



**PX1000**

**PX2000**

**PX3600+**

**PX5000+**

**PX Series**

USER MANUAL

**Professional Power Amplifier**



# CONTENTS

<b>Contents</b> .....	3
Important precautions.....	4
Safety instructions.....	5
<b>Function Description</b> .....	6
Introduction.....	6
Front panel.....	6
Front panel function description .....	7
Rear panel.....	8
Rear panel function description.....	9
Reliability - Protection functions.....	11
Factory settings.....	11
<b>Installation and operation manual</b> .....	12
System connection.....	12
Basic operation.....	13
Connection modes and settings.....	14
<b>Maintenance</b> .....	17
Applicable ranges.....	17
Replacing a fuse.....	17
Troubleshooting and maintenance.....	17
Schematic diagram.....	18
Packing list.....	19
<b>Specifications</b> .....	20
Measures.....	21



## **IMPORTANT PRECAUTIONS**



1. Read all documentation before using your equipment and save it for further reference.
2. Voltage must be correct and the same as that printed on the rear of the unit. Damage caused by connection to improper AC voltage is not covered by any warranty.
3. Please always use the unit with the AC ground wire connected to the electrical system ground. Precautions should be taken so that the grounding of a piece of equipment is not defected.
4. After having connected the amplifier to power supply, "Check" LED lights up indicating that some components inside already on.
5. When in "bridge mode", connecting an oscillograph is prohibited: it would cause damage to the amplifier and to the equipment.
6. The input level of the amplifier must not exceed the marked sensitivity.
7. Do not link the output of any amplifier channel back into another channel's input. Do not connect an amplifier output in parallel or series with any other amplifier outputs.
8. In the system setup, amplifier's output power must be greater 50%-100% than the loaded loudspeaker's rated power.
9. Make sure that the input signal is compatible with the presetted input settings.
10. Please turn the power off, before pulling off the power cord or the signal cable or before adjusting the input mode switch.
11. In case of distributing one signal to more than one amplifier, a signal distributor is needed.
12. Please clean the dust filter every 15 days.
13. For a correct operation, please respect the amplifier's minimum load.
14. In case of malfunction DO NOT try to fix the problem by yourself as it is very dangerous. Please return your equipment to an authorized service center otherwise any warranty will be null and void

**SAFETY INSTRUCTIONS:**

Read safety instructions thoroughly before using the amplifier.

Install equipment as follows:

- Install it on a flat surface, not bending or curved.
- Do not install it near water or moisture.
- Place power amplifier away from heat sources, such as radiators or other heat sources.

Keep in mind the following rules when connecting amplifiers

- Read the user manual thoroughly before connecting the amplifier
- Make all amplifier's connection perfectly. In case of misconnection, it may cause hum, damage or electric shock.
- To prevent electric shocks, do not open the top cover.
- Check the AC voltage and amperage before connecting the line cord.

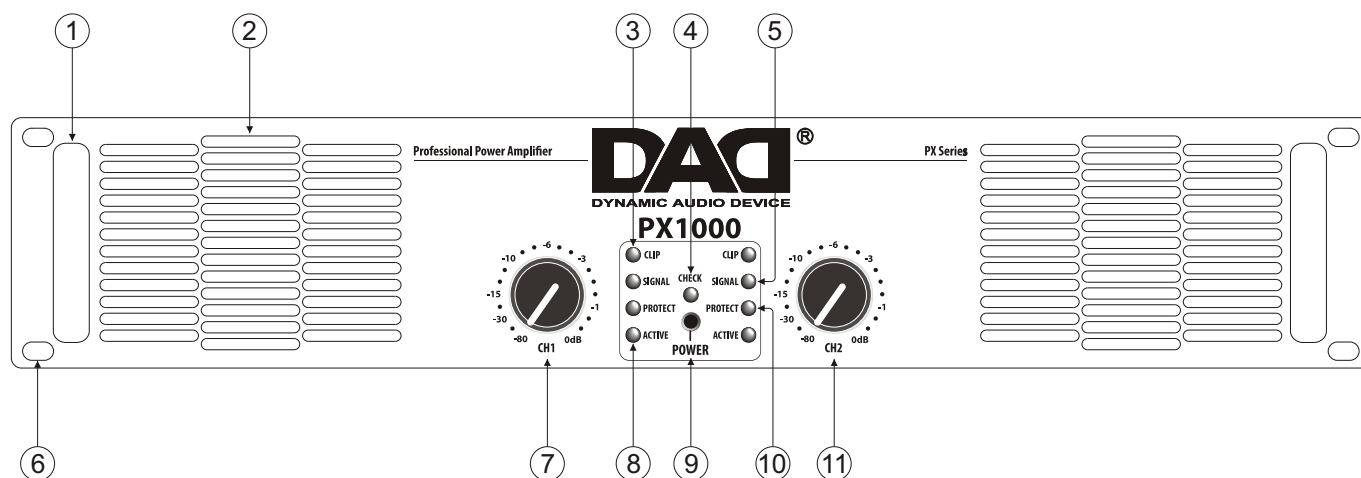


# FUNCTION DESCRIPTION

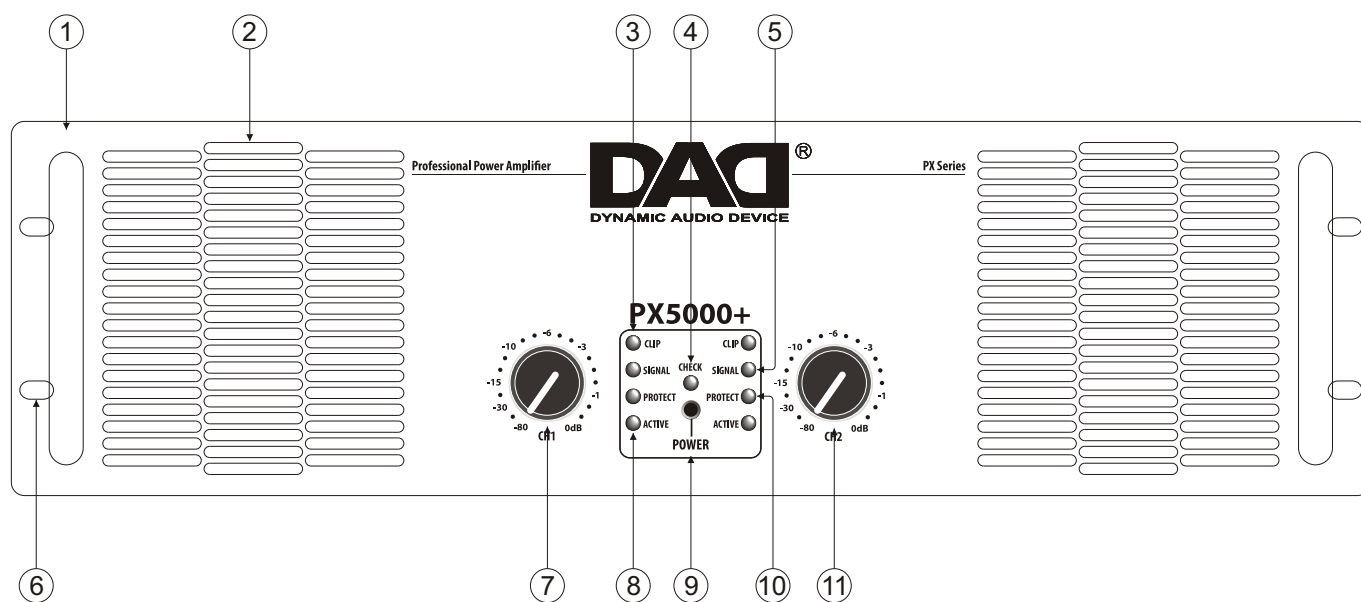
## Introduction:

1. This amplifier employs new 3 steps class H power supply circuit, that makes the RMS output power higher, the operation temperature lower and the product's stability and reliability better.  
(Only for PX3600+/PX5000+)
2. Output stage circuit uses a non-traditional transistor emitter follower method that makes the transistor overloading ability stronger and improves the product's stabilities. (Only for PX3600+/PX5000+)

PX1000-PX2000 front panel



PX3600+-PX5000+ front panel



## PX Series front panel function description:

### 1. Handle

Please use this handle to transport the amplifier.

