

# PROFESSIONAL STEREO AMPLIFIERS



# Ti SERIES

## USER GUIDE



# 1 - Safety information

## Important safety information



This unit is intended for indoor use only. Do not use it in a wet, or extremely cold/hot locations. Failure to follow these safety instructions could result in fire, electric shock, injury, or damage to this product or other property.



Any maintenance procedure must be performed by a CONTEST authorised technical service. Basic cleaning operations must thoroughly follow our safety instructions.



This product contains non-isolated electrical components. Do not undertake any maintenance operation when it is switched on as it may result in electric shock.

## Symbols used



This symbol signals an important safety precaution.



The WARNING symbol signals a risk to the user's physical integrity. The product may also be damaged.



The CAUTION symbol signals a risk of product deterioration.

## Instructions and recommendations

### 1 - Please read carefully :

We strongly recommend to read carefully and understand the safety instructions before attempting to operate this unit.

### 2 - Please keep this manual :

We strongly recommend to keep this manual with the unit for future reference.

### 3 - Operate carefully this product :

We strongly recommend to take into consideration every safety instruction.

### 4 - Follow the instructions:

Please carefully follow each safety instruction to avoid any physical harm or property damage.

### 5 - Avoid water and wet locations :

Do not use this product in rain, or near washbasins or other wet locations.

### 6 - Installation :

We strongly encourage you to only use a fixation system or support recommended by the manufacturer or supplied with this product. Carefully follow the installation instructions and use the adequate tools.

Always ensure this unit is firmly fixed to avoid vibration and slipping while operating as it may result in physical injury.

### 7 - Ceiling or wall installation :

Please contact your local dealer before attempting any ceiling or wall installation.

### 8 - Ventilation :

The cooling vents ensure a safe use of this product, and avoid any overheating risk. Do not obstruct or cover these vents as it may result in overheating and potential physical injury or product damage. This product should never be operated in a closed non-ventilated area such as a flight case or a rack, unless cooling vents are provided for the purpose .

### 9 - Heat exposure :

Sustained contact or proximity with warm surfaces may cause overheating and product damages. Please keep this product away from any heat source such as a heaters, amplifiers, hot plates, etc...

**CAUTION**

**RISK OF ELECTRIC SHOCK**

**DO NOT OPEN**

**WARNING :** This unit contains no user-serviceable parts. Do not open the housing or attempt any maintenance by yourself. In the unlikely even your unit may require service, please contact your nearest dealer.

In order to avoid any electrical malfunction, please do not use any multi-socket, power cord extension or connecting system without making sure they are perfectly isolated and present no defect.

**Sound levels**

Our audio solutions deliver important sound pressure levels (SPL) that can be harmful to human health when exposed during long periods. Please do not stay in close proximity of operating speakers.

**Recycling your device**

- As HITMUSIC is really involved in the environmental cause, we only commercialise clean, ROHS compliant products.
- When this product reaches its end of life, take it to a collection point designated by local authorities. The separate collection and recycling of your product at the time of disposal will help conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment.

### 10 - Electric power supply :

This product can only be operated according to a very specific voltage. These information are specified on the label located at the rear of the product.

### 11 - Power cords protection:

Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at lugs, convenience receptacles and the point where they exit from the fixture.

### 12 - Cleaning precautions :

Unplug the product before attempting any cleaning operation. This product should be cleaned only with accessories recommended by the manufacturer. Use a damp cloth to clean the surface. Do not wash this product.

### 13 - Long periods of non use :

Disconnect the unit's main power during long periods of non use.

### 14 - Liquids or objects penetration :

Do not let any object penetrate this product as it may result in electric shock or fire. Never spill any liquid on this product as it may infiltrate the electronic components and result in electric shock or fire.

### 15 - This product should be serviced when :

Please contact the qualified service personnel if :

- The power cord or the plug has been damaged.
- Objects have fallen or liquid has been spilled into the appliance.
- The appliance has been exposed to rain or water.
- The product does not appear to operate normally.
- The product has been damaged.

