



TPX Series Power Amplifiers

User Manual



Order codes:
AMP45 - TPX 400
AMP46 - TPX 650

WARNING

FOR YOUR OWN SAFETY, PLEASE READ THIS USER MANUAL CAREFULLY BEFORE YOUR INITIAL START-UP!

- Immediately upon receiving this product, carefully unpack the carton and check the contents to ensure that all the parts are present.
- Before initial start-up, please make sure that there is no damage caused during transportation.
- Should there be any damage, consult your dealer and do not use the equipment.
- Retain the carton and all packaging materials.
- In the event that the equipment must be returned to the supplier, it is important that the equipment is returned in the original carton and packaging.
- To maintain the equipment in good working condition and to ensure safe operation, it is necessary for the user to follow the safety instructions and warning notes written in this manual.
- Please note that damages caused by user modifications to this equipment are not subject to warranty.



IMPORTANT:

The manufacturer will not accept liability for any resulting damages caused by the non-observance of this manual or any unauthorised modification to the equipment.

- Never let the power cable come into contact with other cables. Handle the power cable and all mains voltage connections with caution!
- Never remove warning or informative labels from the equipment.
- Do not open or modify the equipment.
- Do not connect this equipment to a dimmer-pack.
- Do not switch the equipment on and off in short intervals, as this will reduce the system's life.
- Only use the equipment indoors.
- Do not expose to flammable sources, liquids or gases.
- Always disconnect the power from the mains when equipment is not in use or before cleaning! Only handle the power cable by the plug. Never pull out the plug by pulling the power cable.
- Make sure that the available voltage is between 220V/240V.
- Make sure that the power cable is never crimped or damaged. Check the equipment and the power cable periodically.
- If the equipment is dropped or damaged, disconnect the mains power supply immediately. Have a qualified engineer inspect the equipment before operating again.
- If the equipment has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation might damage the equipment. Leave the equipment switched off until it has reached room temperature.
- If the product fails to function correctly, discontinue use immediately. Pack securely (preferably in the original packing material), and return to your dealer for service.
- Only use fuses of same type and rating.
- Repairs, servicing and power connection must only be carried out by a qualified technician. THIS UNIT CONTAINS NO USER SERVICEABLE PARTS.
- WARRANTY: One year from date of purchase.

OPERATING DETERMINATIONS

If this equipment is operated in any other way, than those described in this manual, the product may suffer damage and the warranty becomes void. Incorrect operation may lead to danger e.g: short-circuit, burns and electric shocks etc.

In case of malfunction this unit should be returned for service or inspection.

Do not endanger your own safety and the safety of others!

Incorrect installation or use can cause serious damage to people and/or property.

TPX Series Power Amplifiers

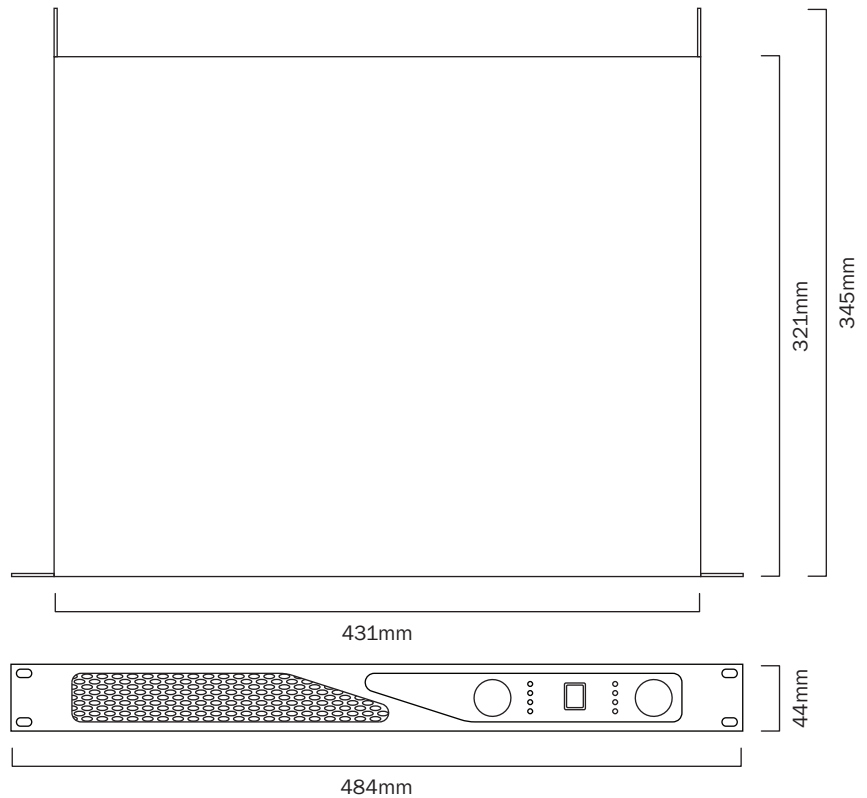
A professional range of power amplifiers offering superior reliability and performance, with two power options available to suit a variety of applications.