### 2. Air Entrance

This part is for the air entrance. Don't obstruct it.

### 3. "CLIP" LED

When this indicator lights up, it shows that the output signal reaches the peak, and causes clipping.

In this case, please check the mixer's output signal and control the output gain. If the general volume is too high and the clipping status lasts for a long time, the over-drive protection disconnects the loudspeakers for a bunch of seconds. (PX 3600+ and PX 5000+)

### 4. "CHECK" LED

When you connect the amplifier to the power supply, this indicator lights up and the amplifier is in stand-by status. To turn the power on, hold the power button for two seconds.

### 5. "SIGNAL" LED

This LED indicates the channel's output level: the brightness changes according to the output level value.

### 6. Fixing holes:

Please use these holes to fix the amplifiers into a flight case.

### 7. Channel 1 Volume Control

If the amplifier operates in stereo or parallel mode, it controls the output level of channel 1. If the amplifier operates in the "Bridge" mode, it controls the overall output level and the channel 2 volume control is off.

### 8. "POWER" LED

This indicator lights up when the power amplifier is switched on.

### 9. Power Switch

Use this switch to turn on/off the amplifier. Keep the power button pressed for 2 seconds and the amplifier automatically turns on (or off).

### 10. Channel 1 & 2 "PROTECT" LEDs

When these indicators light up, they show that the power amplifier is in the "protection" status. In this case, it is necessary to find out and resolve the problem(s) as soon as possible.

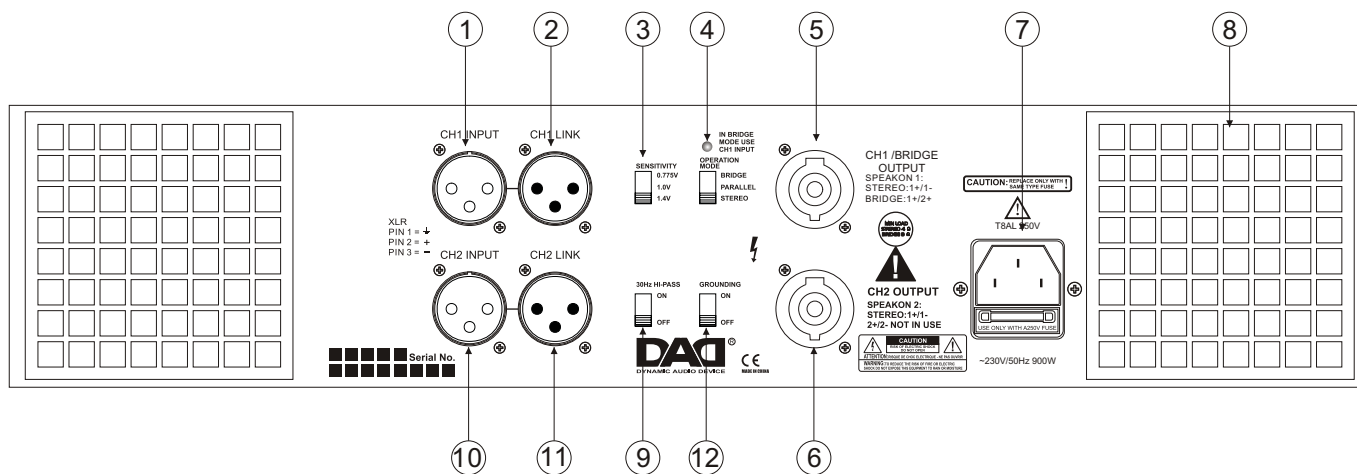
The protection status could be caused by :

clip / limiter, over-heat, over-drive (3600+ and 5000+), over-load, short circuit and direct current.

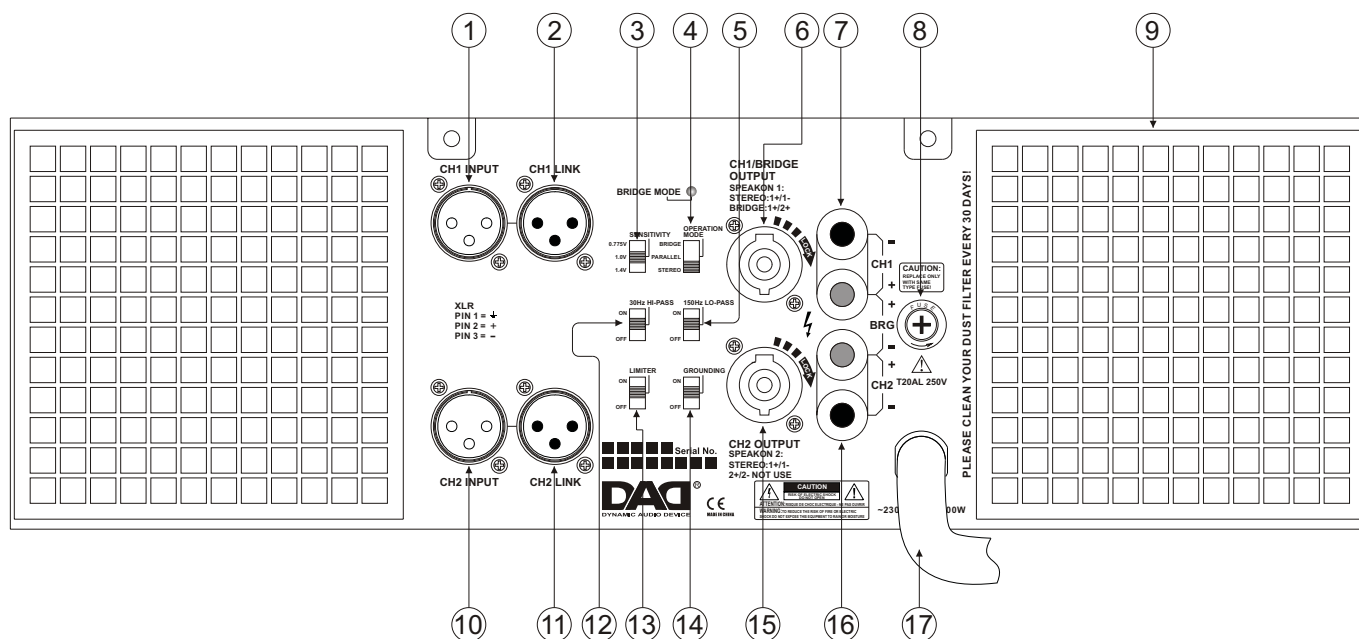
### 11. Channel 2 Volume Control

If the amplifier operates in stereo or parallel mode, it controls the output level of channel 2. If the amplifier operates in the "Bridge" mode, this control is off.

PX1000-PX2000 rear panel



PX3600+-PX5000+ rear panel



PX1000-PX2000 rear panel function description:

1. Channel 1 XLR Input

This XLR input is a balanced input.

2. Channel 1 Link Socket

This balanced socket is used to link another amplifier.

3. Input Sensitivity Selector

This selector allows to choose the input sensitivity among: 0.775V, 1.0V or 1.4V.

4. Operation Mode Selector

Please use this switch to choose among the power amplifier operating modes:

- Stereo Mode: the two channels are completely independent.
- Parallel Mode: Signal input only from channel 1, independent volumes on both channels and separated outputs.
- Bridge Mode: both channels work together to make a very powerful, single-channel monaural amplifier. Input, volume control and output available on channel 1 only. While working in the bridge mode, a related LED lights up on the rear panel.

5. Channel 1 Speakon Output

Connect this output to a speaker. The branching is: +1, -1 ( except in bridge mode where the branching is: +1, +2 ).

6. Channel 2 Speakon Output

Connect this output to a speaker. The branching is: +1, -1.

