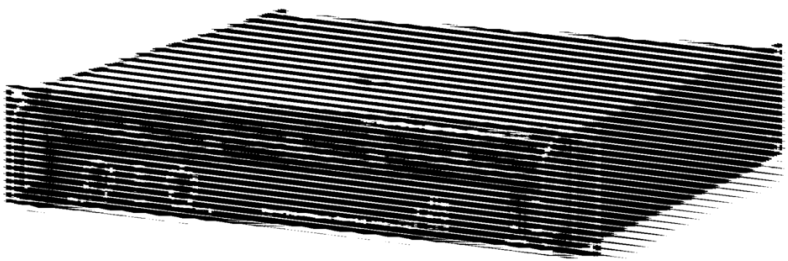

the t.amp Pro

TA 450 MK-X
TA 600 MK-X
TA 1050 MK-X
TA 1400 MK-X
TA 2400 MK-X

power amplifier

th•mann
MUSIC IS OUR PASSION

user manual

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Table of contents

1 General notes

This user manual contains important information on safe operation of the device. Read and follow all safety notes and all instructions. Save this manual for future reference. Make sure that it is available to all persons using this device. If you sell the device, include the manual for the next owner.

Our products are subject to a process of continuous development. We therefore reserve the right to make changes without notice.

Symbols and signal words

This section provides an overview of the symbols and signal words used in this user manual.

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.
CAUTION!	This combination of symbol and signal word indicates a possible dangerous situation that can result in minor 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 signs	Type of danger
	Warning – danger zone.

2 Safety instructions

Intended use

This device amplifies electric audio frequency signals to operate passive speakers. Use the device only as described in this user 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!

Danger for children

Ensure that plastic bags, packaging, etc. are disposed of properly and are not within reach of babies and young children. Choking hazard!

Ensure that children do not detach any small parts (e.g. knobs or the like) from the unit. They could swallow the pieces and choke!

Never let children unattended use electrical devices.

DANGER!

Electric shock caused by high voltages inside

Within the device there are areas where high voltages may be present. Never remove any covers.

There are no user-serviceable parts inside.

DANGER!

Electric shock caused by short-circuit

Always use proper ready-made insulated mains cabling (power cord) with a protective contact plug. Do not modify the mains cable or the plug. Failure to do so could result in electric shock/death or fire. If in doubt, seek advice from a registered electrician.

CAUTION!

Possible hearing damage

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.

Decrease the volume level immediately if you experience ringing in your ears or hearing impairment. If this is not possible, keep a greater distance or use sufficient ear protectors.

CAUTION!

Risk of injury due to heavy weight

Due to the heavy weight of the device, at least two persons are required for transport and installation.

NOTICE!

Risk of fire

Do not block areas of ventilation. Do not install the device near any direct heat source. Keep the device away from naked flames.

NOTICE!

Operating conditions

This device has been designed for indoor use only. To prevent damage, never expose the device to any liquid or moisture. Avoid direct sunlight, heavy dirt, and strong vibrations.

NOTICE!

Power supply

Before connecting the device, ensure that the input voltage (AC outlet) matches the voltage rating of the device and that the AC outlet is protected by a residual current circuit breaker. Failure to do so could result in damage to the device and possibly injure the user.

Unplug the device before electrical storms occur and when it is unused for long periods of time to reduce the risk of electric shock or fire.

NOTICE!

Magnetic fields

The device generates strong magnetic fields that can interfere with the function of poorly shielded devices. The strongest magnetic fields are directly above and below the power amplifier. Therefore, never place sensitive devices such as pre-amplifiers, radio transmission systems, or tape decks directly above or below the power amplifier. When installing the power amplifier into a rack, you should place it in the lowest position, and further equipment such as pre-amplifiers in the highest position.

3 Features

- Inputs
  - 2 × XLR
  - 2 × 1/4" phone sockets
- Outputs
  - 2 × NL4 (lockable)
  - 2 × screw terminals
- Protection circuits
  - Audio limiter
  - Thermal protection
  - Short circuit protection
  - DC protection
  - Overcurrent
  - Subsonic noise protection
- Cooling via integrated two-stage fans
- Suitable for 19" racks (2 RU, installation depth 44 cm)

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 device against vibration, dust and moisture during transportation or storage use the original packaging or your own packaging material suitable for transport or storage, respectively.

