

DP-F and DP-N Series

DSP Multi-channel Power amplifiers

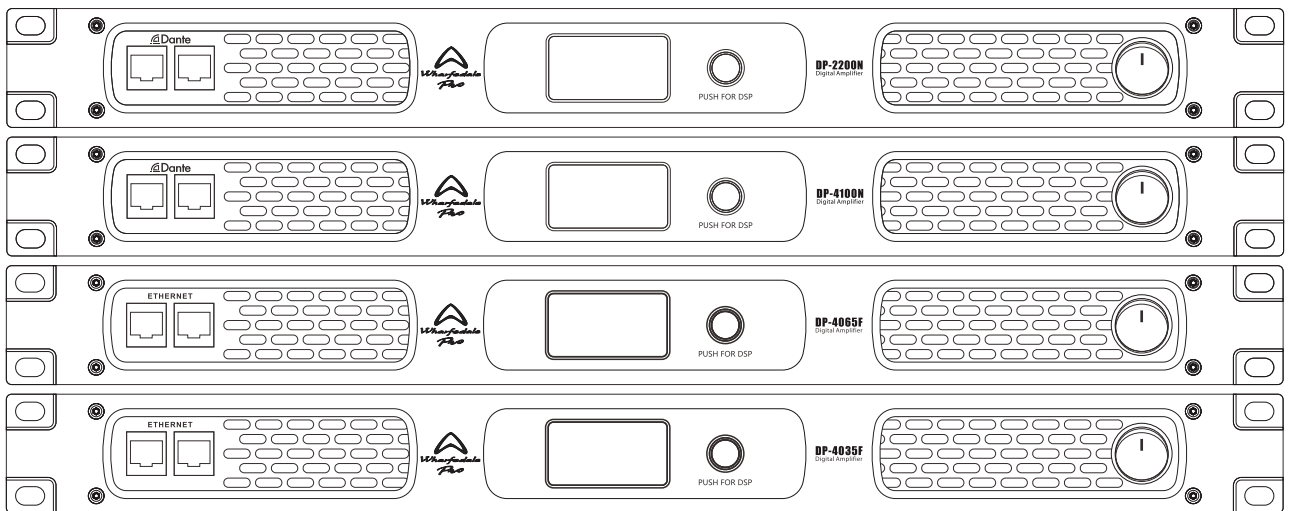
USER MANUAL

DP-2200F DP-2200N

DP-4100F DP-4100N

DP-4065F DP-4065N

DP-4035F DP-4035N





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-F or DP-N Series professional power amplifier. Wharfedale Pro DP-F and 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 we 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 high standards of quality in components, workmanship, and performance.

Please take the time to read this manual thoroughly to ensure that you get the most out of your DP-F or DP-N power amplifier.

ABOUT THE SERIES

The DP-F and DP-N Series has been engineered for mid-sized venues, rental systems, and touring applications. With enormous output power and rock-solid stability at 2 ohms, DP amplifiers stand out in their class.

The built-in DSP includes 512-tap FIR filtering, delivering linear-phase response that results in more accurate, controllable, and faithful sound reproduction.

Input connectivity is now managed through front-panel dual RJ45 connectors: The DP-F connects via Ethernet, allowing it to be integrated into an Ethernet-based ecosystem with remote DSP control. The DP-N connects via Dante®, making it ideal for integration within large Dante® networks — providing fully networked audio and remote DSP control.

Both DP-F and DP-N models feature a wide-range AC power input, operating reliably even under voltage fluctuations from 90V to 260V.

In addition, both models are capable of driving 70V or 100V high-impedance line systems, significantly expanding their installation versatility.

Think dif-FIR-ently about amps!

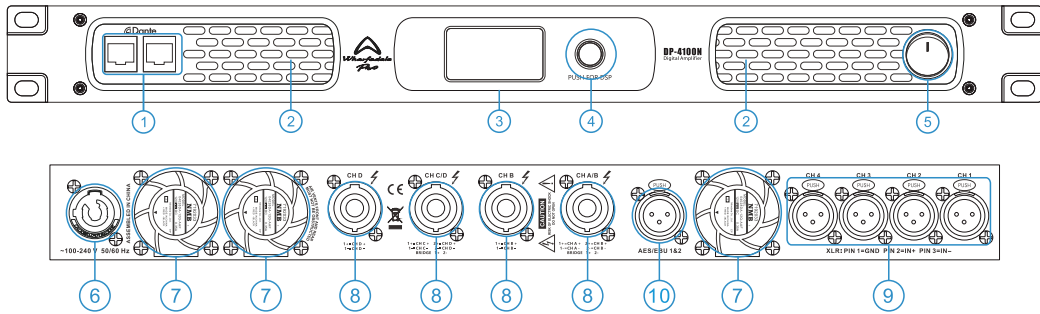
FEATURES

	DP-2200F DP-2200N	DP-4100F DP-4100N	DP-4065F DP-4065N	DP-4035F 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	—
100 V Bridged	1 x 2500 W	2 x 2500 W	2 x 2500 W	2 x 2020 W
70 V Bridged	1 x 1225 W	2 x 1225 W	2 x 1225 W	2 x 1225 W