### 16 - Inspection/maintenance :

Please do not attempt any inspection or maintenance by yourself. Refer all servicing to qualified personnel.

### 17 - Operating environment :

Ambient temperature and humidity: +5 - +35°C, relative humidity must be less than 85% (when cooling vents are not obstructed). Do not operate this product in a non-ventilated, very humid or warm place.

## 1 - Introduction

Thank you for purchasing one of the Ti series amplifiers.

You are now in possession of a high-quality amplifier, which, we are quite certain, will bring you satisfaction.

The Ti amplifiers are the fruit of many years of Audiophony® experience and efforts.

Its easy to use, fast and very resistant. In brief: it is extremely efficient.

The user guide you are currently reading will allow you to quickly get familiar with the many functions and possibilities offered by the Ti amplifiers.

Please keep it within reach during the first few uses to fully benefit from your product.

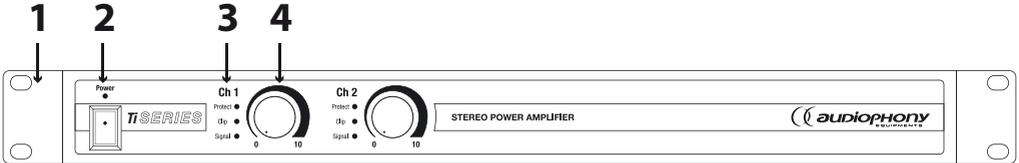
## 2 - Technical specifications

- Class D amplification
- Switched-mode power supply guaranteeing a very low weight
- Stereo, parallel or bridge modes
- Extremely precise and independent volume settings for each channel
- LED indicators allowing you to visualise the status of your device
- Convection-cooled
- Balanced inputs via XLR and Jack TRS sockets
- Unbalanced inputs via RCA sockets
- Outputs via Banana/screw terminal or 4-pole Speakon® connectors
- Thermal and DC independent protection for each channel
- Compatible with 19" racks

## 4 - Description

### 4.1 - Front panel

**Note:** Ti amplifiers feature two identical channels (1 and 2), the description below refers to a single channel for legibility concerns.



#### [1] - Mounting brackets

Allow you to install your amplifier within 19" (482mm) racks.

#### [2] - Power button

#### [3] - Indicator LEDs

##### Signal LED:

This green and yellow LED lights up when a signal is detected via one of the input.

##### Clip LED:

Lights up when the clip threshold has been reached to indicate the input is saturated and its output signal might be distorted. Adjust the level output of your source in order to correct this and prevent damages to your speaker and amplifier. The sound quality will drastically improve as well.

#### Protect LED:

Lights up to indicate the channel is in protection mode, the output will then be "cut" by an internal relay.

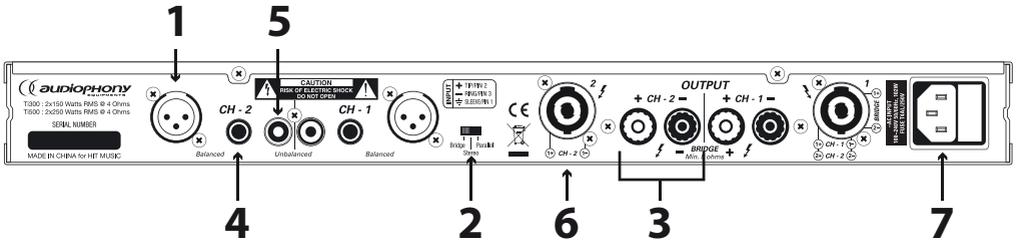
Usually the Protect mode is activated when the channel is overheating or serious problems occur in order to protect speaker(s) connected to this channel.

This LED briefly lights up upon activation of your amplifier in order to avoid sending voltage peaks to your speakers during the initialisation of your amplifier.

