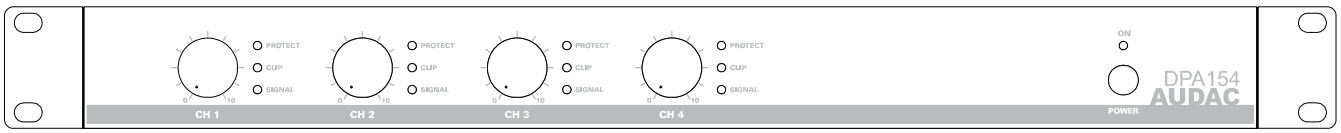
DPA74/154

AUDAC

PROFESSIONAL AUDIO EQUIPMENT

DPA74/154 Quad Channel Class-D Amplifier



User Manual & Installation Guide

AUDAC PROFESSIONAL AUDIO EQUIPMENT

User Manual & Installation Guide

© AUDAC
http://www.audac.eu
info@audac.eu

Index

Introduction

This section briefly describes the possibilities of the DPA74/154 Class-D Power Amplifiers.

The DPA series amplifiers are digital power amplifiers designed to meet the specialized needs of sound contractors. They are designed in six different models of Class D power amplifiers, divided in three different architectures to meet the requirements for all kinds of applications.

They combine the best of all features in one single series of amplifiers, providing an outstanding sound quality with all the known advantages of Class D Amplifiers. Such as the excellent efficiency and very low heat dissipation. And due to the complete passively cooled entity only a minimal of maintenance is needed, while ensuring maximum reliability.

The small size of a single rack space make them very interesting for fixed rack mount as well as mobile applications.

The DPA74 and DPA154 are four channel Class D amplifiers capable of delivering a power up to 4 x 150 Watt., with various specific features and advanced protection circuitry which protects against DC malfunctioning, short circuit, overheating and overload.

The signal input connections are accommodated with balanced XLR connectors. The operation mode can be selected between Stereo mode, Bridge mode and Parallel mode.

The output connections are accommodated with Euro-Terminal blocks

Chapter

1

Environment

Do not place this unit in an enclosed environment such as a bookshelf or closet. Ensure that there is adequate ventilation to cool the unit.

Do not place the unit in environments which contain high levels of dust, heat, moisture or vibration.

Do not use the unit near water or other liquids. Make sure no water or other liquids can be spilled, dripped or splashed on the unit.

This unit was developed for indoor use only. Do not use it outdoors.

Do not place objects on top of the unit.

Place the unit on a stable base or mount it in a stable 19" rack.

Safety Requirements

Always handle the unit with care.

Only use a grounded socket outlet and a power cord with grounding plug to plug in the unit.

This unit is not a toy. It should not be operated by children.

Do not stick objects through the openings.

Do not open the unit (risk for electrical shock).

CAUTION – SERVICING

This unit contains no user serviceable parts. Refer all servicing to qualified service personnel. Do not perform any servicing unless you are qualified to do so.

Note

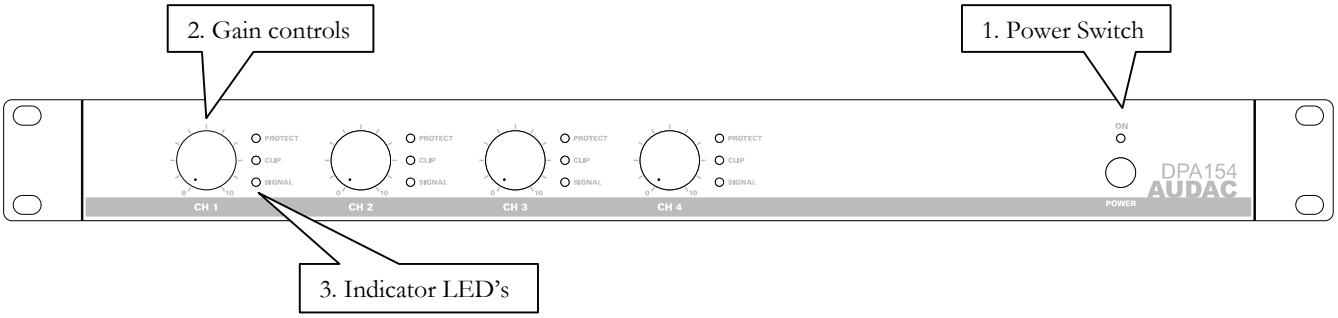
This product conforms to the following European Standards: EN 50081-1: 1992, EN 50082-1: 1992, EN 60065: 19