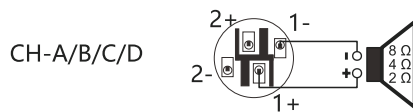
- Huge Class D power in a 1 U rack
- 2 or 4 discrete amplification channels
- Internal DSP and computer control
- Stable down to 2 ohms. Drive multiple speakers or line array elements
- FIR filtering with 512 taps
- 90 V to 260 V AC working voltage
- Dante® connectivity(DP-N only)
- 70 V or 100 V compatible
- Locking XLR connectors
- AES/EBU inputs

For the latest release of the control software for DP-F and DP-N series, please visit wharfedalepro.com

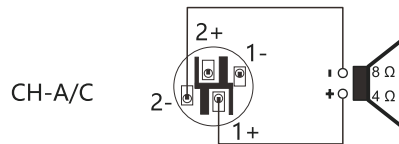
INTRODUCTION



1. Dual RJ45 network interfaces:
DP-F: Network monitoring interface (Built in switch chip).
DP-N: 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:



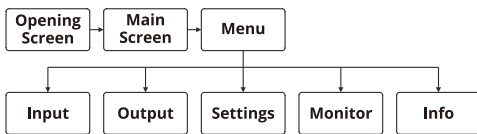
In bridge mode, use the following method to connect the speaker to the socket:



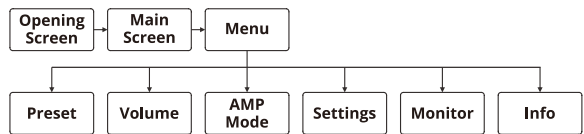
9. XLR Balanced signal input connectors.
10. AES / EBU digital audio input connection.

DISPLAY SCREEN AND MENU STRUCTURE

Hardware / Firmware 106120



Hardware / Firmware 006120



Opening Screen	Turn on the power and the LCD screen will display the logo. After a few seconds, it will automatically load up to the main page.
Main Screen	This page allows control of volume and mute functions. It displays the volume, output level, output clipping and output compression for each channel. It also shows the operating temperature of the equipment, the network connection status and the current scene mode. Press the rotary encoder to access the operation menu.

Menu

On Hardware / Firmware 006120, only the functions marked with * are available.

Press the rotary encoder to access the operation menu and press "Back" or "Return" to exit the menu.

1. Input Menu

Source	Input source settings.
Volume	Input volume control.
Delay	Set input delay. Push and hold the encoder for 2 seconds to switch step interval. (0.01 ms - 0.1 ms - 1 ms)
Xover	Input crossover settings.
EQ	Input equalizer settings.
Matrix	Matrix settings. Mixer ON/OFF or Trim Level control, pushing and hold the encoder for 2 seconds.
Back	Exit the menu.

2. Output Menu

FIR	FIR filter ON / OFF,
Xover	Output crossover settings.
EQ	Output equalizer settings.
Volume*	Output volume control.
Delay	Set output delay. Push and hold the encoder for 2 seconds to switch step interval. (0.01 ms - 0.1 ms - 1 ms)
Polarity	Output polarity control.
Limiters	Output limiters settings.
Presets*	Device Presets Recall.
AMP Mode - Outputs*	Amplifier output mode selection. Low-Z or 70V or BRDG Low-Z or BRDG 70V or BRDG 100V .
Dante® Out	Dante® output selection.(DP-N Only)
Back	Exit the menu.

3. Settings*

Standby	Normal/Standby. Choose whether to standby, Normal: normal work.
Backlight	Always: Always ON, Saving: dim the display after 2 minutes, OFF: Always off.
Dante® IP	Dante® IP address, assigned by the Dante® network. (DP-N Only)
IP Mode	Auto DHCP / User set.(DP-F Only)
MAC	MAC address. e.g 00-1D-C1-93-CF-9D
Netmask	e.g 255.255.0.0
Factory Reset	Factory data reset.
Back	Press the rotary encoder to access the operation menu and press "Return" to exit the menu.

4. Monitor*

V	Output voltage of each amplifier channel.
I	Output current of each amplifier channel.
TEMP	Operating temperature of each amplifier channel and power supply module.
State	Whether each of amplifier channel are Fault.

5. Info*

Amplifier Model	System management controller model.
Run time	Total working time.
Communication	Communication interface type.
MD	Factory serial number.
FW	Firmware version number.