#### [4] - Input attenuator

Each channel features its own input attenuator allowing you to limit the incoming signal level. This attenuator has 21 different levels. When on the left, the signal is attenuated by 80 dB, when on the right the signal is not attenuated and the amplifier operates at full power. In mono bridged mode, attenuator 1 affects both channels. In Parallel mode, each attenuators only affects its own channel.

4.2 - Rear panel



[1] - XLR input socket

Allows you to receive line-level signals. This socket is able to receive both symmetrical and asymmetrical signals. However, we recommend to always use symmetrical signals as they get you rid of parasitic noises caused by low quality cables. Connect here your male XLR plug. Polarities are spread as follows:

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

[2] - Parallel / Stereo / Bridge Selector

Allows you to select the current amplifier mode:

- **Stereo:** Standard mode, each channel amplifies its own signal. (Minimum impedance of 2 Ω).
- **Parallel:** Input 1 signal is identically amplified by both channels. (Minimum impedance of 2 Ω).
- **Bridge:** Both amplification channels are added up to amplify Input 1 signal. (Minimum impedance of 2 Ω).

[3] - Outputs via Banana terminal

Allow you to connect your speakers via Banana connectors or directly connect stripped cables. Use the red terminals to connect your speakers in Bridge mode. Caution: dangerous output voltage.

[4] - Jack input socket

Allows you to receive line-level signals. This socket is able to receive both symmetrical and asymmetrical signals. However, we recommend to always use symmetrical signals as they get you rid of parasitic noises caused by low quality cables. Connect here your male Jack plug. Polarities are spread as follows:

- Tip = Signal +
- Ring = Signal -
- Body = Ground

[4] - RCA input

Allows you to receive asymmetrical line-level signals.

Signals are spread as follows:

- Tip = signal
- Body = Ground

[6] - Speakon® outputs

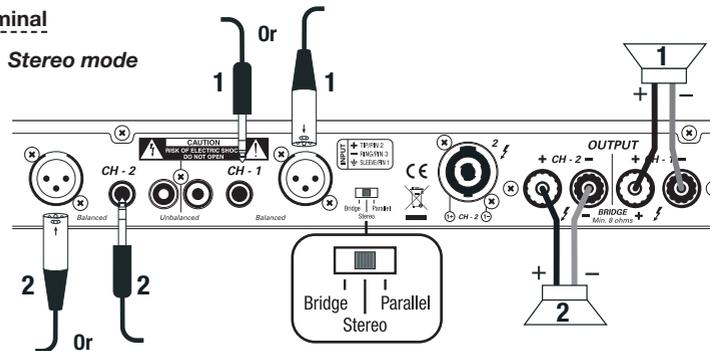
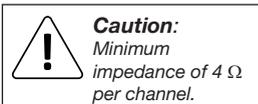
Allow you to connect your speakers via cable equipped with Speakon® connectors. Please refer to next chapter for more information about connections.

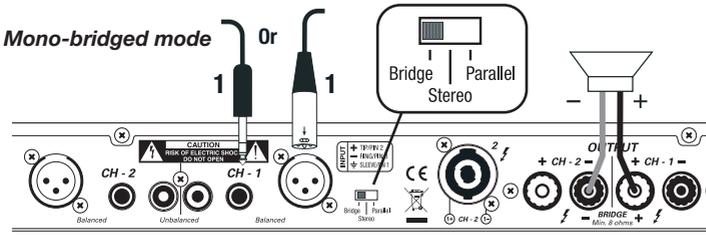
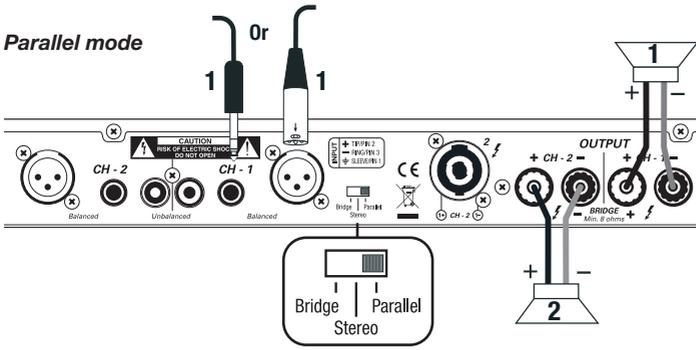
[7] - Power input socket

Connect here the supplied power cord.

