

# WLA-1 Series

## Hybrid Curvature Array

### USER MANUAL

WLA-112    WLA-115    WLA-121SUB

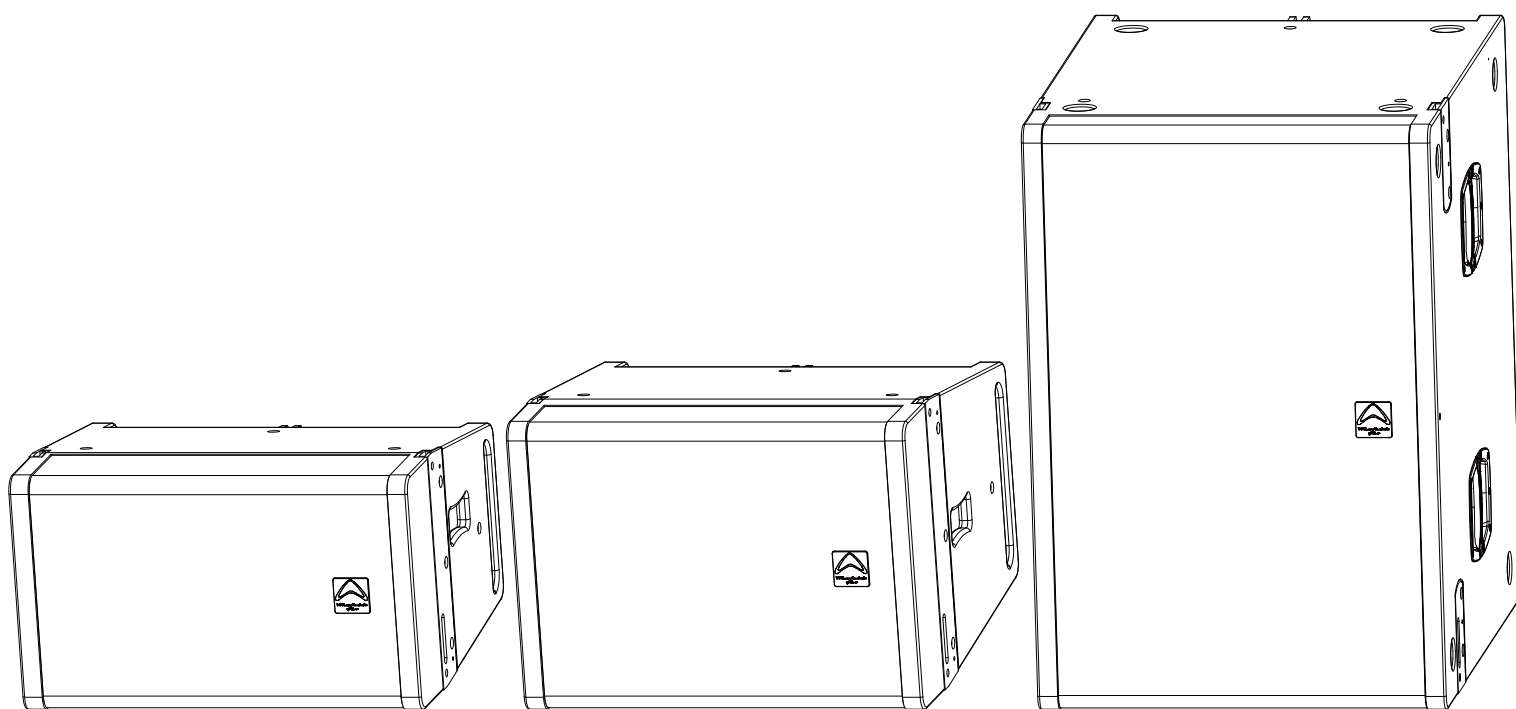


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# Important Warnings & Safety Instructions

- 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 rigging, suspending or mounting. If there is any damage or distortion to any mounting hardware do not proceed until any damaged hardware is repaired or replaced.

## **UNPACKING**

- All Wharfedale Pro products are fully checked before leaving our factory. After unpacking please inspect the cabinets for any physical damage. Please retain the shipping carton if possible and internal packing material in case the unit ever needs to be returned. Please check as soon as possible that the unit is functioning. In the event of any damage please contact your dealer immediately so that a written claim for damage can be made.