Back*	Go back to the previous directory.
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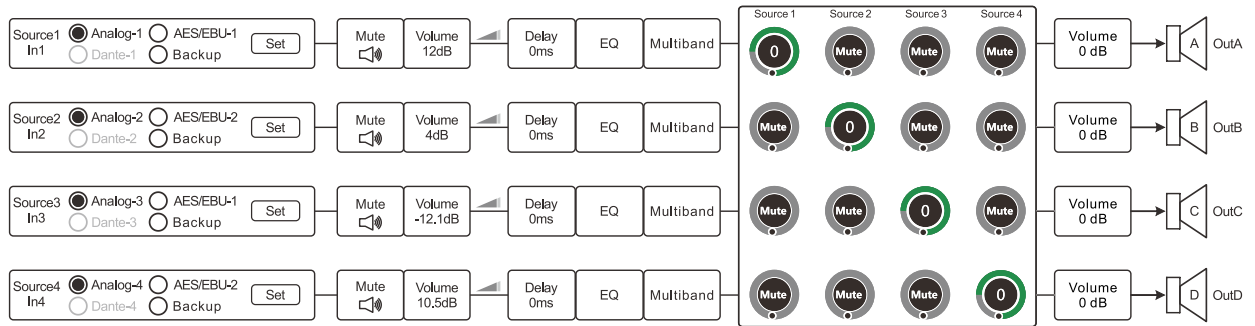
DSP SIGNAL FLOW

Input part

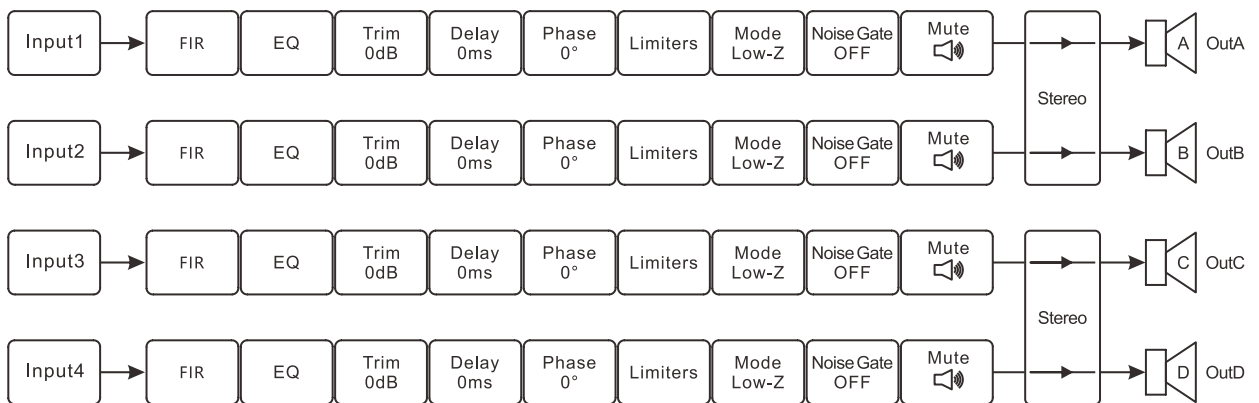
Audio Source Selection And Setup

Input EQ

Mixing And Routing Matrix



Output part



For  it has different Output Mode selections available (depends on amplifier model).

DP-4035F DP-4035N: LoW-Z/ BRDG LoW-Z/ BRDG 70V/ BRDG 100V

DP-4065F DP-4065N: LoW-Z/ 70V/ BRDG LoW-Z/ BRDG 70V/ BRDG 100V

DP-4100F DP-4100N: LoW-Z/70V/ BRDG LoW-Z/ BRDG 70V/ BRDG 100V

DP-2200F DP-2200N: LoW-Z/ 70V/ 100V / BRDG LoW-Z/ BRDG 70V/BRDG 100V

*Has only 2 Input / Output channels.

SPECIFICATIONS

Model		DP-2200F DP-2200N	DP-4100F DP-4100N	DP-4065F DP-4065N	DP-4035F 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
	100 V Hi-Z	2 x 3400 W	–	–	–
	70 V Hi-Z	2 x 2400 W	4 x 1700 W	4 x 1100 W	–
100 V Bridged	1 x 2500 W	2 x 2500 W	2 x 2500 W	2 x 2020 W	
70 V Bridged	1 x 1225 W	2 x 1225 W	2 x 1225 W	2 x 1225 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)			
Gain		35 dB(Rated Power, 1 kHz)			
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		100-240 V~(±10%), 50/60 Hz			
Protection		Power under-voltage protection · Amplifier output DC protection · Thermal Protection · Temperature Power Control · Overload Power Control			
Size		483 x 45 x 376 mm (W×H×D)			
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		Line Current(A)		Power(W)			Thermal Dissipation	
	LOAD	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		Line Current(A)		Power(W)			Thermal Dissipation	
	LOAD	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 kcal/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). These terms do not infringe your statutory rights.



Wharfedale Professional

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wharfedalepro.com

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