7. AC Cord

Plug this cord into the power supply socket. Before using the power amplifier, check if the power supply is 230V  $\pm$ 10% /50Hz.

8. Air Entrance

This part is the air entrance. Don't obstruct it.

9. 30Hz high-pass filter switch

This switch, switches on/off the 30Hz high-pass filter. This filter, eliminates the frequencies below 30Hz and does not make the speaker work at resonance frequency, protecting it effectually. .

10. Channel 2 XLR Input

This XLR input is a balanced input

11. Channel 2 Link Socket

This balanced socket is used to link another amplifier.

12. Grounding Selector

If you want to connect the circuit's ground with the power supply system grounding, in order to lower hum or noise, you can switch this selector "ON": in this way they will be interconnected.

**PX3600+-PX5000+ rear panel function description:**

1. Channel 1 XLR Input  
This XLR input is a balanced input.
2. Channel 1 bypass socket  
It provides the same output signal as the input 1 signal.
3. Input Sensitivity Selector  
Please use this selector to choose input sensitivity among: 0.775V, 1.0V or 1.4V.
4. Operation Mode Selector  
Please use this switch to choose among the power amplifier operating modes:
  - Stereo Mode: the two channels are completely independent.
  - Parallel Mode: Signal input only from channel 1, independent volumes on both channels and separated outputs.
  - Bridge Mode: both channels work together to make a very powerful, single-channel monaural amplifier. Input, volume control and output available on channel 1 only. While working in the bridge mode, a related LED lights up on the rear panel.

Note: Please see the below wiring illustration.
5. 150Hz low-pass filter switch  
If the system needs to drive a subwoofer, turn this switch "ON": it filters the signal below 150Hz. You can use this amplifier to drive subwoofers, without needing an electronic crossover.
6. Channel 1 SPEAKON output  
This is the SPEAKON output. 1+ links to speaker's positive pole and 1- links to speaker's negative pole. In the "Bridge" mode, 1+ links to speaker's positive pole and 2+ links to speaker's negative pole.
7. Channel 1 binding post output  
This is the binding post output. Red color links to speaker's positive and black color links to the negative. In the "Bridge" mode, only the red color links to the speaker's positive pole.
8. Fuse holder  
This fuse holder includes a standard fuse specification inside. It is used to protect the amplifier from damages. If the amplifier is connected to the power supply but the LED doesn't light up, please check the fuse. If you find the fuse broken, after troubleshooting, please replace it with another one having the same features.
9. Air Entrance  
This part is the air entrance. Don't obstruct it.  

Note: Do not put your hands or anything else into the holes.
10. Channel 2 XLR Input  
This XLR input is a balanced input.
11. Channel 2 bypass socket  
It provides the same output signal as the input 2 signal.
12. 30Hz high-pass filter switch  
This switch, switches on/off the 30Hz high-pass filter. This filter, eliminates the frequencies below 30Hz and does not make the speaker work at resonance frequency, protecting it effectually.
13. Limiter switch  
Use this switch to turn the limiter on/off. Switch it on, to prevent output clipping in consequence of a too high input signal, so you will avoid damages to the amplifier and the speakers.
14. Grounding Selector  
If you want to connect the circuit's ground with the power supply system grounding, in order to lower hum or noise, you can switch this selector "ON": in this way they will be interconnected.
15. Channel 2 SPEAKON output  
SPEAKON output: 1+ links to the speaker's positive pole while 1- links to the speaker's negative one.
16. Channel 2 binding post output  
This is the binding post output. Red color links to the speaker's positive pole while black color links to the Speaker's negative one. In the "bridge" mode, only the red color links to the speaker's negative pole.
17. AC cord  
This is the line cord. Before plugging it into an AC outlet, please provide it with a power plug suitable to the local socket type. Before using the power amplifier, please check out if the power supply is 230V  $\pm 10\%$  /50Hz.

## Reliability - Protection function

This amplifier has many protecting functions that give to this product a great reliability. These protections prevent damages either to amplifier or to loudspeakers.

### 1. Clip / limiter

When the amplifier output appears to be clipped, to avoid damages to the speakers, a built-in clip/limiter automatically limits too high input signals. This function can be activated by the switch placed on the amplifier's rear panel (PX3600+ and PX5000+ only)

### 2. Over-heat protection

This equipment works at a rated temperature range (see page 15). If the environment's temperature exceeds the rated values or the user employment is not correct, it will cause an internal temperature increase. In this case, output power is automatically limited until the temperature will be again into its normal range values.

### 3. VHF protection (PX3600+ and PX5000+ only)

If a non-musical signal, exceeding audio range, occurs in the input, the amplifier will limit output power to protect itself and the speakers. Normal output power will be automatically recovered when the VHF signal is cut off.

### 4. Short-circuit protection

When a short-circuit occurs on the amplifier's output (protection limit is below 1 ohm), the amplifier will limit its output power. It will be automatically recovered as soon as the short-circuit is removed.

### 5. VLF protection

If a continuous long-period non-musical signal (VLF), occurs in the input, the amplifier will automatically attenuate the input signal and limit the output power in order to protect itself and the speakers. Normal output power will be automatically recovered when the VLF signal is cut off.

### 6. DC protection

If the output signal exceeds a rated DC voltage, an output protection function disconnects the load, to protect the speakers.

### 7. Automatic "Fade-in" function

When the amplifier starts up or automatically restarts up in consequence of a protection releasing, the amplifier output level will grow gradually, either to protect the amplifier and speakers or to allow the ears' adaptation.

## Factory Settings

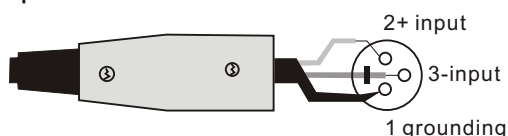
1. All volume control was set at "-80" ;
2. Grounding switch was set at "ON" ;
3. Working mode was set at "STEREO" .
4. Sensitivity switch was set at "0.775V" .
5. Limiter switch was set at "ON" .
6. Low-pass switch was set at "OFF" . (PX3600+ and PX5000+ only)
7. High-pass switch was set at "OFF" .

## Installation and operation manual

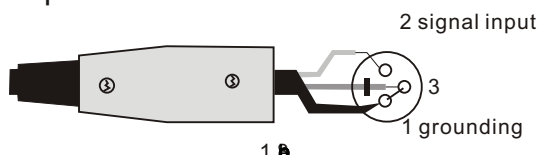
### 1. System connection

- 1.1 While unpacking the package, please check all the provided accessories along with the equipment status. Usually, it is better save all packing materials.
- 1.2 PX series cases are designed to fit 2 or 3 standard 19" rack units and are provided with standard fixing holes on both front and rear panel.
- 1.3 Connect all wires. (Please make sure that the equipment marked voltage is conform to the local voltage before connect it to the power supply)
- 1.4 Signal input/output plug connection mode:

= XLR balanced input/output

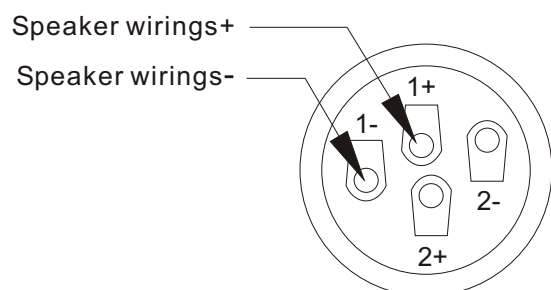


=XLR unbalanced input/output



### 1.5 Output plug connection modes:

= Stereo or Parallel mode

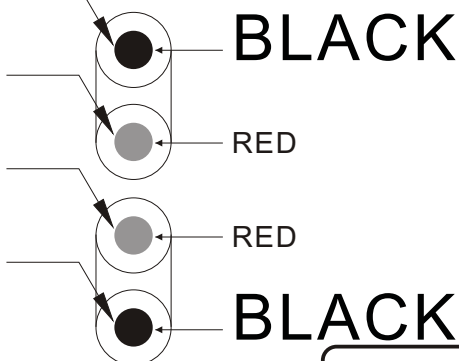


Speaker wirings-  
CHANNEL 1

Speaker wirings+

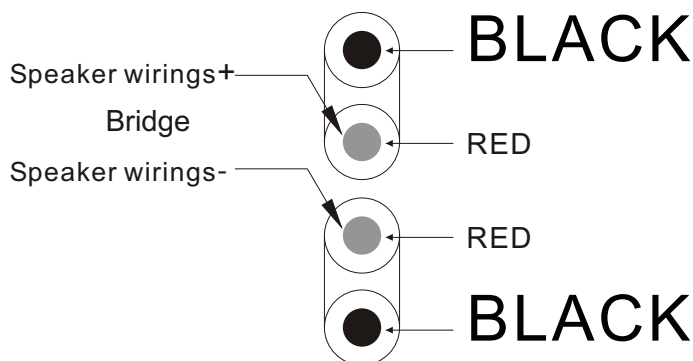
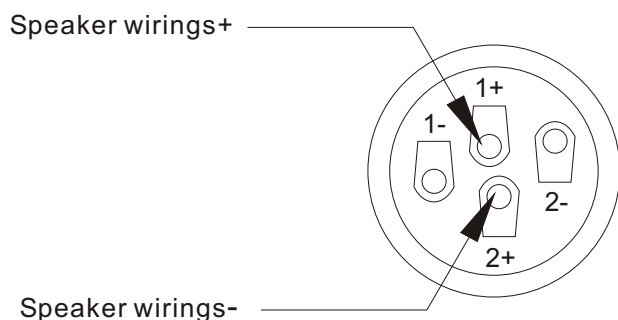
Speaker wirings+  
CHANNEL 2

Speaker wirings-



Amplifier output

= Bridge mode

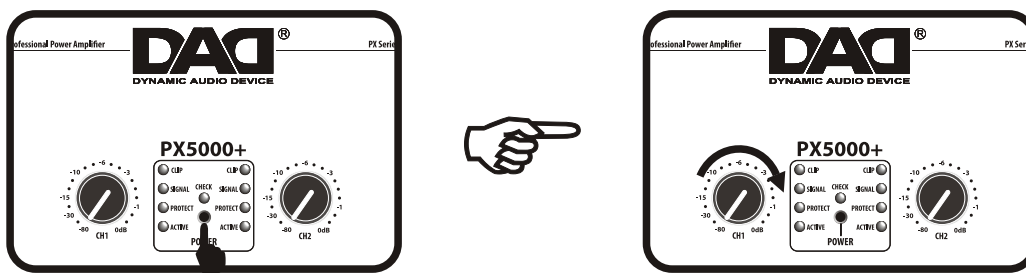


Amplifier output

## 2. Basic operation

### 2.1 Switching on

It is opportune to turn channel 1 & 2 volume controls all the way down (-80dB) before switching the amplifier on. After having inserted the plug into the power outlet, the device goes in the stand-by mode, and is ready to work. Press the power button and hold it for 2 seconds: the amplifier automatically turns on while the “Check” LED switches off and the “Active” LED lights up in blue.

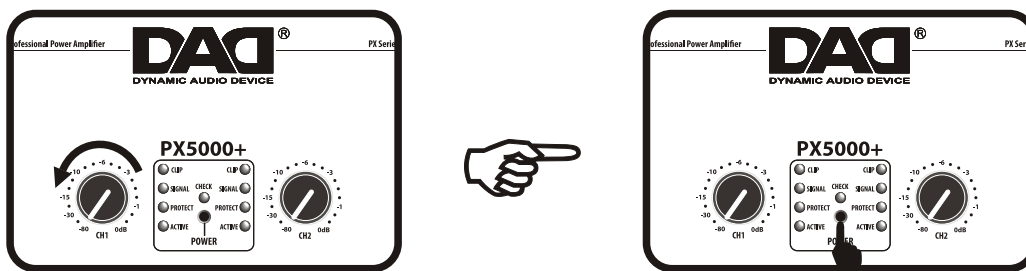


**! Notice:** When you insert the equipment plug into a power outlet, the amplifier is already powered and lies in the stand-by mode (“Check” LED lights up). If you have not the intention to use it in a short while, please disconnect the line cord from the power source.

### 2.2 Switching off

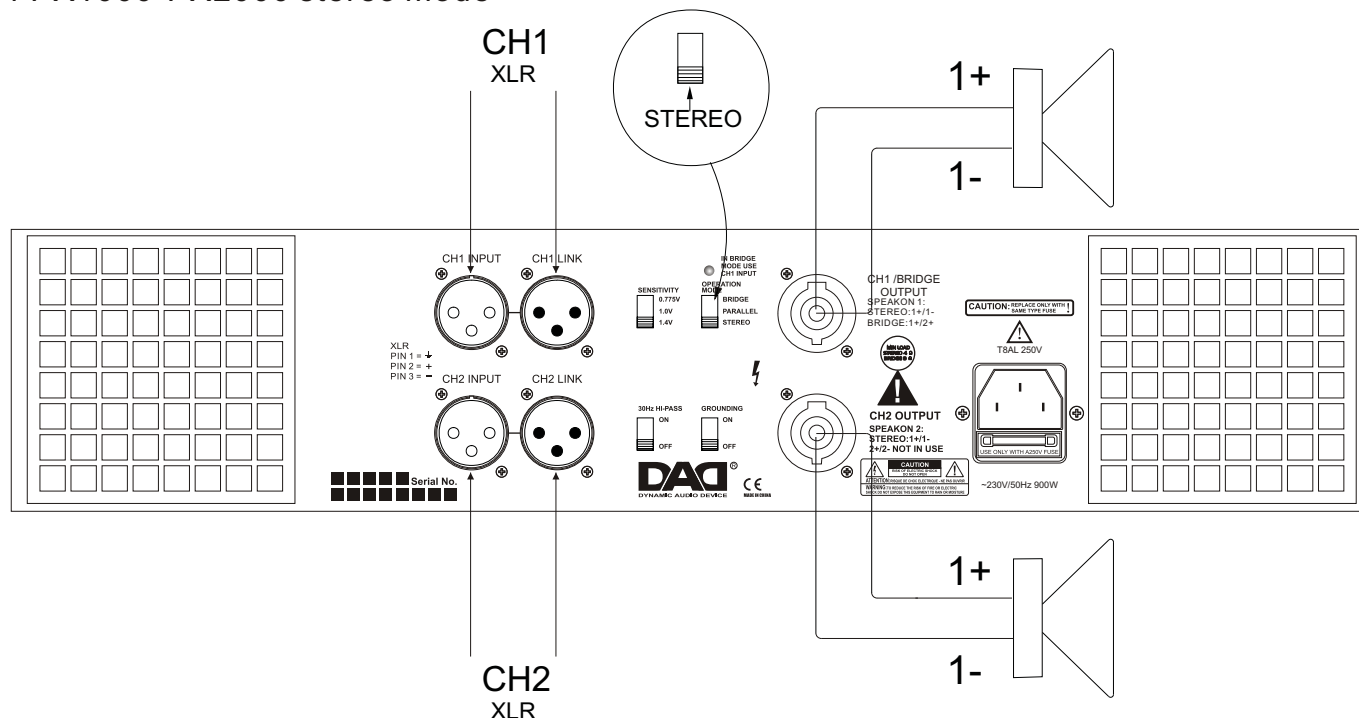
Please adjust the CH1/CH2 volume control all the way down (-80), before switching off the equipment.

Press the power button and hold it for 2 seconds: the amplifier automatically turns off while the “Check” LED lights up and the “Active” LED switches off.



