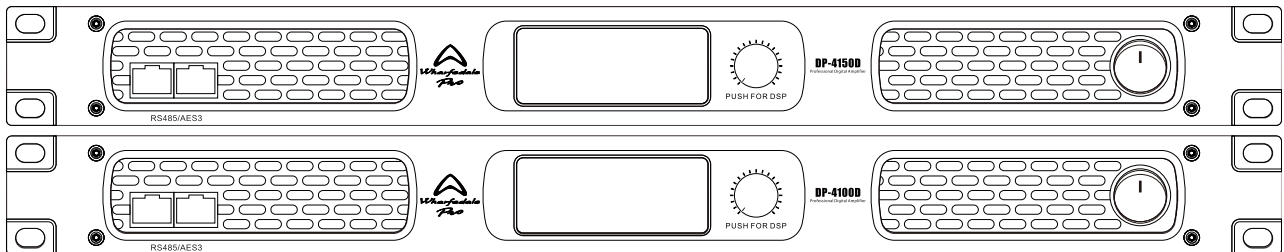


DP-D Series

DSP Multi-channel Power amplifiers

USER MANUAL

DP-4150D
DP-4100D



www.wharfedalepro.com



IMPORTANT WARNINGS & SAFETY INSTRUCTIONS

1. Read these instructions
2. Follow all instructions
3. Keep these instructions
4. Heed all warnings
5. Do not use this apparatus near water
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of a polarised or grounding plug. A polarised plug has two blades with one wider than the other. A grounding plug has two blades and a third grounding blade. The wide blade or the third blade is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at the plug, receptacle and or the point where it exits from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Only use a stand, tripod, bracket or rack specified by the manufacturer, or sold with the apparatus. When a rack is used, use caution when moving the rack and apparatus combination to avoid tip-over or injury.



13. Unplug the apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way including but not limited to power supply cord or plug damage, liquid ingress, foreign objects in the chassis, exposure to rain/moisture or impact damage. In addition the unit must be serviced when you experience any abnormal operation.
15. CAUTION: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not attempt to perform any servicing other than that contained in the operating instructions unless you are qualified to do so. In addition opening the casing will result in your warranty becoming null and void.
16. Do not install this apparatus in a confined space such as a book case or similar unit. Good ventilation should be maintained around the apparatus. Any vents, air-inlets or fans should not be obstructed by objects such as paper, table-cloths, curtains etc.
17. WARNING: To reduce the risk of fire or electric shock, do not expose the apparatus to rain or moisture. The apparatus should not be exposed to dripping or splashing and objects filled with liquids, such as vases, should not be placed on the apparatus.
18. WARNING: The mains plug/appliance coupler is used as a disconnect device, the disconnect device shall remain readily operable.



19. The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of non-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.
 - Warning: To reduce the risk of electric shock, do not remove the cover (or back) as there are no user-serviceable parts inside. Refer servicing to qualified personnel.
 - The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance instructions in the literature accompanying the appliance.
20.  (Protective earthing terminal) The apparatus should be connected to a mains socket outlet with a protective earthing connection.
21.  Correct Disposal of this product. This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use local return and collection systems or contact the retailer where the product was purchased. They can take this product for safe environmentally friendly recycling.

INTRODUCTION

Congratulations on the purchase of your DP-D series professional power amplifier. Wharfedale Pro DP-D amplifiers are the result of many years of experience in the use, design and manufacture of professional audio equipment.

We take great pride in engineering and building every Wharfedale Pro product and wish to thank you for entrusting us with your sound.

From the time Gilbert Briggs built his first loudspeaker in 1932, to the present day, Wharfedale has maintained the same standard of quality in components, workmanship and performance.

Please take the time to read this manual completely in order to ensure that you get the most from your DP-D power amplifier.

ABOUT THE DP-D SERIES

The advanced multi-channel DP-D series power amplifiers use Class D topology to deliver enormous output power, all the way down to 2Ω . This makes them perfect for multi-loudspeaker systems such as line array.

Powerful internal DSP is accessible through the front panel, or through the supplied control software. This high quality DSP delivers granular editing of EQ, Limiting, Delay, phase and filtering to the signal path, allowing a DP-D amp to become the system controller as well as the power amplifier. This DSP removes the need for additional external signal processing.

Input connectivity is handled either by discrete analogue XLR connectors on the rear panel or by the RS485 connectors on the front which accept AES3 digital inputs.

Housed in a 1U rack, the DP-D models are compact, and lightweight but still bring huge power with extremely detailed levels of DSP control.