Chapter

2

Overview front and rear panel

Front panel overview



Description

1. Power switch:

By means of the power switch, the amplifier can be turned ON and OFF. When the amplifier is switched on, the blue LED located above the power button will illuminate.

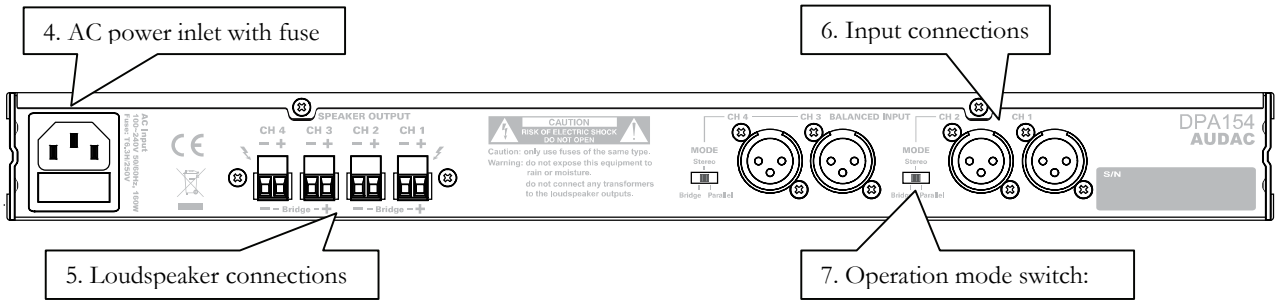
2. Gain control knobs:

These rotary gain control knobs allow you to adjust the level for each individual channel.

3. Indicator LED's:

These LED's indicate the operation of the amplifier. There are three LED's provided. A signal indicator, a Clip indicator, and a Protect indicator. The green signal indicator LED's will light up when the input channel exceeds -20 dBu. The yellow clip LED's will illuminate when the channel's output is being overdriven, and the two red protect indicators illuminate when the thermal compression begins, or any fault is detected.

Rear panel overview



Description

4. Power inlet:

The mains power supply (100~240V AC / 50~60 Hz) has to be applied to this AC power inlet. The connection is made by an IEC power connector and is fitted with a fuse. When replacing the fuse, make sure that the value of the replacement fuse matches the value of the original fuse. (T4AL/250V for DPA74 & T6.3AH/250V for DPA154)

5. Loudspeaker connections:

The loudspeaker output connections are performed by means of Euro Terminal Blocks. A detailed description about the best method for connecting the loudspeakers for every application can be found in the next chapter, connecting the amplifier.

6. Input connections:

The input connections of the amplifier are performed using balanced XLR connectors. Every channel has an XLR input connector on which the input signal from the signal source, pre-amplifier or mixer should be connected.

7. Operation mode switch:

For every two channels is an "Operation mode switch" provided. By means of this switch, the operation mode of the amplifier can be selected between standard stereo mode, parallel mode and bridge mode. For standard stereo applications, this switch should be turned to center position for "Stereo" mode.