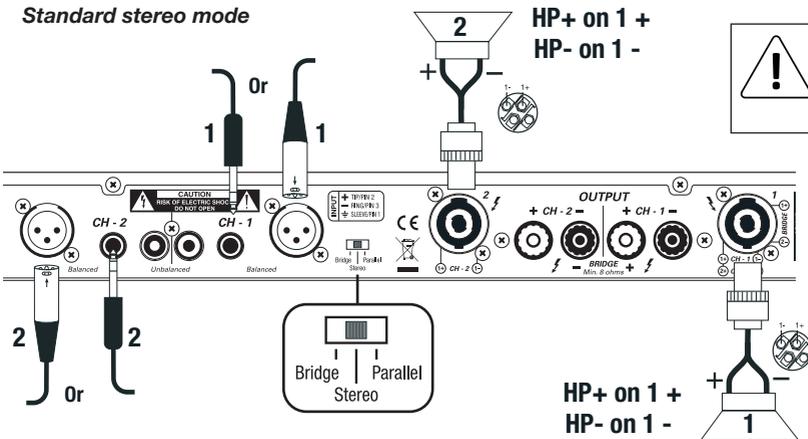
5 - Connections

5.1 - Connections via rear terminal



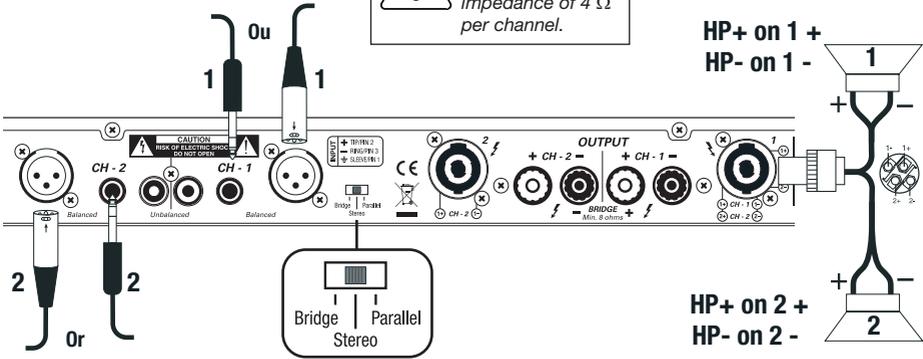


5.2 - Connections via Speakon® connectors



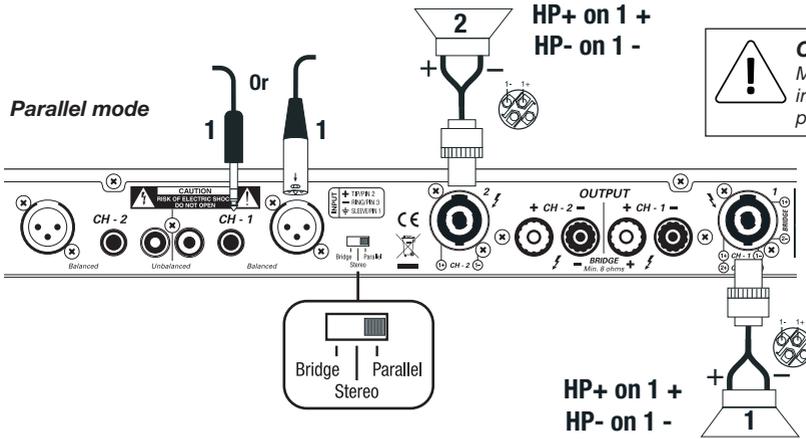
**Stereo mode via one single output**

**Caution:**  
Minimum impedance of 4 Ω per channel.



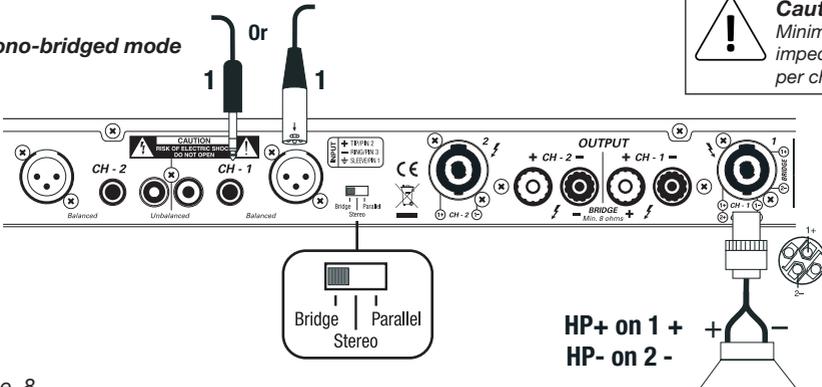
**Parallel mode**

**Caution:**  
Minimum impedance of 4 Ω per channel.



**Mono-bridged mode**

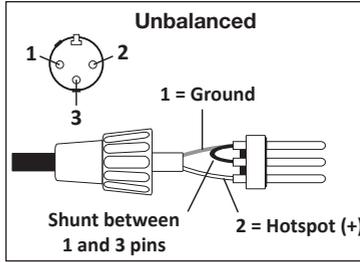
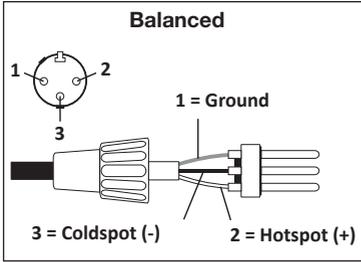
**Caution:**  
Minimum impedance of 8 Ω per channel.