# About the WLA-1 Series

The science behind the new WLA-1 Hybrid Curvature Array is intense.

With 12" and 15" full-range elements and a breath-taking 21" subwoofer, the new WLA-1 system has been engineered by IAG's International R&D team to be highly versatile - making it perfect for touring and fixed installations.

The drivers inside are very special. Designed and Engineered by Wharfedale Pro UK and manufactured in Europe by Beyma, the full-range WLA-112 and WLA-115 elements use a coaxial design in combination with the exclusive incredible EVO-Fold high frequency waveguide. This design provides consistent dispersion coverage on both the horizontal and vertical planes with the sound radiating from one, singular and coherent, source. Together with the dedicated FIR pre-sets library a flatter phase front is granted allowing outstanding audio quality performance.

This highly engineered solution combats issues that traditional constant curvature two way systems suffer from due to physical spacing between the drive units.

Meanwhile, the WLA-121SUB uses a 21" Beyma driver with a 4.0" Quattro voice coil which results in the most extreme, but controllable flying subwoofer in the Wharfedale Pro line up.

The WLA-1 system can easily be configured in 3 different ways. As a sub-top pole mount, as a flown array with the optional Common Fly Frame, or as a Horizontal system with the optional WLA-1 Link hardware. Such versatility allows for users to deploy the system for multiple activities.

WLA-1 is a unique Hybrid Curvature Array. The science behind its development has been intense, but this extreme engineering results in an extra-ordinary system with massive lows, consistent coverage and phase coherence.

- 12" and 15" coaxial drivers from Beyma
- 21" Subwoofer with 4.0" Quattro voice coil
- EVO-Fold waveguide
- Integral side plate rigging
- Premium Baltic birch construction
- Versatile configurations
- Comprehensive hardware accessories

## WLA-112

- 450 W Continuous
- 900 W Programme
- 1800 W Peak
- Impedance 8  $\Omega$
- 12" Beyma coaxial driver
- EVO-Fold waveguide
- Dual Angle -2.5° / + 7.5° pole socket

## WLA-115

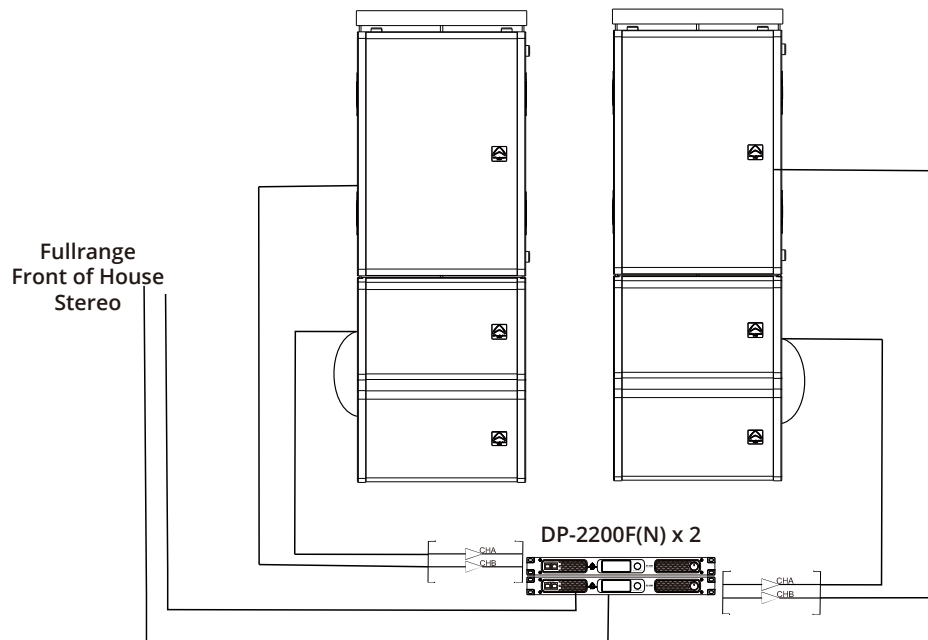
- 500 W Continuous
- 1000 W Programme
- 2000 W Peak
- Impedance 8  $\Omega$
- 15" Beyma coaxial driver
- EVO-Fold waveguide
- Dual Angle -2.5° / + 7.5° pole socket