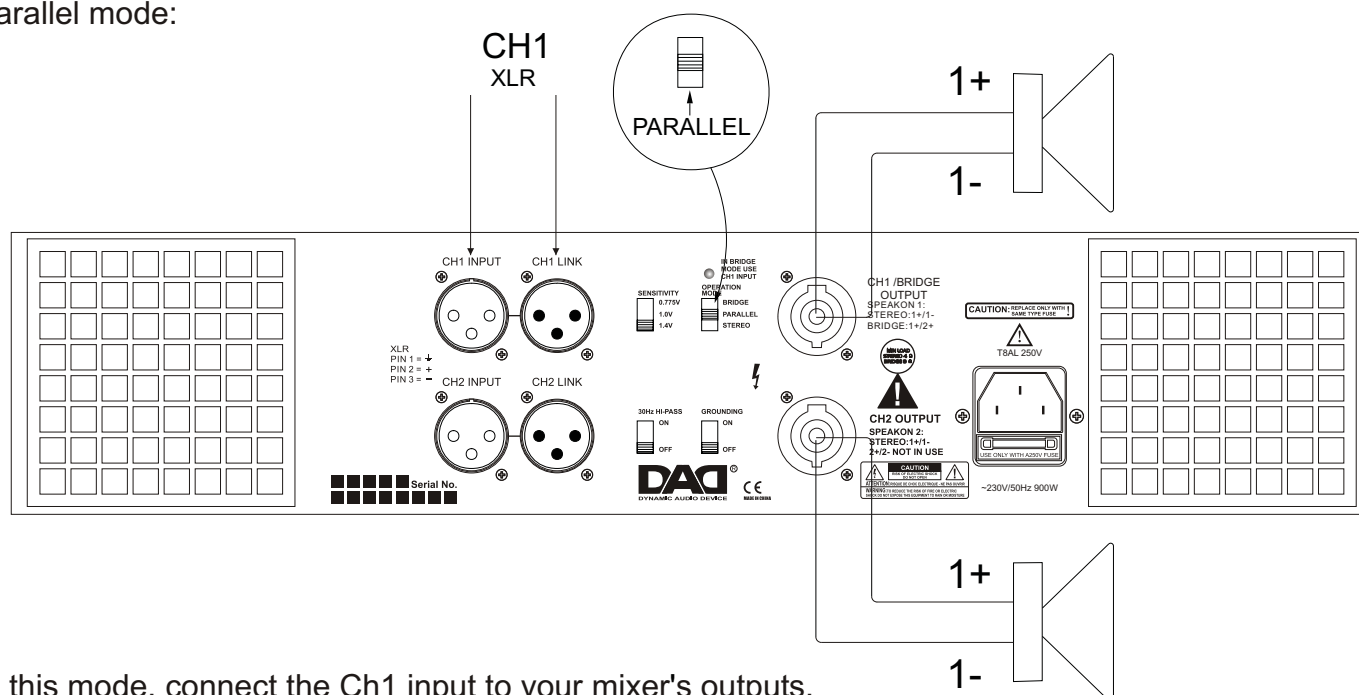
### 3. Connection modes and settings

#### 3.1 PX1000-PX2000 stereo mode



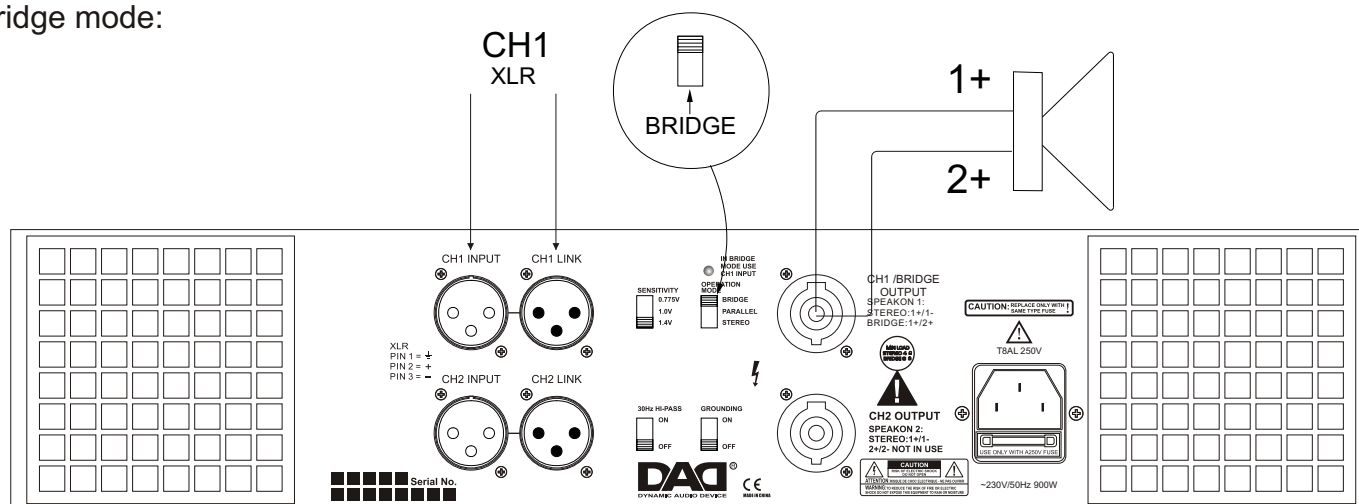
In this mode, connect the CH1 and CH2 inputs to your mixer's outputs. Put the selector on the “Stereo” position. Output volume can be adjusted by means of the two potentiometers. Connect the 2 speakon outputs to the 2 speakers.

Parallel mode:



In this mode, connect the Ch1 input to your mixer's outputs. Put the selector on the “Parallel” position. Outputs volume can be adjusted by means of the two potentiometers. Connect the 2 speakon outputs to the 2 speakers.

Bridge mode:



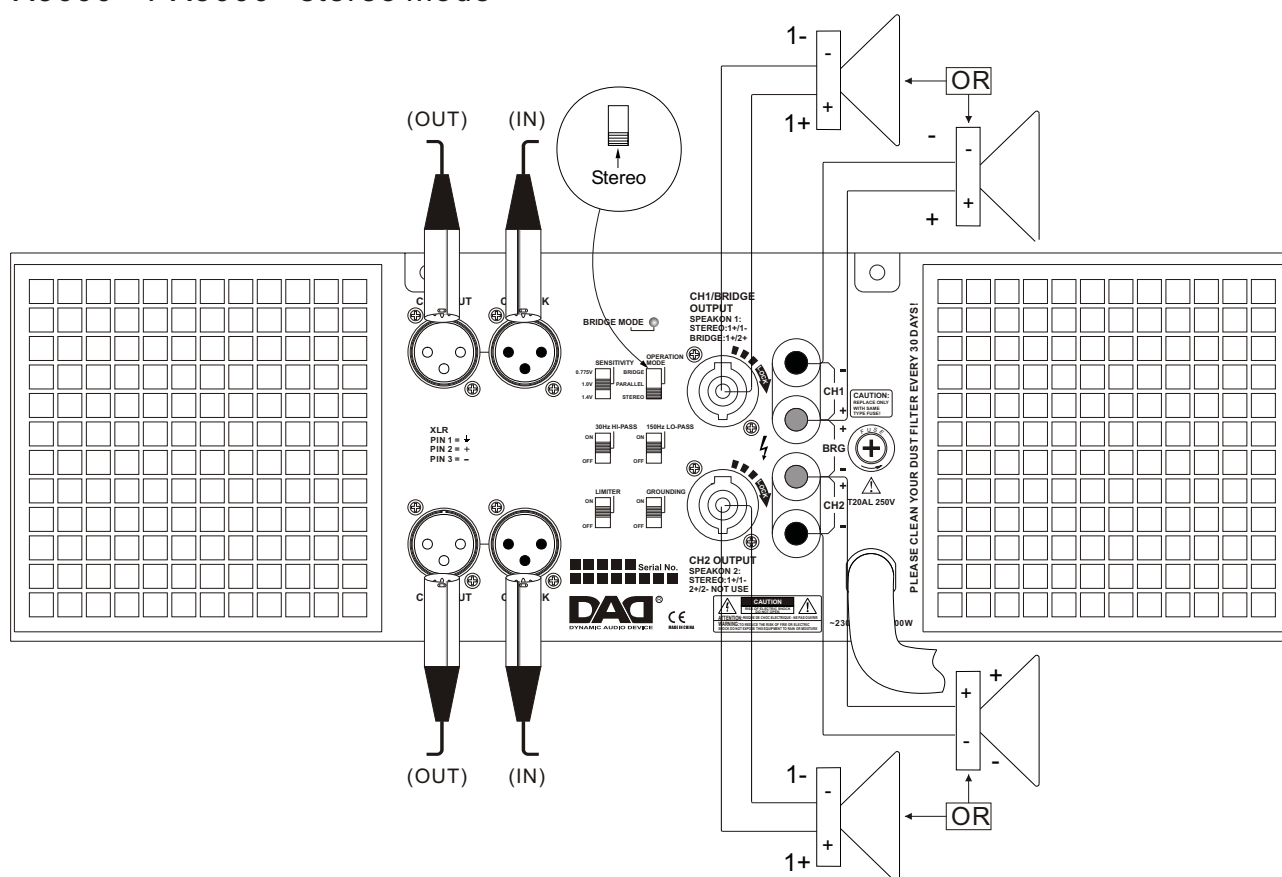
In this mode, connect the input CH1 to your mixer's outputs.