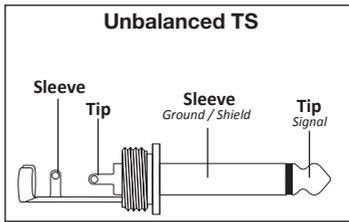
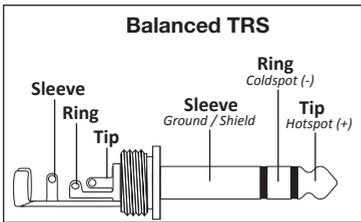
6 - Connectors

6.1 - Inputs

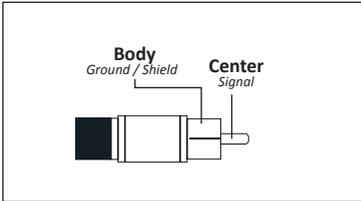
XLR



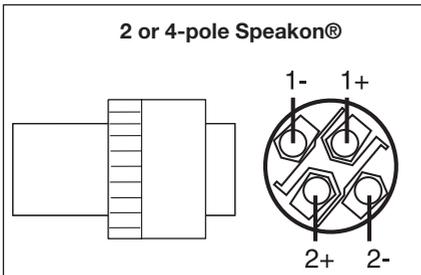
Jack 6.35



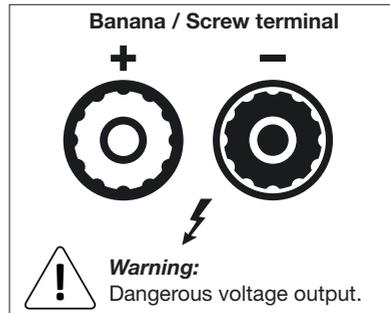
RCA



6.2 - Outputs



**Note:** Your speakers cables feature 2-pole Speakon® connectors can still be connected to the 4-pole outputs.



**Note:** When using stripped cables, please make sure no wire comes into contact with both polarities. Please use tinned cables to get rid of eventual short-circuit problems.

