

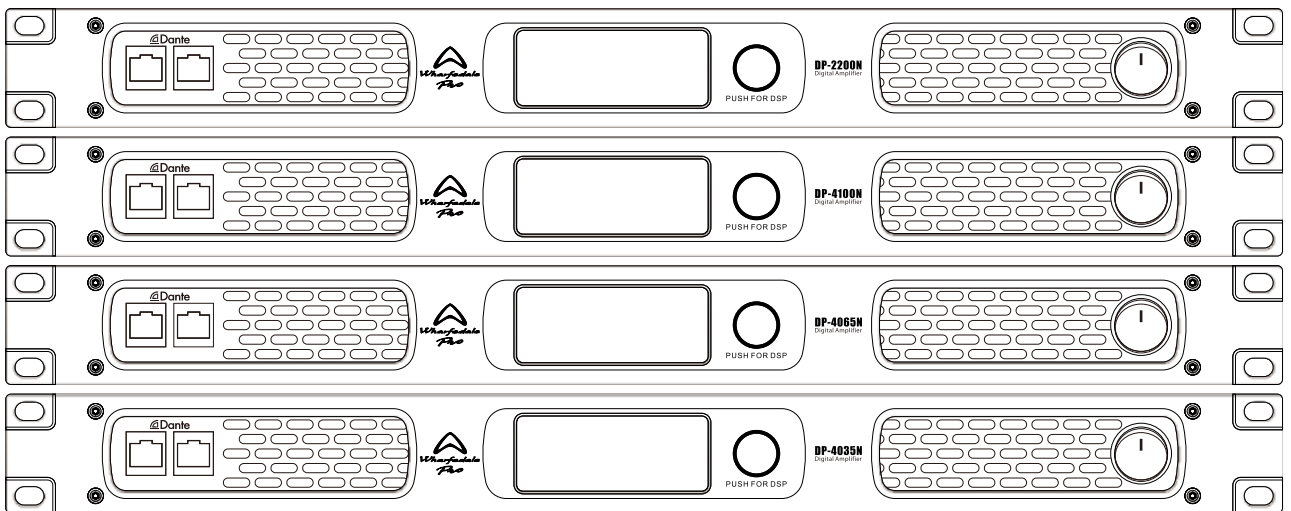
# DP-N Series

## DSP Multi-channel Power amplifiers

### USER MANUAL

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DP-2200N DP-4100N  
DP-4065N DP-4035N



Wharfedale  
Pro

[www.wharfedalepro.com](http://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-N series professional power amplifier. Wharfedale Pro DP-N 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-N power amplifier.

## ABOUT THE DP-N SERIES

DP-N series have been engineered for mid sized venues, rental and touring applications. Enormous output power and stability at 2 ohms are features that already make DP amps special - but DP-N models also feature Dante™ connectivity and hugely upgraded DSP functionality.

The DSP now has FIR filtering with 512 taps. This refined and powerful FIR filtering brings linear phase response to the system, resulting in a more controllable and faithful output.

Input connectivity is now handled by the front panel Dante™ connectors - allowing the DP-N to be used in a huge Dante™ ecosystem. Networked audio, with remote DSP control.

DP-N series also feature a wide range AC power input and are happy with huge voltage fluctuations between 90 V and 260 V. In addition, DP-N series can drive 70 V or 100 V line systems!

Think dif-FIR-ently about amps!