Establish all connections as long as the unit is switched off. Use the shortest possible high-quality cables for all connections.

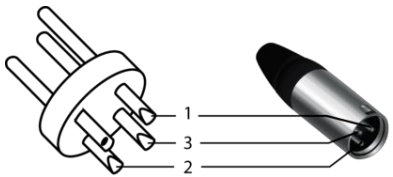
4.1 Pin assignment

You can use XLR and 1/4" plugs with balanced or unbalanced wiring. In the following, we will give you an overview of the various options

XLR connections for signal inputs

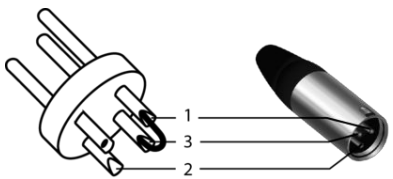
Balanced XLR mounting sockets serve as signal inputs. The following drawings and tables indicate the XLR pin assignment.

Balanced wiring:



1	Ground, shielding
2	Positive signal (+)
3	Negative signal (–)

Unbalanced wiring:

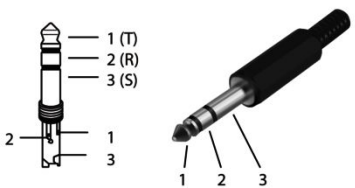


1	Ground, shielding
2	Signal
3	Bridged to pin 1

1/4" phone sockets for signal inputs

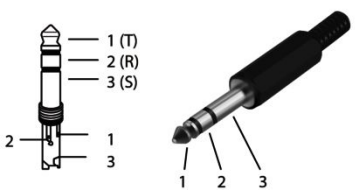
The TRS inputs of the amplifier are only suitable for mono operation. The following drawings and tables indicate the pin assignment of a 1/4" phone plug to be used.

Balanced wiring:



1 (Tip)	Positive signal (+)
2 (Ring)	Negative signal (–)
3 (Sleeve)	Ground, shielding

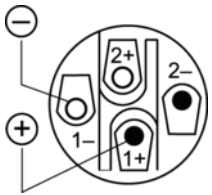
Unbalanced wiring:



1	Signal
2, 3	Ground, shielding

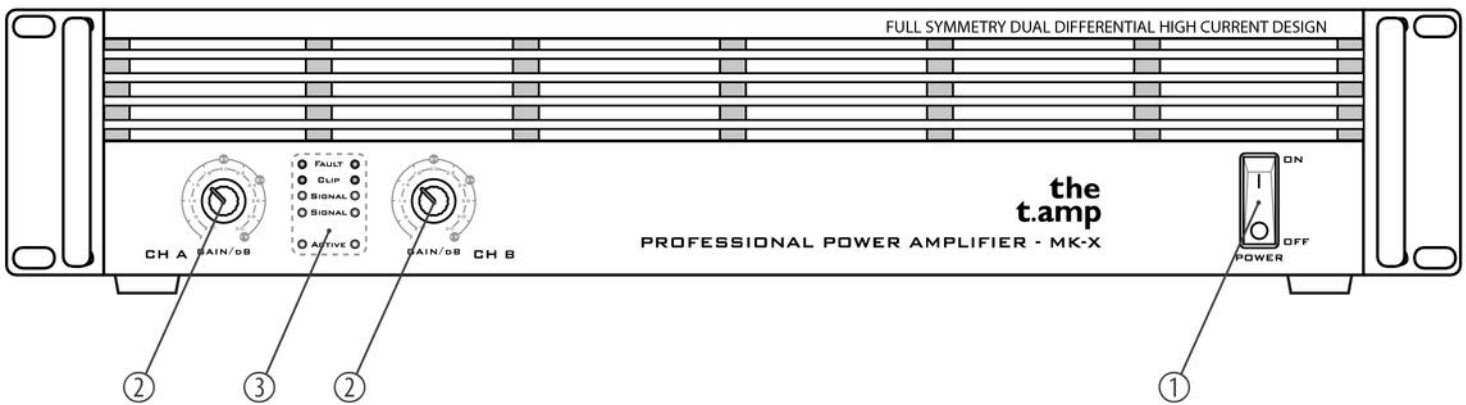
NL4 mounting connectors

The drawing alongside shows the pin assignment of the lockable NL4 mounting connectors.



