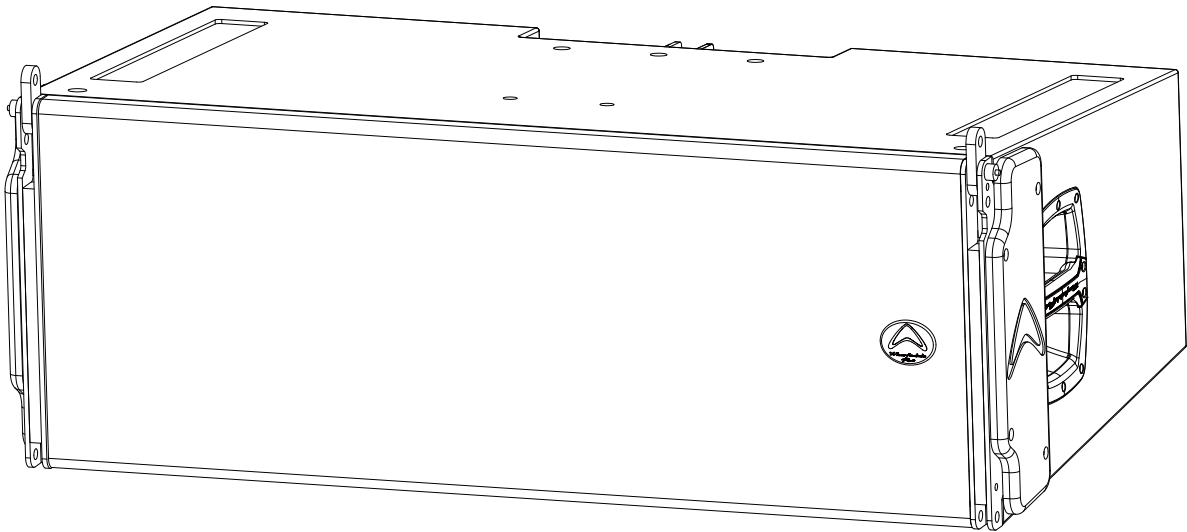


Wharfedale Pro User Manual 

WLA-312X



www.wharfedalepro.com

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IMPORTANT WARNINGS & SAFETY INSTRUCTIONS

- Read these instructions
- Follow these instructions
- Keep these instructions for future reference
- Heed all warnings
- Do not use this system near moisture or water
- Clean only with a dry cloth
- Install in accordance with these Wharfedale Pro operating instructions
- Follow the manufacturer's operating instructions for all peripheral devices such as amplifiers and processors
- Do not install near heat sources such as radiators, heat registers, stoves or any other apparatus that produces heat (for example lighting systems and amplifiers)
- Use only accessories specified or supplied by Wharfedale Pro
- Do not use shielded microphone/instrument cables to connect amplifiers and speakers, use only approved speaker cables with proper connectors
- Use caution with placement and operation of this speaker system, permanent hearing damage can be caused by prolonged exposure to excessive sound pressure levels
- Refer all servicing to qualified professionals. Servicing is required when the loudspeaker has been damaged in any way, such as impact damage, liquid ingress or foreign object damage. In addition, the loudspeaker should be referred to qualified service personnel if there is any kind of malfunction.



- Rigging, suspending and mounting should only be attempted by experience qualified professionals. Incorrect usage can result in damage to equipment and property, injury and even death. Under no circumstances should you attempt to rig, suspend or mount these speakers unless you are fully qualified and certified to do so by relevant local, state and national authorities. If you are not properly qualified or do not know of pertinent regulations consult qualified personnel for advice. Consult a structural engineer before suspending a speaker system and ensure that the total weight of your system can be held by the truss or mounting surface.



- Inspect all mounting hardware before your line array is flown. If there is any damage or distortion to any mounting hardware do not fly the array until any damaged hardware is repaired or replaced. Only use Wharfedale Pro supplied Quick release Pins, contact your Wharfedale Pro Distributor if any quick release pins are lost or damaged.