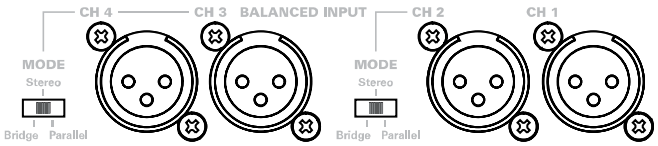
Chapter

3

Connecting the Amplifier

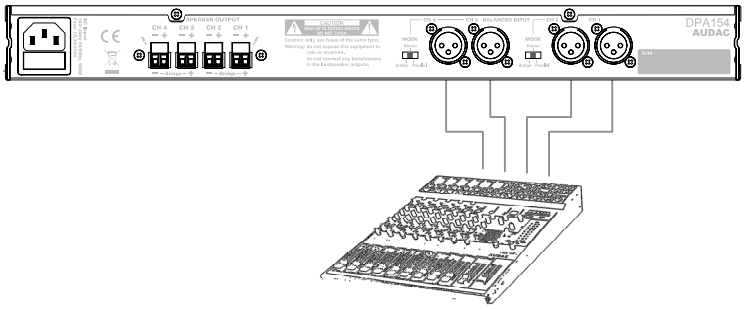
Input connections

The input connections of the amplifier should be made by connecting the signal from the signal source, pre-amplifier or mixer to the balanced XLR input connections.



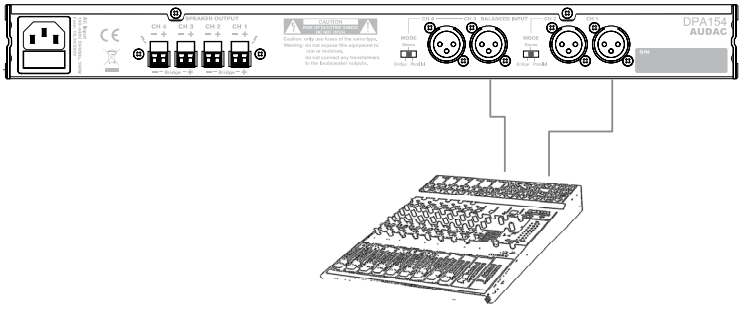
Next to every pair of input channel connectors is an operational mode switch provided. By means of this switch, the operational mode of the amplifier can be selected. There are three different operational modes available:

1) **Stereo Mode:**
This is the default mode how the amplifier is set in the factory, and will be the most common used setting for most applications (Center position of the switch). When both switches are set in Stereo mode, all the four amplifier channels work separately, and amplify the signal which is available on the corresponding balanced XLR signal input.



2) **Bridge mono Mode:**
In bridged mono mode, the power of two output channels is merged to deliver double the power to one single 8 Ohm load. The mode selection switch should be positioned in the Bridge position (Left position of the switch).

The signal sources should only be connected to the balanced XLR connectors of Channel 1 and Channel 3.

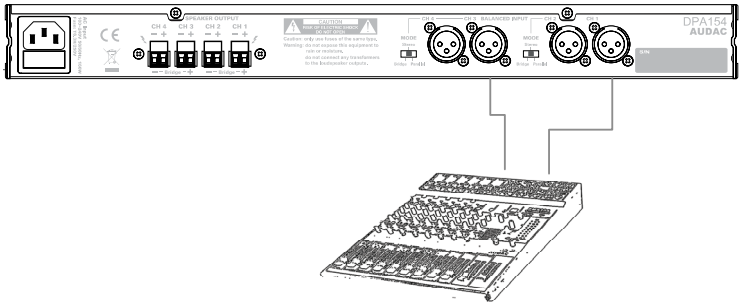


For more information about how the loudspeakers should be connected in bridge mode, refer to the "Output Connections" section of this user manual.

3) <u>Parallel Mode:</u>

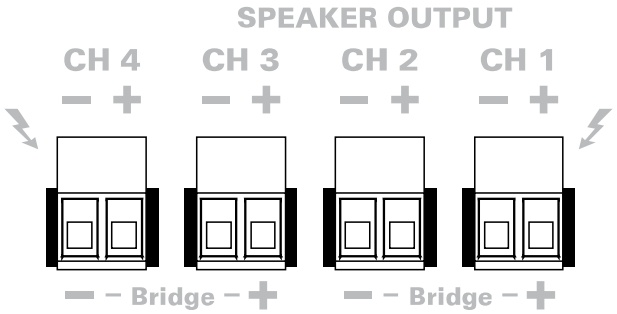
In parallel mode (Right position of the switch), the amplifier is configured in a way that only the signal applied to the XLR input connector of Channel 1 and Channel 3 will be used, and will be amplified by all four output channels. (input channel 1 through output channels one and two, and input channel three through output channels three and four)

The output level of both channels can be individually controlled by means of the rotary controls on front of the amplifier.