5 Connections and operating elements

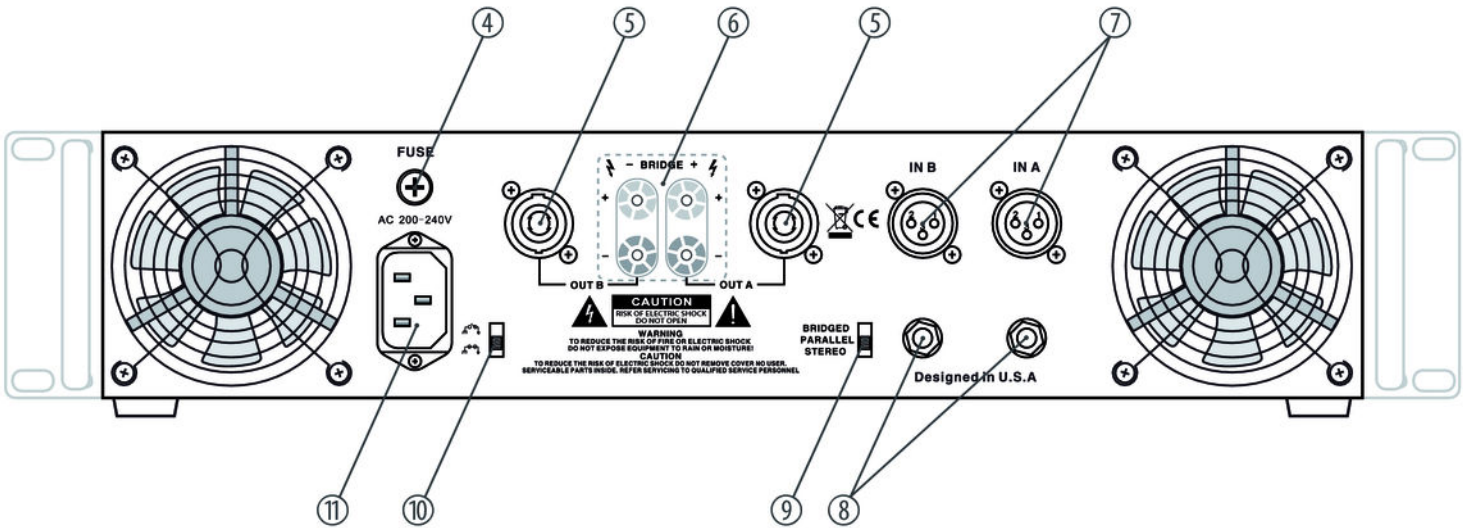
Front panel



1	**POWER** Main switch to turn the device on or off.
2	**CH-A/B** Input gain control for the channels CH-A and CH-B.
3	LED indicators for channels CH-A/B These LEDs indicate operational readiness of the unit (**Power**), the input signal level (**Signal**), overloading (**Clip**) and fault condition (**Fault**) an.

*During operation, the **Power** LED lights up constantly. The **Signal** LEDs respond to the input signal. If one of these LEDs lights up without an input signal is present, disconnect the speakers from the amp and turn the input gain control of both channels down to minimum. If the LEDs continue to light up, the device must be inspected by an authorized service centre.*

Rear panel


4
5
6
5
7
FUSE
AC 200-240V
BRIDGE
OUT B
OUT A
IN B
IN A
CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
WARNING
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK
DO NOT EXPOSE EQUIPMENT TO RAIN OR MOISTURE!
CAUTION
TO REDUCE THE RISK OF ELECTRIC SHOCK DO NOT REMOVE COVER NO USER
SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL
BRIDGED
PARALLEL
STEREO
Designed in U.S.A
11
10
9
8