Three-way line array. Hear a new dimension.

WLA-312X is an advanced three-way line array speaker system capable of handling vast amounts of power - while remaining sonically clear, precise and accurate. Rated at 1410w AES per cabinet and boasting highly efficient custom Wharfedale Pro drivers, the WLA-312X can deliver Maximum SPL 142 dB @ 1meter.

Custom WP drivers have been selected to ensure that this series not only has the power you would expect, but the three-way configuration brings a new sonic dimension and definition.

With dual 12" woofers, a 10" midrange driver and dual 2.55" compression drivers, the WLA-312X has everything needed for large venue coverage. In addition, there is no need to fly subwoofers within the array - the WLA-312X has already got plenty of low-end punch.

The WLA-312X is designed to be controlled and tuned with either a Wharfedale Pro Versadrive signal processor or a DP-D series amplifier. Either of these DSP systems deliver full signal routing and processing to maximise the power and sonic effect of the WLA-312X array.

With full steel grilles, multiple handles and 3 fly frame rigging points, WLA-312X is well suited for touring and for hard work on the road.

The accompanying WLA-312X Fly frame is solid! Constructed of A3 steel it can hold up to 900kg (that's up to 12 pcs of WLA-312X) with a safety factor of 12.

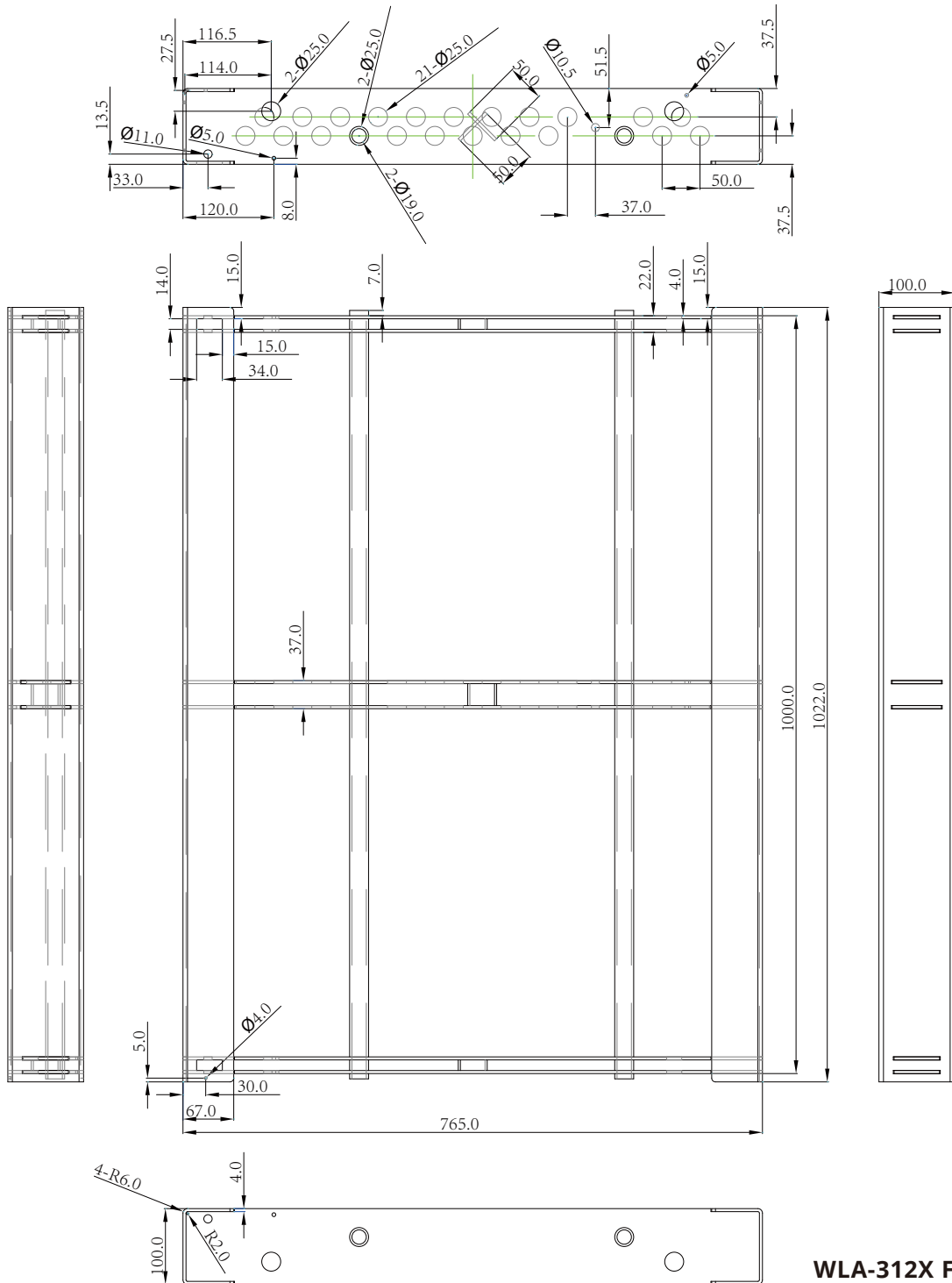
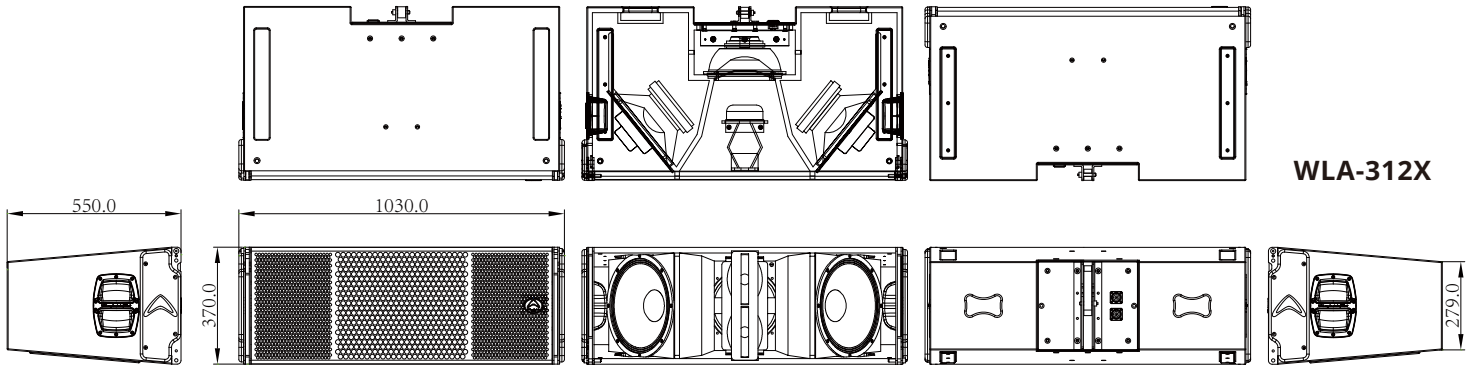
Features

- Three-way configuration to deliver a new dimension in sound clarity
- 18 mm Baltic birch plywood cabinet construction
- Full frontal steel grilles
- Neutrik NL8 inputs
- Maximum SPL 142 dB @ 1meter
- Sensitivity 114 dB
- Neodymium magnets in mid-range and HF drivers
- Downloadable Versadrive series presets from www.wharfedalepro.com