Put the selector on the “Bridge” position.

Output volume can be adjusted by means of the channel 1 potentiometer.

Connect the channel 1 speakon output to the speaker.

### 3.2 PX3600+-PX5000+ stereo mode



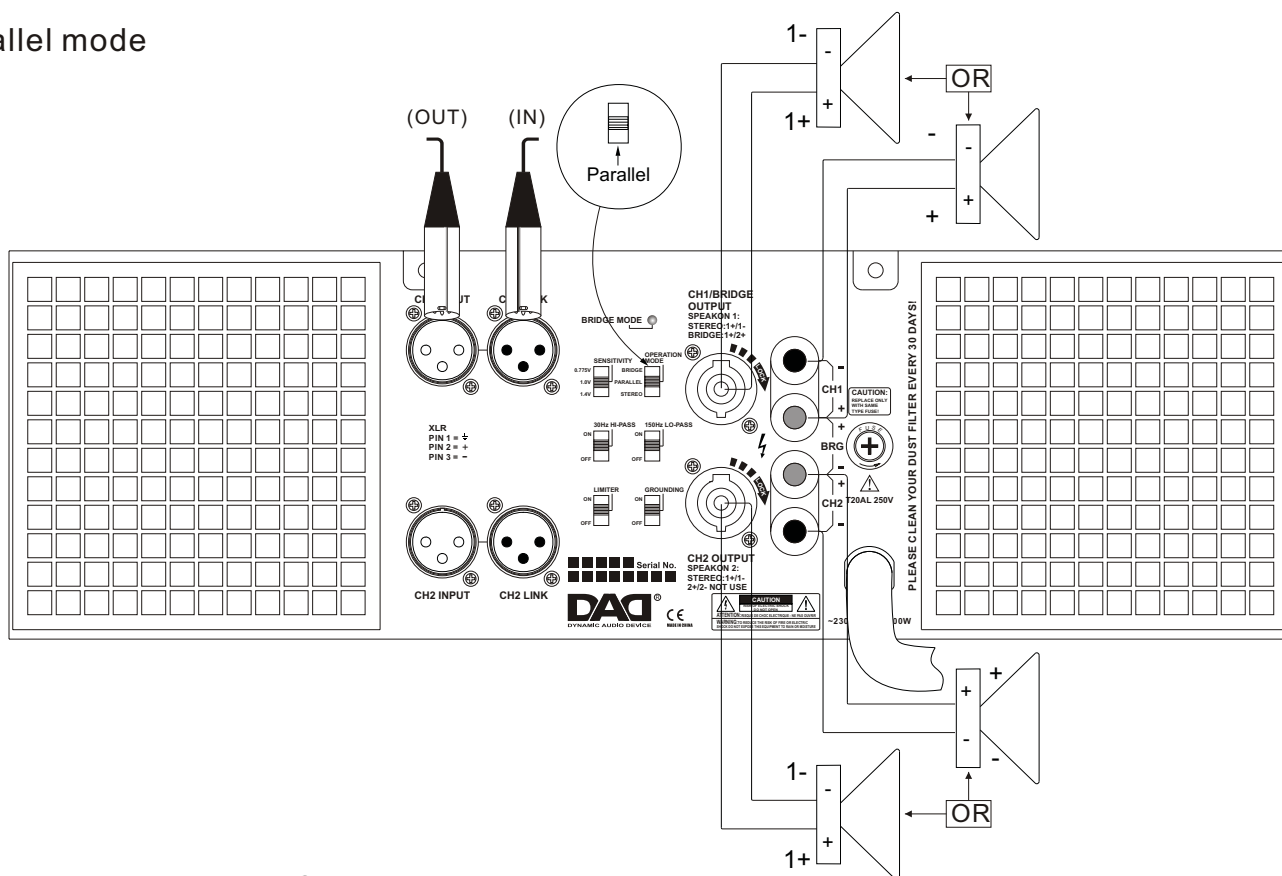
In this mode, connect the CH1 and CH2 inputs to your mixer's outputs.

Put the selector on the “Stereo” position.

Output volume can be adjusted by means of the two potentiometers.

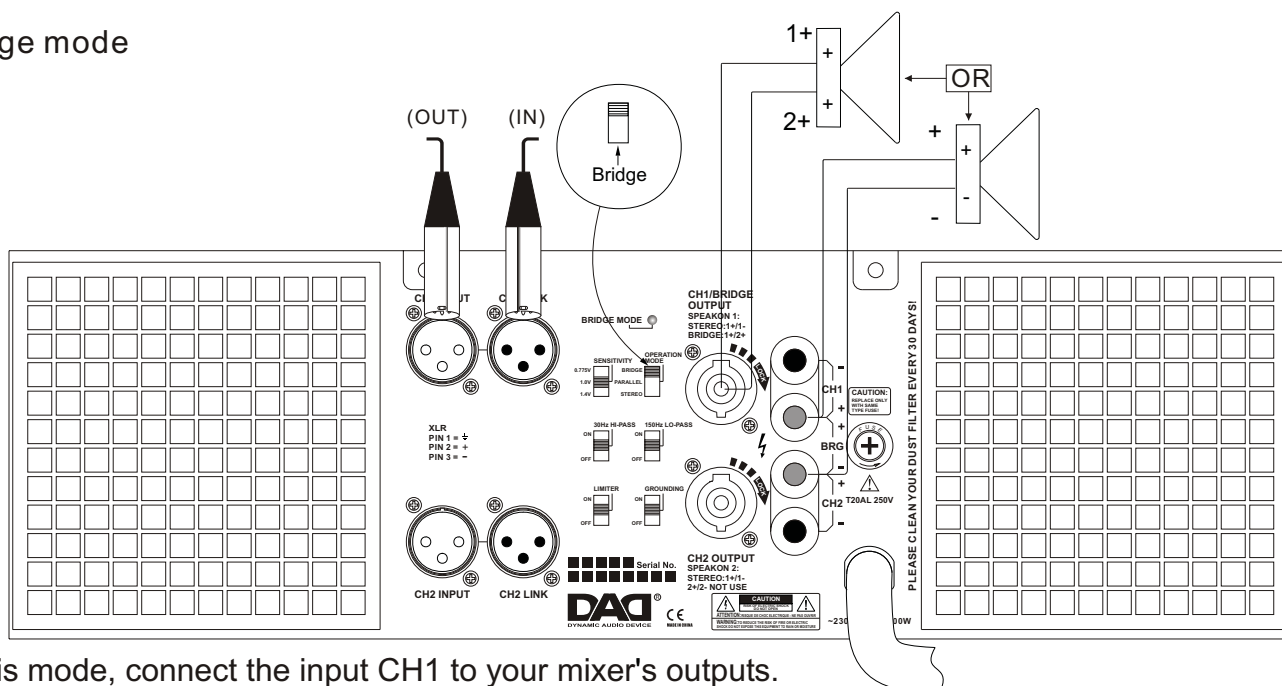
Connect the 2 speakon outputs to the 2 speakers.