4	Fuse holder.
5	**OUT A | OUT B** Lockable NL4 mounting connectors for signal outputs to connect speakers.
6	**OUT A | OUT B** Screw terminals (+/–) for signal outputs to connect speakers.
7	**IN A | IN B** XLR mounting connectors for signal inputs.
8	**IN A | IN B** 1/4" phone sockets for signal inputs.
9	**STEREO | PARALLEL | BRIDGED** switch Switch to select the operating modes 'STEREO' (both channels operate independently of each other), 'PARALLEL' (the inputs of both channel are interconnected) and 'BRIDGED' (both channels are interconnected to form one channel with double output power).

10	**Lift | Ground** switch Use the Ground / Lift switch to separate the connection between the earth pin of the device and the signal ground in the unit. This prevents ground loops (position 'Lift' [switch is not pressed]: no connection. Position 'Ground' [switch is pressed]: earth pin and signal ground are electrically connected).
11	IEC chassis connector for operating voltage supply.

6 Technical specifications

	TA 450 MK-X	TA 600 MK-X	TA 1050 MK-X	TA 1400 MK-X	TA 2400 MK-X
Power consumption	5 A	6 A	7 A	8 A	15 A
Output power $_{RMS}$ 8 Ω, stereo	2 × 125 W	2 × 200 W	2 × 350 W	2 × 450 W	2 × 650 W
Output power $_{RMS}$ 4 Ω, stereo	2 × 200 W	2 × 300 W	2 × 525 W	2 × 700 W	2 × 1200 W
Output power $_{RMS}$ 8 Ω, mono bridged	300 W	450 W	800 W	1200 W	2000 W
THD 4 Ω @ 1 kHz	< 0.05 % / 200 W	< 0.05 % / 300 W	< 0.05 % / 525 W	< 0.05 % / 700 W	< 0.05 % / 1200 W
IMD-SMPTE (60 Hz, 7 kHz)	< 0.01 % / 125 W	< 0.01 % / 200 W	< 0.01 % / 350 W	< 0.01 % / 450 W	< 0,01 % / 650 W
Damping factor (8 Ω, 1 kHz)	300:1			350:1	500:1
Voltage gain	50 × standard			70 × standard	91 × standard

	TA 450 MK-X	TA 600 MK-X	TA 1050 MK-X	TA 1400 MK-X	TA 2400 MK-X
Slew rate	40 V/µs				60 V/µs
Common mode rejection	> 60 dB (1 kHz)				
Frequency response	20 Hz … 20 kHz (+ 0.1 …– 3 dB, 1 W, 8 Ω)				
Input sensitivity	0.775 V @ rated power (8 Ω)				
Input impedance	20 kΩ (balanced) 10 kΩ (unbalanced)				
Signal-to-noise ratio	103 dB				
Crosstalk	< 60 dB				
Protective circuits	DC, thermal, short circuit, subsonic noise and overcurrent protection				
Cooling	two controlled DC voltage fans				
Operating supply voltage	AC 230 V ~ , 50/60 Hz				

	TA 450 MK-X	TA 600 MK-X	TA 1050 MK-X	TA 1400 MK-X	TA 2400 MK-X
Dimensions (W × H × D)	483 mm × 103 mm × 475 mm	485 mm × 103 mm × 470 mm	483 mm × 103 mm × 475 mm		
Weight	13.3 kg	13.7 kg	16.4 kg	17.5 kg	19.7 kg

7 Protecting the environment

Disposal of the packaging material

For the transport and protective packaging, environmentally friendly materials have been chosen that can be supplied to normal recycling.

Ensure that plastic bags, packaging, etc. are properly disposed of.

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

Disposal of your old device

This device is subject to the European directive 2002/96/EC.

Do not dispose of the device with your normal household waste.

Dispose of this device through an approved waste disposal firm or through your local waste facility. When discarding the device, comply with the rules and regulations that apply in your country. If in doubt, consult your local waste disposal facility.