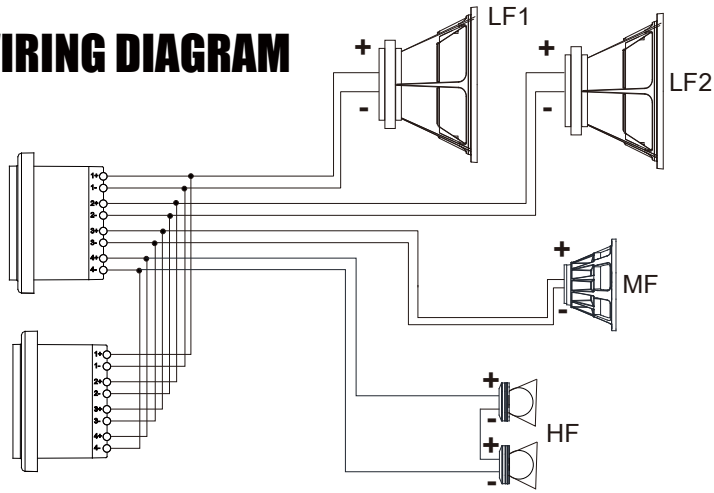
SETTING UP

1. Fit the WLA-312X Fly frame to lift points, (front AND back pickle preferably)
2. Mount the front rigging points in the fly frame and secure with the Quick release pins.
3. Mount the rear rigging point in the fly frame and secure with the Quick release pin.
4. Adjust the splay angle for the desired angle with the Quick release pin.
5. Release the front and rear rigging points for the next cabinet.
6. Connect the next cabinet to the already mounted cabinet from beneath, starting with the front rigging points, followed by the rear rigging point.
7. Repeat from point 4 until all cabinets are connected.
8. Fly the array to the correct height and trim it using the rear pickle point.
9. Ensure that all connections are correct from amplifiers to the Neutrik NL8MPR.
10. Always turn down and mute any amplifiers before turning off.