- Short circuit, overload and thermal protection
- Fan cooled
- Ground lift

In the box:
1 x power amplifier
1 x power cable
1 x user manual



TPX 400, TPX 650 dimensions



Specifications		TPX 400	TPX 650
Output power 1kHz, THD+N ≤0.5%	Stereo 8Ω	2 x 130W	2 x 210W
	Stereo 4Ω	2 x 200W	2 x 325W
	Bridge 8Ω	400W	650W
Frequency response	20Hz to 20kHz±1.0dB		
Input sensitivity	0.775V		
S/N ratio (a-weighted, RMS)	>95dB		
Crosstalk at rated power output (8Ω at 1kHz)	>55dB		
Damping factor (f=1kHz@8Ω)	>60		
Protection circuits	Thermal, short circuit, overload, DC fault protection & AC power supply fuse		
LED indicators	Power, protect, clip, bridge & parallel		
Connectors	Inputs: 2 x XLR sockets, 2 x 1/4" jack sockets Outputs: 2 x locking speaker connectors, 2 x binding posts, bridge via binding posts		
Cooling system	Variable speed fans		
Power supply	AC240V/50Hz		
Dimensions (H x W x D)	44 x 484 x 345mm	44 x 484 x 345mm	
Weight	7.4kg	9.4kg	
Order code	AMP45	AMP46	

TPX 400 & TPX 650 front panel

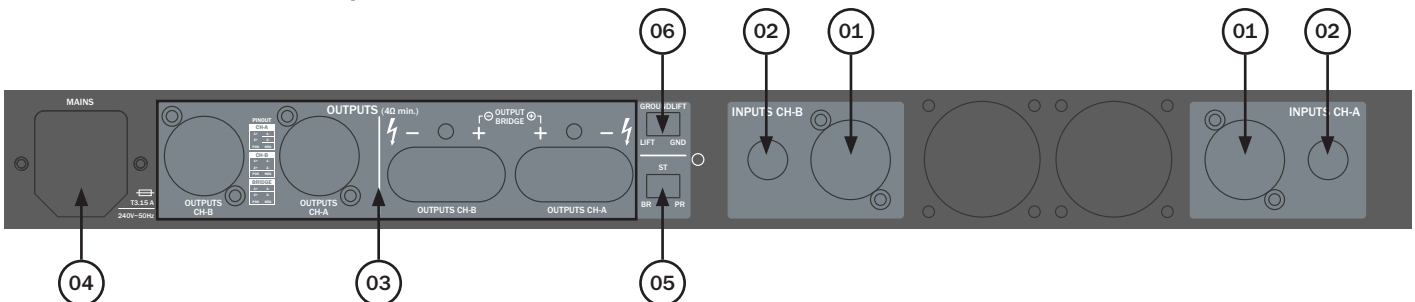


- 01 - Clip LEDs - These LEDs flash red to indicate when the output of the amplifier has reached the maximum, and is right on the edge of clipping. Clipping is bad for speakers and should be avoided. It is okay if the LED blinks occasionally. It means that the transient peaks of the music are just hitting the full output of the amplifier.
- 02 - Gain control - These two knobs control the levels of Channels 1 and 2. Usually, these controls are set all the way up. You might turn them down slightly if you have high-efficiency speakers. Also, you could use them to control the level of line-level sources such as a CD player connected directly to the amplifier without a pre-amplifier or mixer. After you have set the levels for the mixer (or other signal source), adjust the Level controls on the amplifier as the final adjustment to set the overall volume for the system.

In stereo and mono mode, use both level controls to control the levels going to each speaker. In bridged mode, turn the channel 2 level control down, and just use the channel 1 control.

- 03 - Power LEDs - These LEDs illuminate when the amplifier is switched on
- 04 - Protect LED - These LEDs illuminate during operation, one of the protection circuits is active. Please take the amplifier out of operation and have it tested
- 05 - Bridged LED - This illuminates in bridged mode
- 06 - Parallel LED - This LED illuminates in parallel mode
- 07 - Power switch - Press this switch to start the operation

TPX 400 & TPX 650 rear panel



- 01 - XLR inputs - These inputs allow you to connect balanced XLR plugs. These are wired with pin 2 hot, pin 3 cold and pin 1 ground
- 02 - 1/4" jack inputs - These inputs allow you to connect 1/4" unbalanced jack plugs
- 03 - There are two ways of connecting your speakers: Locking speaker connectors or binding posts. The connectors are wired in parallel. (e.g. Channel 1 binding post and locking speaker connectors are in parallel and the same for channel 2). When the amplifier is used in bridged mono mode you must use the two red binding posts.
- 04 - IEC power socket - This is where you connect the IEC power cable. Connect the other end to a 240V AC outlet.
- 05 - Amp mode - This switch determines the input signal routing within the amplifier. For most applications stereo will be used.
Stereo: This is the normal mode for amplifying stereo

signals. It accepts left and right inputs and routes them to the left and right outputs.
Parallel: This mode is used when you want to send mono signals to both outputs. It accepts a single input into channel 1 and routes it to both the channel 1 and channel 2 outputs. Each channels level control adjusts the gain for each channel.
Bridge: This mode accepts a single input into channel 1 and uses both amplifier outputs to double the power to one speaker output. Use channel 1 level control to adjust the gain. Turn channel 2 level control to minimum.

