Microphone input (for the respective channel), balanced. Use XLR cables to connect microphones to the MIC inputs.
4	*[MIC/LINE]*	Microphone/line input (for the respective channel), unbalanced. Use a 6.35-mm jack cable to connect microphones or signals with a line level from musical instruments to the MIC/LINE inputs.
5	*[VOLUME]*	Volume control for setting the required volume in the respective channel.
6	*[LOW]*	Bass control of the 3-band master EQ
7	*[MID]*	Mids control of the 3-band master EQ
8	*[HIGH]*	Treble control of the 3-band master EQ
9	Main switch. Turns the device on and off.
10	*[POWER]*	This indicator lights up when the device is on.
11	*[TAPE]*	Use this control to set the playback volume for the TAPE input signals.
12	*[FOOT SW]*	Here you can connect a foot switch (not supplied) with a 6.35-mm jack plug to switch the internal reverb function on or off.
13	*[AUX IN]*	This AUX input can be used to feed additional signals. It can also be used as an effects return if you connect an external effects device to the REVERB OUT output (14).
14	*[REVERB OUT]*	This output provides the combined signal that is tapped from the channels with the *[Reverb]* controls.
15	*[MAIN OUT]*	Use this line output to feed the master signal of the device to a power amplifier, for example.

16	*[REVERB]* | Use this control to set the overall reverb level.
17	*[VOLUME]* | Use this control to set the volume of the master signal.

Back



18	*[AC INPUT]* | Rubber panel plug for the power supply
19	*[EXTERNAL SPEAKER]* | Connect the speaker boxes to these 6.35-mm jack sockets. The impedance of the external speakers must be at least 4 Ω.
20	*[CD/TAPE PLAY]* | Here you can connect the line output of tape devices, CD or MP3 players for additional audio input.
21	*[CD/TAPE REC]* | Use these connections to record the line out signal of the device with a tape device or similar.

6 Operation

Wiring

Connect microphones to the low-impedance XLR inputs (MIC, 3) or the high-impedance 1/4" inputs (MIC/LINE, 4).

Connect musical instruments to the 1/4" inputs (MIC/LINE, 4).

Connect the speaker boxes via the supplied speaker cables to the *[SPEAKER OUT]* sockets (19) on the rear panel of the unit.

Use the RCA sockets *[TAPE PLAY]* (20) on the rear panel of the unit to connect CD player or tape devices for additional inputs.

Use the RCA sockets *[TAPE REC]* (21) on the rear panel of the unit to connect recording devices or the like.

The unbalanced *[MAIN OUT]* socket (15) provides the master signal with line level.

The unbalanced *[REVERB OUT]* socket (14) provides the combined effect signal that is tapped from the four channels Here you can connect an external effects device, which then takes over the signal processing instead of the built-in reverb function.

Use the unbalanced *[AUX IN]* socket (13) for additional inputs, or to lead the processed signal from an external effects device back into the signal path of the power mixer.

You can connect a foot switch (not supplied) to the two-pole *[FOOT SW]* socket (12) to turn the internal reverb function on or off.

Insert the plug of the mains cable (18) into an earthed mains wall outlet.

Turning on

When all connections have been established, turn on the device using the main switch (9). The power LED (10) lights up.

Adjusting sound and volume

You can adjust the volume of the individual signals with the *[VOLUME]* controls (5) in each channel. The overall volume is set by the *[VOLUME]* control (17) in the master section.

Turn the *[TONE]* control (1) to shape the sound of the individual signals in each channel. There is an additional 3-band EQ with *[LOW]* (6), *[MID]* (7) and *[HIGH]* (8) controls for the overall signal in the master section.

You can set the reverb level for each channel separately with the *[REVERB]* controls (2). The overall reverb level can be adjusted using the *[REVERB]* control (16) in the master section.

Use the *[TAPE]* control (11) to adjust the playback volume of the device connected to the *[TAPE PLAY]* sockets (20).

Turning off

If you no longer want to use the device, turn it off with the mains switch (9). The power LED (10) then turns off.

7 Technical specifications

Powermixer

Input connections	Power supply	1 × rubber panel plug C14
	MIC	4 × XLR panel socket, 3-pin, balanced
	MIC/LINE	4 × 6.3-mm jack socket, unbalanced
	AUX IN	1 × 6.3-mm jack socket, unbalanced
	Foot switch	1 × 6.3-mm jack socket, unbalanced
Output connections	REVERB OUT	1 × 6.3-mm jack socket, unbalanced
	LINE	1 × 6.3-mm jack socket, unbalanced
	External speakers	2 × 6.3-mm jack socket, unbalanced
	CD/TAPE	4 × cinch socket, unbalanced
Output power		80 W (RMS), 160 W (peak)
Input impedance	MIC/LINE inputs	1 kΩ
	MIC inputs	10 kΩ
	TAPE input	10 kΩ
Maximum gain	MIC/LINE inputs	76 dB

	MIC inputs	56 dB
	TAPE input	42 dB
Channel tone control		±15 dB @ 5 kHz
Master section EQ	Treble	±15 dB @ 10 kHz
	Mids	±15 dB @ 1 kHz
	Bass	±15 dB @ 100Hz
Protection circuitry	Mute after powering on	2 seconds
Power consumption at 1/8 of the original output power (pink noise)		42 W
Supply voltage		230 V ~ 50 Hz
Dimensions (W × H × D)		470 mm × 150 mm × 280 mm
Weight		8.3 kg
Ambient conditions	Temperature range	0 °C…40 °C
	Relative humidity	20%…80% (non-condensing)