LINE DRAWINGS



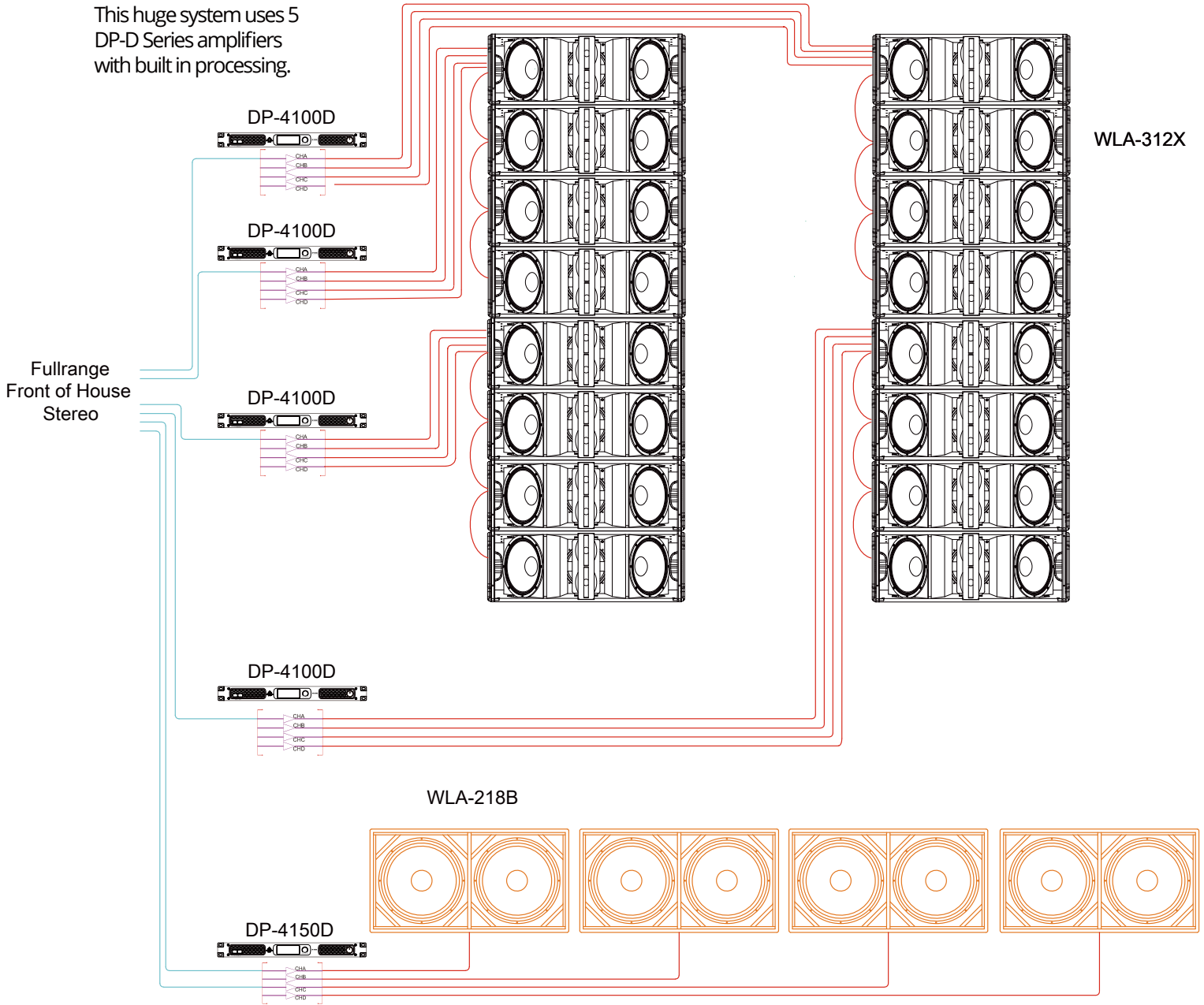
WIRING DIAGRAM



Pin1+ LF1+ Pin1- LF1-
 Pin2+ LF2+ Pin2- LF2-
 Pin3+ MF+ Pin3- MF-
 Pin4+ HF+ Pin4- HF-
 HF: 160 W AES / 16 Ohm
 MF: 350 W AES / 16 Ohm
 LF: 900 W AES / 2X8 Ohm

Example system setup

This huge system uses 5 DP-D Series amplifiers with built in processing.



Product list

LOUDSPEAKERS

WLA-312X x 16

WLA-218B x 4

AMPLIFIERS

DP-4100D x 4

DP-4150D x 1

Wharfedale Pro manufacture a wide range of power amplifiers and signal processors. For recommended accessories, amplifiers and system diagrams please visit www.wharfedalepro.com

Suggested Crossover parameters for use with a Wharfedale Pro Versadrive SC-48

WLA-312X (35 dB Gain power amplifier) SC-48 Electronic frequency divider	Recommended Amplifier DP-4100(D)			
LF	LF		HighPass	LowPass
Gain	+5 dB			
High/Low Pass frequency			35 Hz	160 Hz
Slope			BW-18	LK-48
DELAY	0.427 ms			
PEQ:	Frequency	Gain	Q	Type
	40 Hz	+3 dB	3	Peak
	110 Hz	-6 dB	1.4	Peak
	Threshold	ratio	attack	release
Peak Limiter	+8.5 dB	x	12 ms	96 ms
Comp (RMS) Limiter	+2.5 dB	1:10	1000 ms	3000 ms
MF	MF		HighPass	LowPass
Gain	-6 dB			
High/Low Pass frequency			180 Hz	1 kHz
Slope			LK-48	LK-36
DELAY	0.0 ms			
PEQ:	Frequency	Gain	Q	Type
	255 Hz	-5 dB	3	Peak
	870 Hz	+3 dB	6	Peak
	Threshold	ratio	attack	release
Peak Limiter	+10.5 dB	x	4 ms	40 ms
Comp (RMS) Limiter	+4.5 dB	1:10	400 ms	1000 ms
HF	HF		HighPass	LowPass
Gain	-11dB			
High/Low Pass frequency			1 kHz	
Slope			BW-48	
DELAY	0.542 ms			
PEQ:	Frequency	Gain	Q	Type
	1260 Hz	-6 dB	1.4	Peak
	2960 Hz	-7dB	5	Peak
	8000 Hz	+9 dB	0.7	High Shelf
	Threshold	ratio	attack	release
Peak Limiter	+10.5 dB	x	1 ms	12 ms
Comp (RMS) Limiter	+1.5 dB	1:10	200 ms	400 ms

ARRAY SCALING

Please note: ALL the loudspeakers in the same array MUST have the same AS EQ.