## Parallel mode



In this mode, connect the Ch1 input to your mixer's outputs.  
Put the selector on the "Parallel" position.  
Outputs volume can be adjusted by means of the two potentiometers.  
Connect the 2 speakon outputs to the 2 speakers.

## Bridge mode



In this mode, connect the input CH1 to your mixer's outputs.  
Put the selector on the "Bridge" position.  
Output volume can be adjusted by means of the channel 1 potentiometer.  
Connect the channel 1 speakon output to the speaker.

### PLEASE NOTE

In this case (bridge mode), the SPEAKON connection mode is different and in fact: speaker's positive pole links to 1+ while the speaker's negative one links to 2+.

## Maintenance

### 1 Application range

- 1.1 This user manual is suitable only for **DAD** manufactured **PX Series** products.
- 1.2 PX amplifiers are suitable for live performances, band performances, discos, night clubs, etc...

### 2 Use circumstances

- 2.1 The room temperature shall be kept around 25 degree while used indoor. It can't be used in high temperature environments as over heating may cause damages to components.
- 2.2 If used outdoor, direct exposition to rain or sunshine must be avoided as it would shorten the equipment's life.
- 2.3 operation range
  - A. Environment temperature: -10°C~40°C
  - B. Relative humidity: Less than 90%
  - C. Air pressure: 80kPa~106kPa

### 3 Replacing a fuse

- 3.1 If the equipment appears affected by a low-grade malfunction and the fuse burns up, after having solved the problem, replace it with another one of the same type. If the equipment appears affected by severe damages and causes the fuse to explode, DO NOT replace it, or more severe damages might occur. In this case, please return the equipment to your dealer for an effective repair.

## 4 Maintenance and troubleshooting:

Here you are some simple tips to check whether the equipment is damaged or not.

### 4.1 No output

If the signal LED lights up, then the amplifier should be ok, so, check whether the output connection is well connected or not.

### 4.2 Low signal output

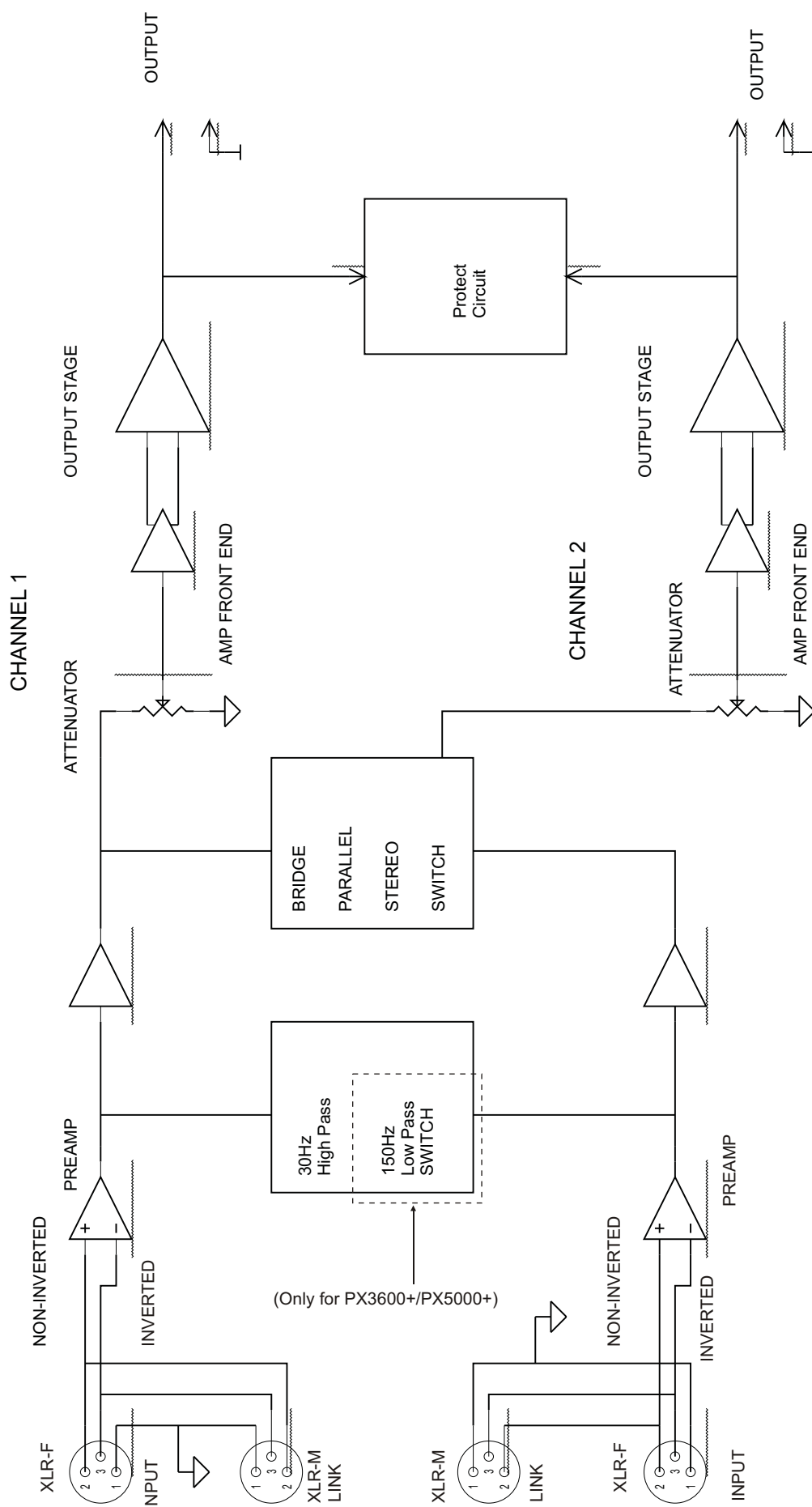
If the signal LED lights up and clip LED too, then check whether the output is short-circuited or not.  
If the signal LED lights up and the protect LED too, then the amplifier should be in the protection status.  
There are two possibilities: the former is that maybe the protection from overheating is active, the latter is that maybe the VHF protection is active (PX3600+/PX5000+only).  
If you take the signal off, then you can test whether it is the VHF protection or not.  
If the amplifier case temperature is very hot, it probably should be the overheat protection.

- 4.3 If after the above mentioned check-up, the problem is still not solved, please return the equipment to a qualified service centre.

## 5 Ordinary maintenance

Users must clear the amplifiers regularly, about one time each month. The best way is to use an high pressure air pump (about 0.8-1.0CBM) and blow air through the air entrance on the front panel or through air exit on rear panel. Please note that you must never turn the amplifier upside down.