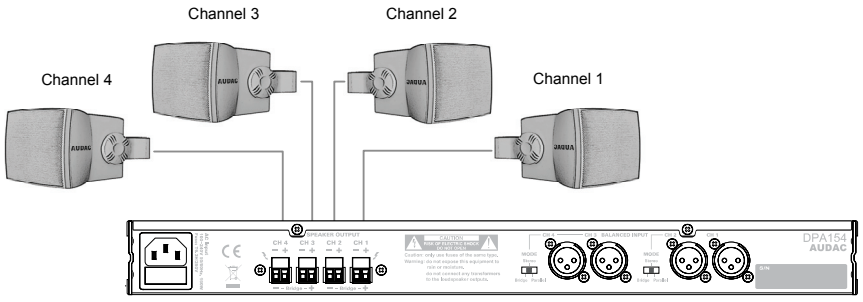
Output connections

The loudspeaker connections for every output channel are performed with a two pin Euro-Terminal block connector.

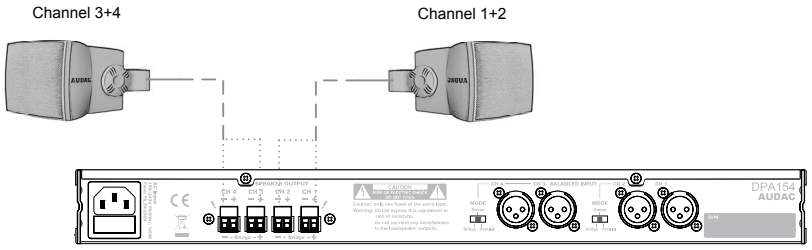


Stereo Mode:

Stereo mode will be the most commonly used operation method for this amplifier. The loudspeakers of each channel can be connected with a separate two-core connection cable to the Euro-Terminal block output connectors.



1) **Bridge mono Mode:**
When the amplifier is switched in bridge mode, there will be one load connected to two amplifier outputs. This load should be connected between the + terminal of Channel 1 and the – terminal of Channel 2. (And the + terminal of Channel 3 and the – terminal of Channel 4)



2) **Parallel Mode:**
When the amplifier is switched in parallel mode, the connections for the loudspeakers should be made in the same way as Stereo mode.

Note

Do not connect any 100V line transformers to the loudspeaker outputs of the amplifier.

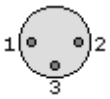
Connection standards

The in- and output connections of AUDAC audio equipment are performed corresponding to international wiring standards for professional audio equipment.

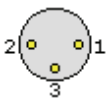
XLR:

1 = ground / shield
2 = +sig
3 = -sig

XLR female:



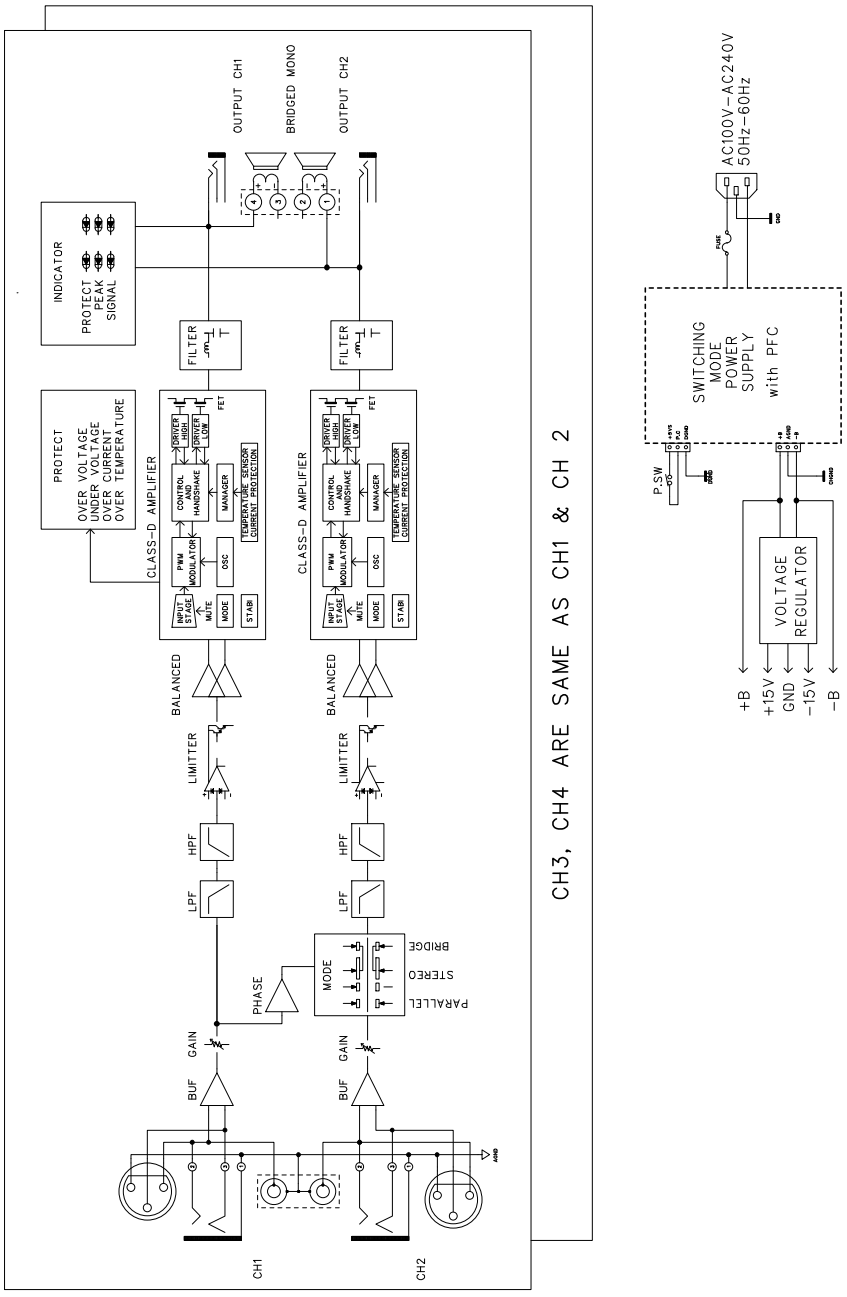
XLR male:



Chapter

4

Block Diagram



Chapter 5

Additional Information

Technical specifications

		DPA74	DPA154
Performance			
Rated power (1 kHz, THD 1%)	Stereo @ 8 Ohm	4 x 50 Watt	4 x 80 Watt
	Stereo @ 4 Ohm	4 x 75 Watt	4 x 150 Watt
	Bridge @ 8 Ohm	2 x 150 Watt	2 x 300 Watt
Input Sensitivity (Impedance 20 kOhm)		+ 4 dBu	
Frequency response (± 1 dB)		20 Hz – 20 kHz	
Signal to Noise ratio		> 90 dB	
Channel separation		>70 dB	
THD at 1 kHz (1/2 rated power)		Less than 0.1%	
Operation Temperature / Humidity at non condensing		0° ~ 40°C at 95% Humidity	
Indicators		Protect (DC, Thermal, Overload)	
		Clip (0 dBr)	
		Signal (-26 dBr)	
Power supply		100~240V AC / 50~60 Hz	
Construction			
Construction		Steel	
Cooling		Convection cooled	
Mounting		19" Rack	
Unit Height		1 HE	
Dimensions (W x H x D)		482 x 44 x 330 mm	
Color		Black	
Net Weight		4.57 Kg	4.82 Kg

Personal notes