2 TO 4 WLA-312X			
Frequency	Gain	Q	Type
315 Hz	-4.5	0.7	Low Shelf
455 Hz	-1	3	Peak
5 TO 8 WLA-312X			
Frequency	Gain	Q	Type
315 Hz	-9	0.7	Low Shelf
455 Hz	-1.5	3	Peak
MORE THAN 8 WLA-312X			
Frequency	Gain	Q	Type
315 Hz	-12	0.7	Low Shelf
455 Hz	-2	3	Peak

RANGE EQ

Please note: apply ONE Range EQ filter only at a time

	Frequency	Gain	Q	Type
9 m	18 kHz	2	1.7	Peak
15 m	18 kHz	6	1.7	Peak
21 m	15 kHz	6	1.7	Peak
27 m	12.5 KHz	6	1.7	Peak
40 m	10.5 KHz	6	1.4	Peak
> 40 m	8.5 KHz	6	1.4	Peak

SPECIFICATIONS

Model Name	WLA-312X
System Type	Passive
Configuration	three-way
Frequency Response (+/-3 dB)	50-18 kHz
Frequency Range (-10 dB)	40-20 kHz
Sensitivity 2.83 v / 1 Meter	HF:114 dB/MF:105 dB/LF:102 dB
Calculated Maximum SPL @ 1 Meter	HF:142 dB/MF:136 dB/LF:138 dB
Low Frequency Transducer	
Size (mm / inches)	313 mm / 12"
Voice Coil Size (mm / inches)	75.5 mm / 3"
LF Magnet Material	Ferrite
LF Frame Material	Aluminium
Rated Impedance	2 x 8 Ω
LF Power re:AES2-2012	2 x 450 W
Mid Frequency Transducer	
Size (mm / inches)	260 mm / 10"
Voice Coil Size (mm / inches)	65 mm / 2.55"
MF Magnet Material	NdFeB
MF Frame Material	Aluminium
Rated Impedance	16 Ω
MF Power re:AES2-2012	350 W
High Frequency Transducer	
HF Driver Type	Compression Driver
Coil Size (mm / inches)	65 mm / 2.55"
Exit Size (mm / inches)	1.4"
HF Magnet Material	NdFeB
Diaphragm Material	Titanium
Rated Impedance	16 Ω (2 x 8 Ω)
HF Power re:AES2-2012	160 W (2 x 80 W)
Waveguide Type	square
Nominal Coverage (H x V)	90H x 7.5V
Nominal Impedance	16 Ω
Power	
System Power AES (RMS) (w)	HF:160 W/MF:350 W/LF:900 W
System Programme Power (w)	HF:320 W/MF:700 W/LF:1800 W
System Peak Power (w)	HF:640 W/MF:1400 W/LF:3600 W
Crossover frequency	160 Hz / 1.2 kHz
Input Connector	2 x Neutrik NL8MPR
Rigging	3 points for rigging
Pole mount	NO
Handles	Yes
Enclosure	
Cabinet type	Trapezoid
Enclosure Material and finish	15 mm,18 mm plywood
Colour Options	black paint
Grille Material & Finish	steel
Dimensions - Unpacked	
Height	370 mm
Width Front	1030 mm
Width Rear	279 mm
Depth	550 mm
Dimensions - Packed	
Height	1095 mm
Width Front	480 mm
Width Rear	480 mm
Depth	650 mm
Weight	
Net Weight	58 kg
Gross Weight	62 kg

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.

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.



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