# Schematic diagram

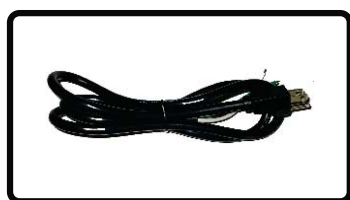


## Packing list

PX1000-PX2000:



Power amplifier x 1 unit



Line cord x 1pcs

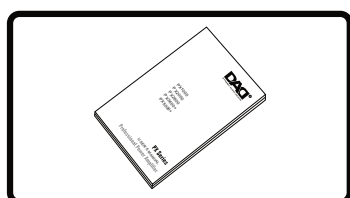


User's manual x 1pcs

PX3600+-PX5000+:



Power amplifier x 1 unit



User's manual x 1pcs

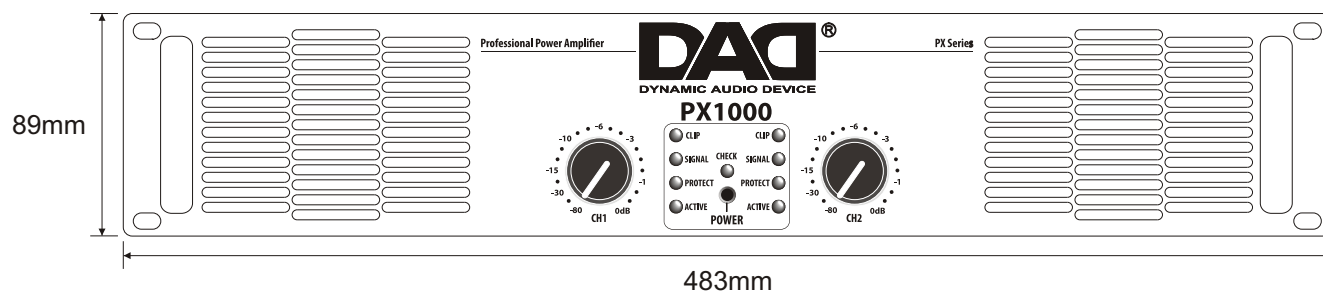
## Specifications

### 1. Technical Data

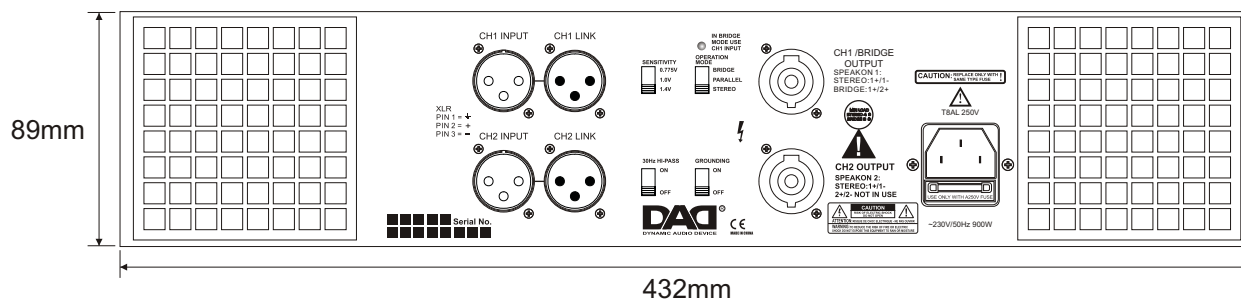
ITEM \ MODEL	PX1000	PX2000	PX3600+	PX5000+
8 Ohm stereo power (RMS/THD1%)	250Wx2	520Wx2	800Wx2	1300Wx2
4 Ohm stereo power (RMS/THD1%)	375Wx2	780Wx2	1200Wx2	1950Wx2
2 Ohm stereo power (EIA/THD1%)	450Wx2	936Wx2	1600Wx2	2600Wx2
4 Ohm bridgepower (EIA/THD1%)	900W	1872W	3600W	5000W
Frequency response	20Hz-20KHz			
THD+N (THD%)	<0.03%	<0.03%	<0.05%	<0.05%
Slew rate	20V/us	30V/us	20V/us	20V/us
Damping factor	>400	>400	>300	>300
Dynamic range	≥ 95dB	≥ 95dB	≥ 95dB	20V/us
S/N rate	>90dB	>95dB	>95dB	>95dB
Input Sensitivity	0.775Vrms/1.0Vrms /1.4Vrms			
Voltage gain	35.2dB	38.4dB	40.2dB	42.3dB
Input impedance	Balance 20K / unbalance 10K			
Output circuit Class	CLASS AB		3 STEPS CLASS H	
HI-PASS	30Hz@-3dB			
LO-PASS	-----		150Hz@-3dB	
Protection	Overheat, Short circuits, DC, softstart, Output Relay-Zero Current, Clip signal.		Clip/limiter, over-heat, VHF, short-circuit, DC, zero current switch on/off, zero impact switch on/off	
Cooling	Front - to - Rear air flux			
Voltage/frequency	~230V± 10%/50Hz			
Gross Weight	23.75Kg	27Kg	36Kg	40Kg
Net Weight				
Dimensions				

## 2. PX1000-PX2000 dimensions

### Front panel

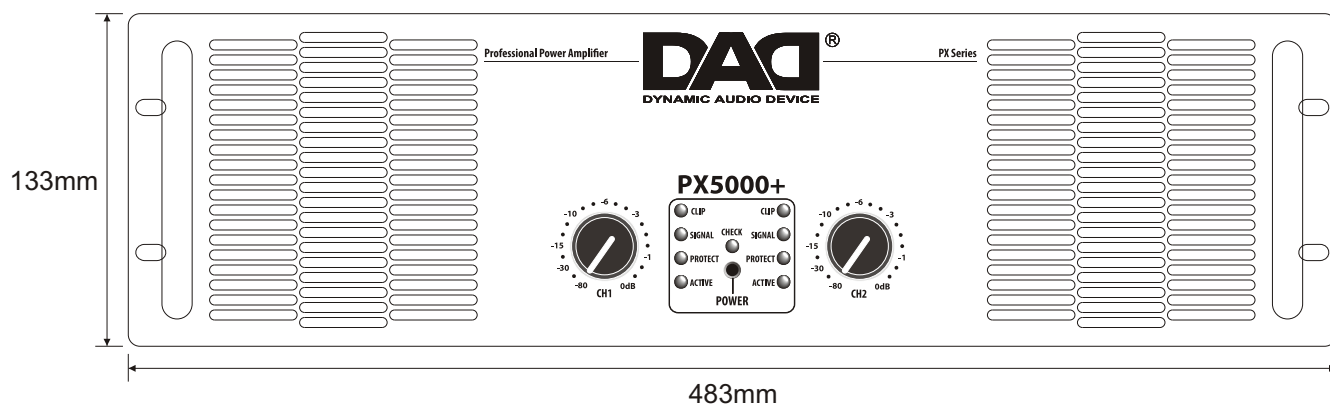


### Rear panel

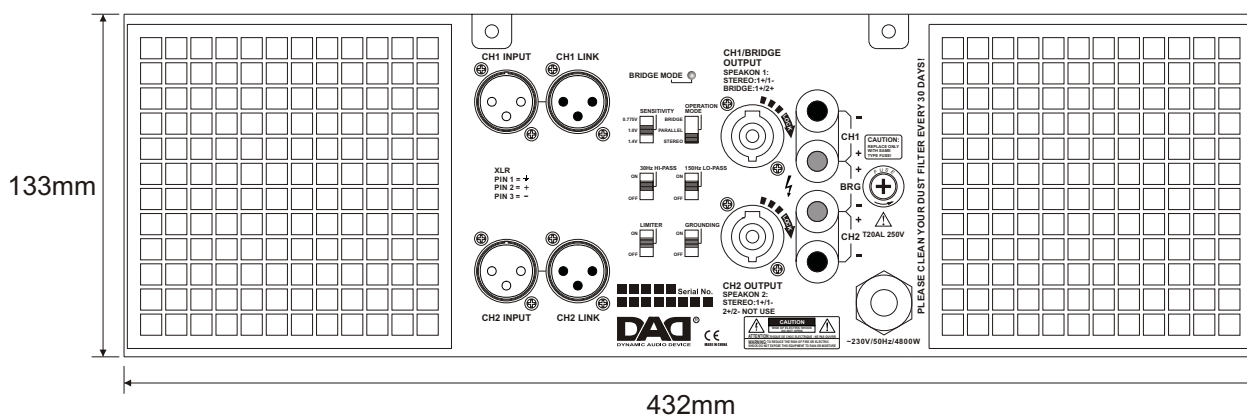


### 3. PX3600+-PX5000+ dimensions

Front panel



Rear panel





**DAD**®  
DYNAMIC AUDIO DEVICE

by *Music & LIGHTS*  
[www.musiclightsitaly.com](http://www.musiclightsitaly.com)