## 7 - Protection systems

Because Audiophony knows what sound professionals need, our SMi amplifiers are equipped with many protection systems to guarantee the best possible lifespan for the internal components of your amplifiers and all devices connected to their outputs.

### - SoftStart System

Upon activation of your amplifier or activation of one of the protection system, the Softstart system will slowly increase the output so the speakers will not have to deal with sudden peaks.

### - Thermal protection

The thermal protection circuit will open output relays in case of excessively high temperature.

The Protect LED lights up during this process. In the power transformer temperature gets too high, its temperature sensor will disconnect all power outputs. The Protect and Clip LEDs will light up while the ON LED lights off. Cooling fans will continue operating at low speed and your amplifier will be fully functional again once an acceptable temperature has been reached.

### - Short-circuits

This protection takes effect upon detection of a short-circuit via one of the output (defective loudspeaker, poorly isolated speaker cable, etc.). This system detects short-circuits such as excessively low impedances and reduce the voltage output of your amplifier to prevent the destruction of power transistors. Affected outputs will be disconnected by the thermal protection system if the short-circuit continues.

### - DC Offset protection

The output relays will open automatically to prevent damage to your speakers if one of the channels detects direct current via one of its output connectors.

### - Ultra-low frequencies (<40 Hz)

The internal high-pass filter gets rid off ultra-low frequencies. However, if such frequencies were to be detected, a relay will eliminate them.

### Important notes about the Bridge mode

1 - In Bridge mode, the load impedance must never go below 8 Ohms. By connecting 2 x 8 Ohms speakers in parallel mode on a single output, this output will have a 4 Ohms impedance. To determine the impedance connected to an output, please proceed as follows:

In case of 2 x 8 Ohms speakers:

$$\text{CHARGE} = 1 / (1/8 \text{ Ohms} + 1/8 \text{ Ohms}) = 1 / (0,125 + 0,125) = 1/0,25 = 4 \text{ Ohms}$$

2 - In stereo mode, the minimum impedance is 2 Ohms: 4 x 8 Ohms speakers connected in parallel per side.

3 - Never connect the ground of your speakers.



## 8 - Technical specifications

	Ti300	Ti500
<b>Volume and power output in stereo mode</b>		
8 Ohms	2 x 80 W RMS	2 x 130 W RMS
4 Ohms minimum	2 x 150 W RMS	2 x 250 W RMS
<b>Volume and power output in mono-bridged mode</b>		
8 Ohms minimum	1 x 300 W RMS	1 x 500 W RMS
Signal-to-Noise ratio	Lower than 90 dB	
Input sensitivity	4 dBu +/-2dB	
<b>Distortion</b>		
At 1KHz and 1/2 max. power	Lower than 0,1%	
Crosstalk at full power	- 65 dB at 1 KHz	
Frequency response (4 Ohms / 1W)	+0,5dB ; 20Hz-20KHz	
Input impedance	Unbalanced: 15 KOhms / Balanced: 30 KOhms	
Clip level	0dB	
Cooling system	Convection	
<b>Connectors</b>		
Input	Balanced XLR and Jack TRS + Unbalanced RCA	
Output	Screw terminal + 4-pole Speakon®	
<b>Settings</b>		
Front panel	Power switch / Channels 1 and 2 settings	
Rear panel	Mode selector	
Indicators	Protect (red) / Clip (yellow) / Signal (green)	
Protections	Short-circuit / Current limiter / DC offset / Thermal	
Power supply	100Vac/230Vac - 50/60Hz	
Dimensions	482 mm x 44 mm x 330 mm	
Net weight	4,3 Kg	4,7 Kg

Because AUDIOPHONY® takes the utmost care in its products to make sure you only get the best possible quality, our products are subjects to modifications without prior notice. That is why technical specifications and the products physical configuration might differ from the illustrations.

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