- 06 - Ground lift switch - This switch allows the signal ground or chassis ground to be separated in case of a ground conflict. For the highest safety of the equipment, it is recommended to keep the "ground lift switch" in the GND position. In case of a ground conflict please set the ground lift switch to GND LIFT.

Rack installation

The TPX Series is built for 19" racks. The rack you use should be a 'double door rack' where you can open the front and rear panel. When mounting the amplifier into the rack, please make sure that there is enough space around the amplifier.

Be careful when mounting the amplifier into the rack. Put the heaviest products into the lower part of the rack. Be aware that fastening the amplifier with four screws on the front panel is not enough. If the racks are being transported or used for mobile use, additionally fasten the products by connecting the rear brackets with the side or ground bars of the rack. In this way, the amplifier cannot be pushed backwards. The front panel is not designed to absorb acceleration forces occurring during transportation.

Inputs

Short cables runs improve the sound quality remarkably. Input cables should be short and direct, since high frequencies will mostly be absorbed if the cables are unnecessarily long. Besides that a longer cable may lead to humming and noise problems. If the cable runs are unavoidable, you should use balanced cables.

Outputs

The high damping factor of your amplifier supplies a clear sound reproduction.

Unnecessarily long and thin cables will influence the damping factor and thus the low frequencies in a negative way. In order to safeguard good sound quality, the damping factor should lie around 50. The longer a cable has to be the thicker it should be.

Connect your speaker systems via the locking speaker connectors or the Banana/Screw combination (red+, black-)

Connection to the mains

Connect the amplifier only after having made sure that the correct voltage (240V) is supplied and that the ground cable is earthed. This product falls under Class 1. Do not detach the ground cable.

Operation

After having connected your amplifier to the mains, turn both gain controls counter clockwise to the “min” position. The last product to be switched on is amplifier. The “POWER” and “PROTECT” LED lights up now. If it does not, check if the amplifier is connected to the mains correctly.

After the turn on delay the speakers are activated (PROTECT-LED is off).

After having set the volume controls of the pre-amplifier to the “OFF” position, turn the gain controls of your amplifier to mid-position. Now adjust the volume with the gain controls CH A and CH B.

All important operating modes of the amplifier are arranged on the front panel.

-20 dB to 30dB	- Output level
Clip	- Short circuit or impedance too low or signal distorted
Protect	- Active during stabilisation period after switching on or when one of the protective circuits is activated

If you want to switch off the system, **switch off the amplifier first** in order to avoid acoustic shocks on the speakers.

Problem Chart

Problem	Cause	Solution
No power	The power cable is not connected	Check the power cable and any extension cables
No sound	The power cable of the respective product is not connected correctly or not at all.	Check the power cable and if the plugs are properly connected with the sockets
	The connection socket or the plug is dirty	Clean the socket and/or the plug
Noise	The input signal is too strong	Reduce the input signal via the gain control
Fan does not work, LEDs do not light up	The power cable is not connected	Connect the power cable
Protect LED lights up permanently	DC voltage on input	Switch amplifier off and have the product checked by a service technician
	Amplifier overheats due to obstruction	Clean the fan grill
	Impedance of speakers too low	Ensure minimum 4Ω load
	Short circuit in speaker connection or in speakers	Check speakers and connections



**CAUTION! - DANGER TO LIFE
DISCONNECT FROM THE MAINS BEFORE
STARTING MAINTENANCE OPERATION**

Cleaning and Maintenance

We recommend a frequent cleaning of the product. Please use a soft lint free and moistened cloth. Never use alcohol or solvents.

There are no serviceable parts inside the product except for the fuse. Maintenance and service operations are only to be carried out by authorised dealers.

Replacing the fuse

Only replace the fuse with a fuse of the same type and rating.

Before replacing the fuse, unplug the mains cable.

Procedure:

Step 1: Open fuse holder on the rear panel with a screwdriver.

Step 2: Remove the old fuse from the fuse holder.

Step 3: Install the new fuse in the fuse holder.

Step 4: Replace the fuse holder in the housing.

Should you need any spare parts, please use genuine parts.

Should you have any further questions, please contact your dealer.



***Correct Disposal of this Product
(Waste Electrical & Electronic Equipment)***

**(Applicable in the European Union and other European countries
with separate collection systems)**

This marking shown on the product or its literature, indicates that it should not be disposed of with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.