FEATURES

DP-4100D

8 Ω : 4 x 1000w. 4 Ω : 4 x 1700w. 2 Ω : 4 x 2890w. 16 Ω Bridged : 2 x 2000w. 8 Ω Bridged : 2 x 3400w. 4 Ω Bridged : 2 x 5780w

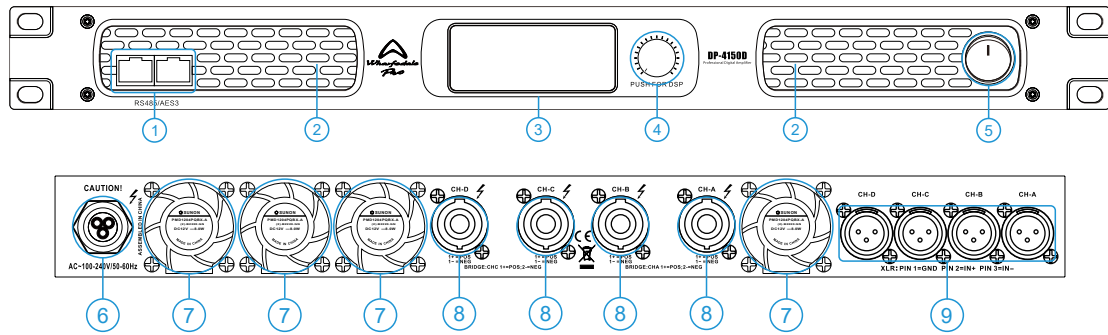
DP-4150D

8 Ω : 4 x 1500w. 4 Ω : 4 x 2550w. 2 Ω : 4 x 3570w. 16 Ω Bridged : 2 x 3000w. 8 Ω Bridged : 2 x 5100w. 4 Ω Bridged : 2 x 7140w

Both models

- Internal DSP
- AES3 RS485 Digital inputs
- 4 x XLR inputs
- 2 operation modes (MULTI- CHANNEL and BRIDGE)
- Power, Protect, Signal and Limiter indicators
- Thermal protect, over current protect, DC protect, output short protect
- Ultra quiet variable speed fans
- 4 x speakON outputs
- 1U rack mount chassis

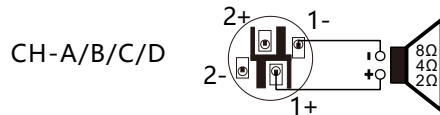
INTRODUCTION



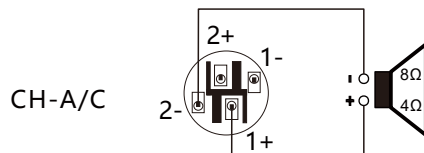
1. RS485 control port and AES3 digital audio input ports. The two RJ45 are connected in parallel, and the ports are defined as follows:

RJ45 PIN#	PIN1	PIN2	PIN3	PIN4	PIN5	PIN6	PIN7	PIN8
Wire Color	White/Green	Green	White/Orange	Blue	White/Blue	Orange	White/Brown	Brown
Signal	RS485_A	RS485_B	AES1/2+	AES3/4+	AES3/4-	AES1/2-	Reserved	Reserved

- 2. Cooling vents. Forced airflow from front to back through the air filter.
 - 3. Integrated LCD control screen with backlight.
 - 4. Control knob. Turn to select the DSP menu and press to confirm.
 - 5. Mains Power switch. Used to turn the power on and off. When I is pressed, the power is turned on.
 - 6. Mains Power input.
 - 7. Fan. Provides forced ventilation for front to back cooling.
 - 8. Output connectors for connection to passive loudspeakers.
- In stereo or single-channel mode, connect the speakers to the socket using the following methods:

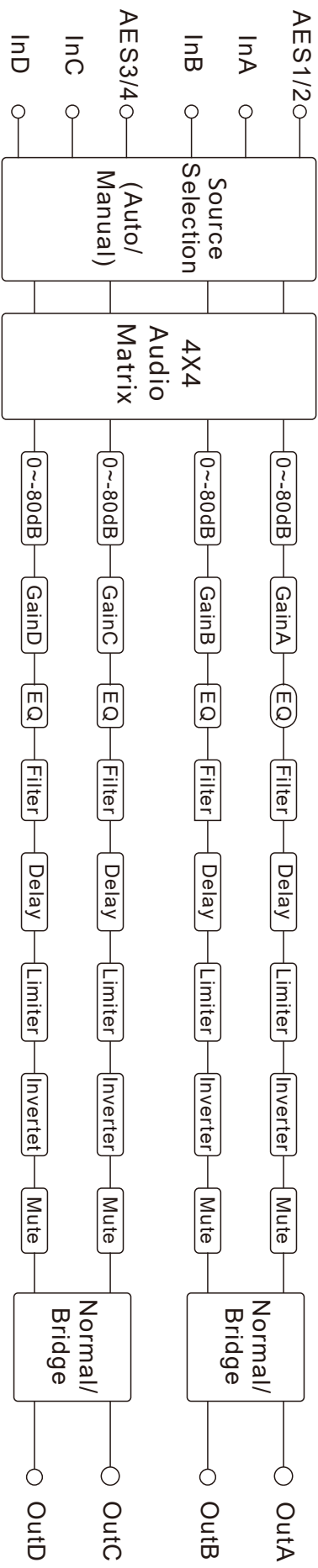


In bridge mode, use the following method to connect the speaker to the socket:

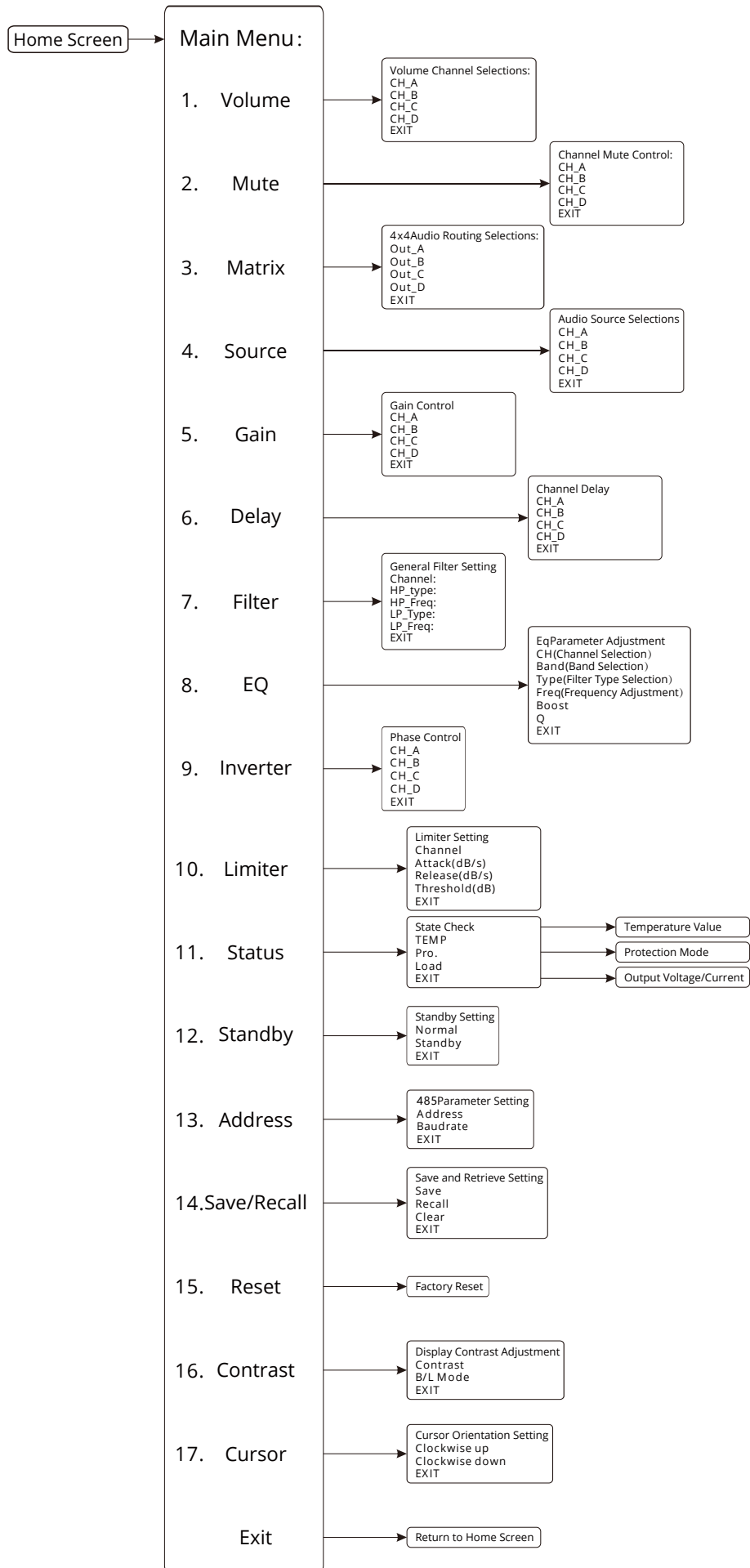


9. XLR Balanced signal input connectors.

DSP SIGNAL FLOW



MENU STRUCTURE



SPECIFICATIONS

Model		DP- 4150D	DP- 4100D
Rated Power (THD=1%, Each channel works simultaneously with continuous sinusoidal 1KHz)	8Ω/Stereo	4X1500W	4X1000W
	4Ω/Stereo	4X2550W	4X1700W
	2Ω/Stereo*	4X3570W	4X2890W
	16Ω/Bridging	2X3000W	2X2000W
	8Ω/Bridging	2X5100W	2X3400W
	4Ω/Bridging*	2X7140W	2X5780W
Output RMS voltage (THD=1%,1kHz)		109.5V	89.4V
Max. Input Level		8.7Vrms(+21dBu)(Default Gain)	
Default Gain (Rated Power, 1KHz)		25dB	23dB
Gain range (Rated Power, 1KHz)		23dB~41dB	21dB~39dB
THD+N (10% Rated Power, typical)		0.05%	
IMD-SMPTE (10% Rated Power, typical)		0.05%	
DIM30 (10% Rated Power, typical)		0.05%	
Crosstalk (20Hz-1kHz,below Rated Power)		≥90dB	
Freq response (10% Rated Power,20Hz-20kHz,8Ω)		±0.2dB	
Input impedance		20kΩ(Balanced), 10kΩ(Unbalanced)	
Damping factor (8Ω, 20Hz-200Hz)		≥1000	
SNR (A weighted 20Hz-20kHz)		≥105dB (Default Gain)	
Power supply		100v~240VAC, 50~60Hz	
Protective Function		Power under-voltage protection· Amplifier output DC protection· Thermal Protection· Temperature Power Control· Overload Power Control	
Size (Height×Width×Depth mm)		483x44x465mm	483x44x370mm
Net Weight		13kg	9kg

This power is measured by using a 20ms pulse of 1KHz sine wave at 1% total harmonic distortion.

Test signal: Pink Noise, bandwidth limited from 22Hz to 22kHz

1/8 power is typical of program material with occasional clipping. Refer to these figures for most applications.

1/3 power represents program material with extremely heavy clipping.

4x1000W

	LOAD	Line Current(A)		Power(W)			Thermal Dissipation	
		220V	110V	IN	OUT	Dissipated	Btu/h	kcal/h
standby		0.7	1.5	160.0	0.0	160.0	546.0	137.6
1/8 power	8Ω/CH	3.2	6.3	694.4	500.0	194.4	663.6	167.2
	4Ω/CH	5.2	10.4	1148.6	850.0	298.6	1019.2	256.8
1/3 power	8Ω/CH	7.5	15.0	1646.1	1333.3	312.8	1067.3	269.0
	4Ω/CH	12.6	25.1	2764.2	2266.7	497.6	1698.0	427.9

4x1500W

	LOAD	Line Current(A)		Power(W)			Thermal Dissipation	
		220V	110V	IN	OUT	Dissipated	Btu/h	kcal/h
standby		0.7	1.5	160.0	0.0	160.0	546.0	137.6
1/8 power	8Ω/CH	4.7	9.5	1041.7	750.0	291.7	995.4	250.8
	4Ω/CH	7.8	15.7	1723.0	1275.0	448.0	1528.8	385.3
1/3 power	8Ω/CH	11.2	22.4	2469.1	2000.0	469.1	1601.0	403.5
	4Ω/CH	18.8	37.7	4146.3	3400.0	746.3	2547.0	641.9

*1W=0.860kcal/h,1BTU=0.252kcal

WHARFEDALE PRO LIMITED WARRANTY

Wharfedale Pro products are warranted of manufacturing or material defects for a period of one year from the original date of purchase. In the event of malfunction, contact your authorised Wharfedale Pro dealer or distributor for information.

*Be aware that warranty details may differ from country to country. Contact your dealer or distributor for information. These terms do not infringe your statutory rights.



Wharfedale Professional
IAG House 13/14 Glebe Road Huntingdon Cambridgeshire PE29 7DL UK
www.wharfedalepro.com

Wharfedale Professional reserves the right to alter or improve specifications without notice.
All rights reserved © 2020 Wharfedale Pro. Wharfedale Pro is a member of the IAG Group.