## FEATURES

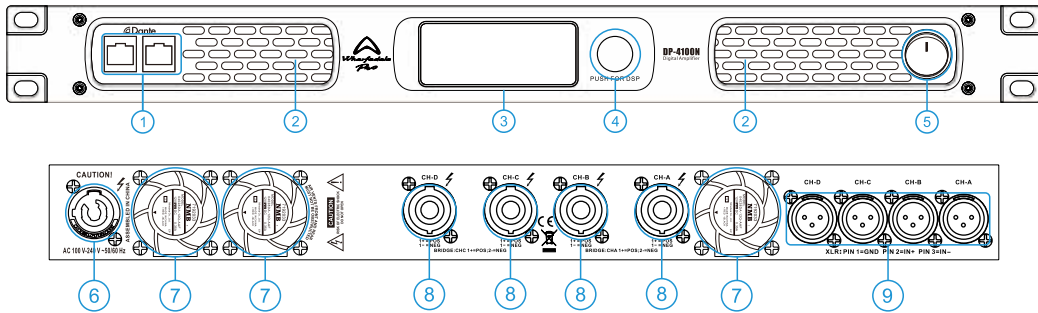
	DP-2200N	DP-4100N	DP-4065N	DP-4035N
8 Ω	2 x 2000 W	4 x 1000 W	4 x 650 W	4 x 350 W
4 Ω	2 x 3400 W	4 x 1700 W	4 x 1100 W	4 x 595 W
2 Ω	2 x 4760 W	4 x 2890 W	4 x 1870 W	4 x 1010 W
16 Ω Bridged	1 x 4000 W	2 x 2000 W	2 x 1300 W	2 x 700 W
8 Ω Bridged	1 x 6800 W	2 x 3400 W	2 x 2200 W	2 x 1190 W
4 Ω Bridged	1 x 9520 W	2 x 5780 W	2 x 3740 W	2 x 2020 W
100 V Hi-Z	2 x 3400 W	—	—	—
70 V Hi-Z	2 x 2400 W	4 x 1700 W	4 x 1100 W	—

- Huge Class D power in a 1 U rack
- 2 or 4 discrete amplification channels
- Internal DSP and computer control
- Stable down to 2 Ω. Drive multiple speakers or line array elements
- FIR filtering with 512 taps
- 90 V to 260 V AC working voltage
- Dante™ connectivity
- 70 V or 100 V compatible

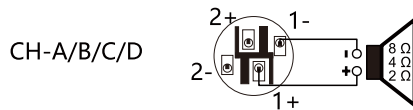
For the latest release of the control software for DP-N series, please visit [www.wharfedalepro.com](http://www.wharfedalepro.com)

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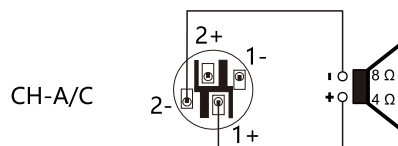
# INTRODUCTION



1. Dual RJ45 network interfaces: Dante™ digital audio input interface, network monitoring interface.
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. Neutrik powerCon 20 A.
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:



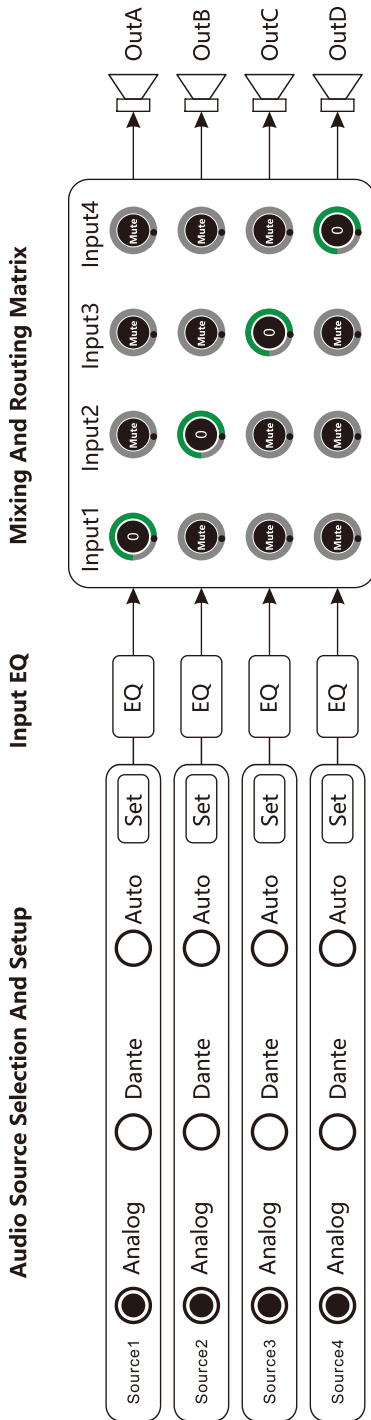
In bridge mode, use the following method to connect the speaker to the socket:



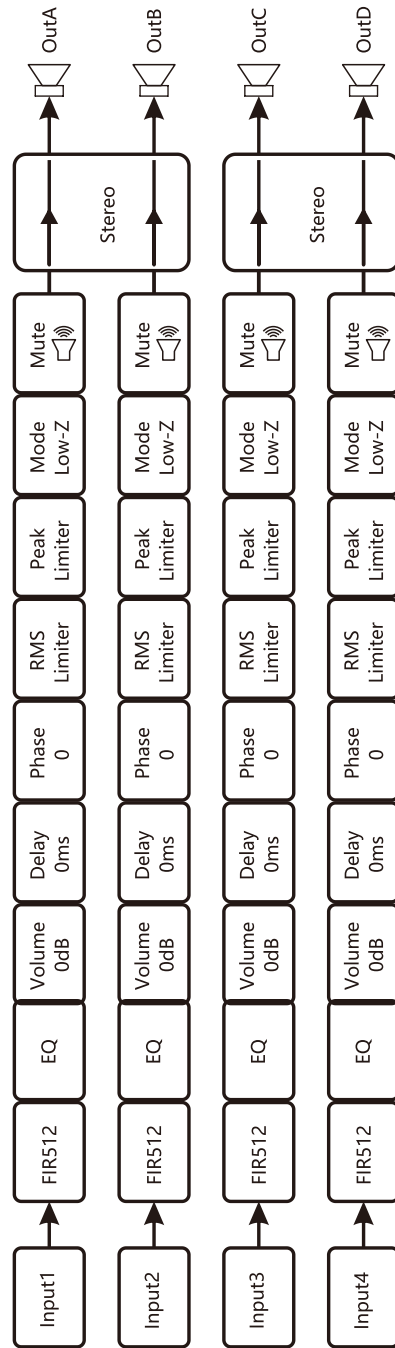
9. XLR Balanced signal input connectors.

# DSP SIGNAL FLOW

## Input part



## Output part



# SPECIFICATIONS

Model		DP-2200N	DP-4100N	DP-4065N	DP-4035N
Rated Power (THD=1%,Each channel works simultaneously with continuous sinusoidal 1 kHz)	8 Ω / Stereo	2 x 2000 W	4 x 1000 W	4 x 650 W	4 x 350 W
	4 Ω / Stereo	2 x 3400 W	4 x 1700 W	4 x 1100 W	4 x 595 W
	2 Ω / Stereo	2 x 4760 W	4 x 2890 W	4 x 1870 W	4 x 1010 W
	16 Ω / Bridge	1 x 4000 W	2 x 2000 W	2 x 1300 W	2 x 700 W
	8 Ω / Bridge	1 x 6800 W	2 x 3400 W	2 x 2200 W	2 x 1190 W
	4 Ω / Bridge	1 x 9520 W	2 x 5780 W	2 x 3740 W	2 x 2020 W
	70 V Hi-Z	2 x 2400 W	4 x 1700 W	4 x 1100 W	-
Output RMS voltage		126.5 V	89.4 V	72.1 V	52.9 V
Maximum Input Level		8.7 Vrms(+21 dBu)(Default Gain)			
Default Gain(Rated Power,1 kHz)		24 dB	21 dB	19 dB	17 dB
Gain(Rated Power,1 kHz)		24 dB-42 dB	21 dB-39 dB	19 dB-37 dB	17 dB-35 dB
THD+N		Typical value:0.05%(10% Rated Power,8 Ω)			
Cross-Talk		≥90 dB(20 Hz-1 kHz,Below Rated Power,8 Ω)			
Frequency Response		Typical value:+0,-0.5 dB(10% Rated Power,20 Hz-20 kHz,8 Ω)			
Input Impedance		20 kΩ(Balance),10 kΩ(Unbalance)			
Damping Factor		≥1000(20 Hz-200 Hz,8 Ω)			
SNR		≥105 dB(Default Gain, A weighted,20 Hz-20 kHz,8 Ω)			
Main Power		90~260 VAC,50/60 Hz			
Protection		Power under-voltage protection· Amplifier output DC protection· Thermal Protection· Temperature Power Control· Overload Power Control			
Size(W×H×D)		483 x 45 x 376 mm			
Net Weight		9.3 kg	9.1 kg	9.1 kg	8.0 kg