Speakers

Configuration	1 × 10-inch woofer 1 × Piezo tweeter	
Input connections	2 × 6.3-mm jack socket	
Frequency range	110 Hz … 20 kHz, –20 dB	
Load capacity	60 W (RMS peak)	
Sensitivity (1 W/1 m)	93 dB (±3 dB)	
Rated impedance	8 Ω	
Sound pressure level	110 dB max.	
Beam angle (H × V)	120° × 120°	
Dimensions (W × H × D)	350 mm × 470 mm × 235 mm	
Weight	9 kg	
Ambient conditions	Temperature range	0 °C…40 °C
	Relative humidity	20%…80% (non-condensing)

Further information

Powermixer included	Yes
Stand included	No
Plastic housing	No
Power amplifier included	No

8 Plug and pin assignments

Introduction

This chapter will help you select the right cables and plugs to connect your valuable equipment in such a way that a perfect sound experience is ensured.

Please note these advices, because especially in 'Sound & Light' caution is indicated: Even if a plug fits into the socket, an incorrect connection may result in a destroyed power amp, a short circuit or 'just' in poor transmission quality!

Balanced and unbalanced transmission

Unbalanced transmission is mainly used in semi-professional environment and in hifi use. Instrument cables with two conductors (one core plus shielding) are typical representatives of the unbalanced transmission. One conductor is ground and shielding while the signal is transmitted through the core.

Unbalanced transmission is susceptible to electromagnetic interference, especially at low levels, such as microphone signals and when using long cables.

In a professional environment, therefore, the balanced transmission is preferred, because this enables an undisturbed transmission of signals over long distances. In addition to the conductors 'Ground' and 'Signal', in a balanced transmission a second core is added. This also transfers the signal, but phase-shifted by 180°.

Since the interference affects both cores equally, by subtracting the phase-shifted signals, the interfering signal is completely neutralized. The result is a pure signal without any noise interference.

1/4" TS phone plug (mono, unbalanced)

1	Signal
2	Ground, shielding

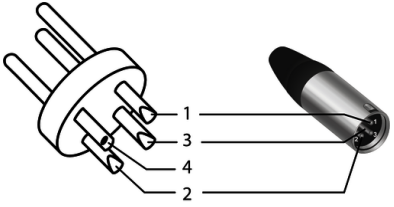
1/4" TRS phone plug (mono, balanced)

1	Signal (in phase, +)
2	Signal (out of phase, –)
3	Ground

1/4" TRS phone plug (stereo, unbalanced)

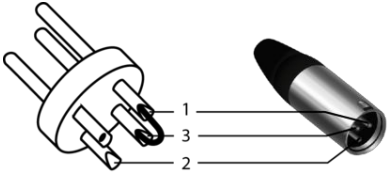
1	Signal (left)
2	Signal (right)
3	Ground

XLR plug (balanced)



1	Ground, shielding
2	Signal (in phase, +)
3	Signal (out of phase, –)
4	Shielding on plug housing (option)

XLR plug (unbalanced)



1	Ground, shielding
2	Signal
3	Bridged to pin 1

9 Cleaning

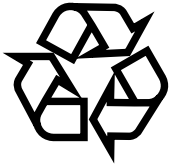
Device components

Clean the device components that are accessible from the outside regularly. The cleaning frequency depends on the operating environment: damp, smoky or particularly dirty environments can cause greater accumulation of dirt on the device components.

- Clean with a dry soft cloth.
- Stubborn dirt can be removed with a slightly dampened cloth.
- Never use solvents or alcohol for cleaning.

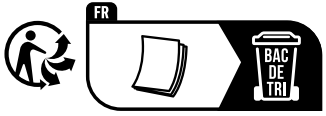
10 Protecting the environment

Disposal of the packing material



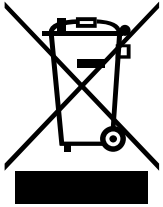
Environmentally friendly materials have been chosen for the packaging. These materials can be sent for normal recycling. Ensure that plastic bags, packaging, etc. are disposed of in the proper manner.

Do not dispose of these materials with your normal household waste, but make sure that they are collected for recycling. Please follow the instructions and markings on the packaging.



Observe the disposal note regarding documentation in France.

Disposal of your old device



This product is subject to the European Waste Electrical and Electronic Equipment Directive (WEEE) as amended.

Do not dispose of your old device with your normal household waste; instead, deliver it for controlled disposal by an approved waste disposal firm or through your local waste facility. When disposing of the device, comply with the rules and regulations that apply in your country. If in doubt, consult your local waste management facility. Proper disposal protects the environment as well as the health of your fellow human beings.

Also note that waste avoidance is a valuable contribution to environmental protection. Repairing a device or passing it on to another user is an ecologically valuable alternative to disposal.

You can return your old device to Thomann GmbH at no charge. Check the current conditions on *www.thomann.de*.

If your old device contains personal data, delete those data before disposing of it.