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

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

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

## 4 x 350 W

	LOAD	Line Current(A)		Power(W)			Thermal Dissipation	
		220 V	110 V	IN	OUT	Dissipated	Btu/h	kcal/h
standby		0.6	1.3	140.0	0.0	140.0	477.8	120.4
1/8 power	8 Ω/CH	1.6	3.2	347.2	250.0	97.2	331.8	83.6
	4 Ω/CH	2.6	5.2	574.3	425.0	149.3	509.6	128.4
1/3 power	8 Ω/CH	3.7	7.5	823.0	666.7	156.4	533.7	134.5
	4 Ω/CH	6.3	12.6	1382.1	1133.3	248.8	849.0	214.0

## 4 x 650 W

	LOAD	Line Current(A)		Power(W)			Thermal Dissipation	
		220 V	110 V	IN	OUT	Dissipated	Btu/h	kcal/h
standby		0.6	1.3	140.0	0.0	140.0	477.8	120.4
1/8 power	8 Ω/CH	2.1	4.1	451.4	325.0	126.4	431.3	108.7
	4 Ω/CH	3.4	6.8	743.2	550.0	193.2	659.5	166.2
1/3 power	8 Ω/CH	4.9	9.7	1070.0	866.7	203.3	693.8	174.8
	4 Ω/CH	8.1	16.3	1788.6	1466.7	322.0	1098.7	276.9

#### 4 x 1000 W

		Line Current(A)		Power(W)			Thermal Dissipation	
	LOAD	220 V	110 V	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	8 Ω/CH	3.2	6.3	694.4	500.0	194.4	663.6	167.2
	4 Ω/CH	5.2	10.4	1148.6	850.0	298.6	1019.2	256.8
1/3 power	8 Ω/CH	7.5	15.0	1646.1	1333.3	312.8	1067.3	269.0
	4 Ω/CH	12.6	25.1	2764.2	2266.7	497.6	1698.0	427.9

#### 2 x 2000 W

		Line Current(A)		Power(W)			Thermal Dissipation	
	LOAD	220 V	110 V	IN	OUT	Dissipated	Btu/h	kcal/h
standby		0.5	1.0	110.0	0.0	110.0	375.4	94.6
1/8 power	8 Ω/CH	3.2	6.3	694.4	500.0	194.4	663.6	167.2
	4 Ω/CH	5.2	10.4	1148.6	850.0	298.6	1019.2	256.8
1/3 power	8 Ω/CH	7.5	15.0	1646.1	1333.3	312.8	1067.3	269.0
	4 Ω/CH	12.6	25.1	2764.2	2266.7	497.6	1698.0	427.9

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

## **WHARFEDALE PRO LIMITED WARRANTY**

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

Please be aware that the warranty details may differ from country to country. Contact your dealer or distributor for information (available at [www.wharfedalepro.com](http://www.wharfedalepro.com)). These terms do not infringe your statutory rights.



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