## WLA-121SUB

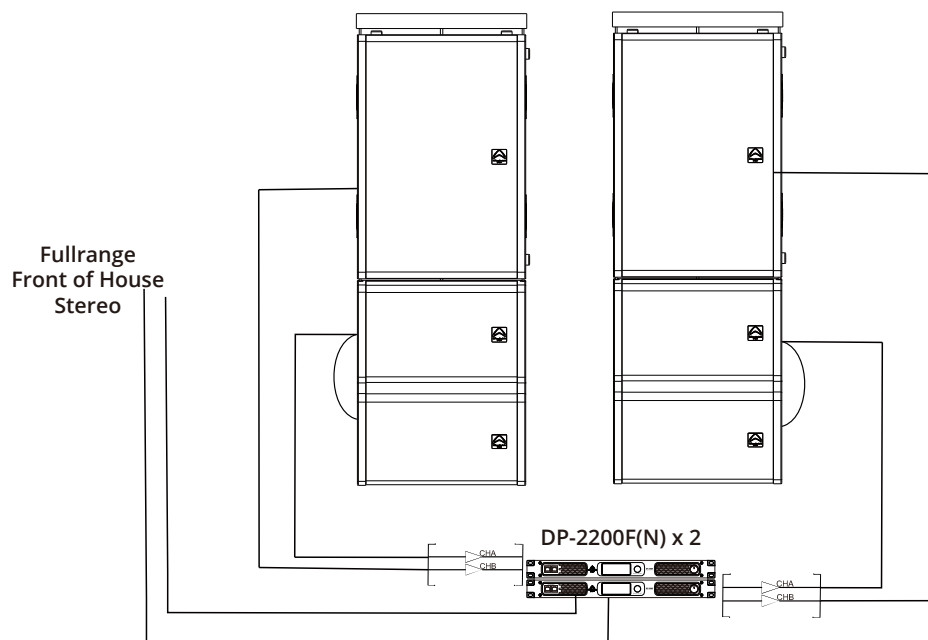
- 1600 W Continuous
- 3200 W Programme
- 6400 W Peak
- Impedance 4  $\Omega$
- 21" Beyma subwoofer driver
- M20 pole socket

# WLA-1 sound system example

## 2 x WLA-121SUB and 4 x WLA-112

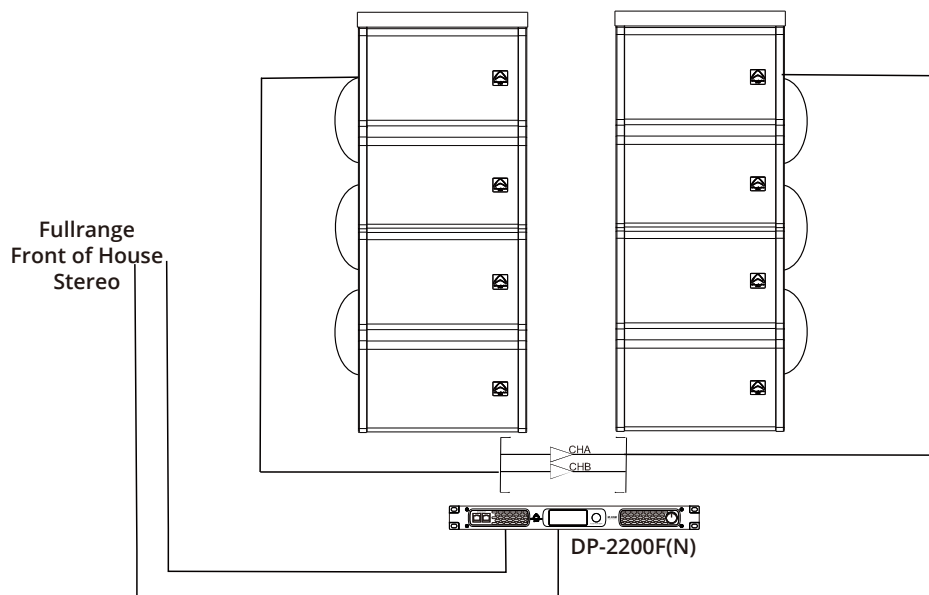


## 2 x WLA-121SUB and 4 x WLA-115

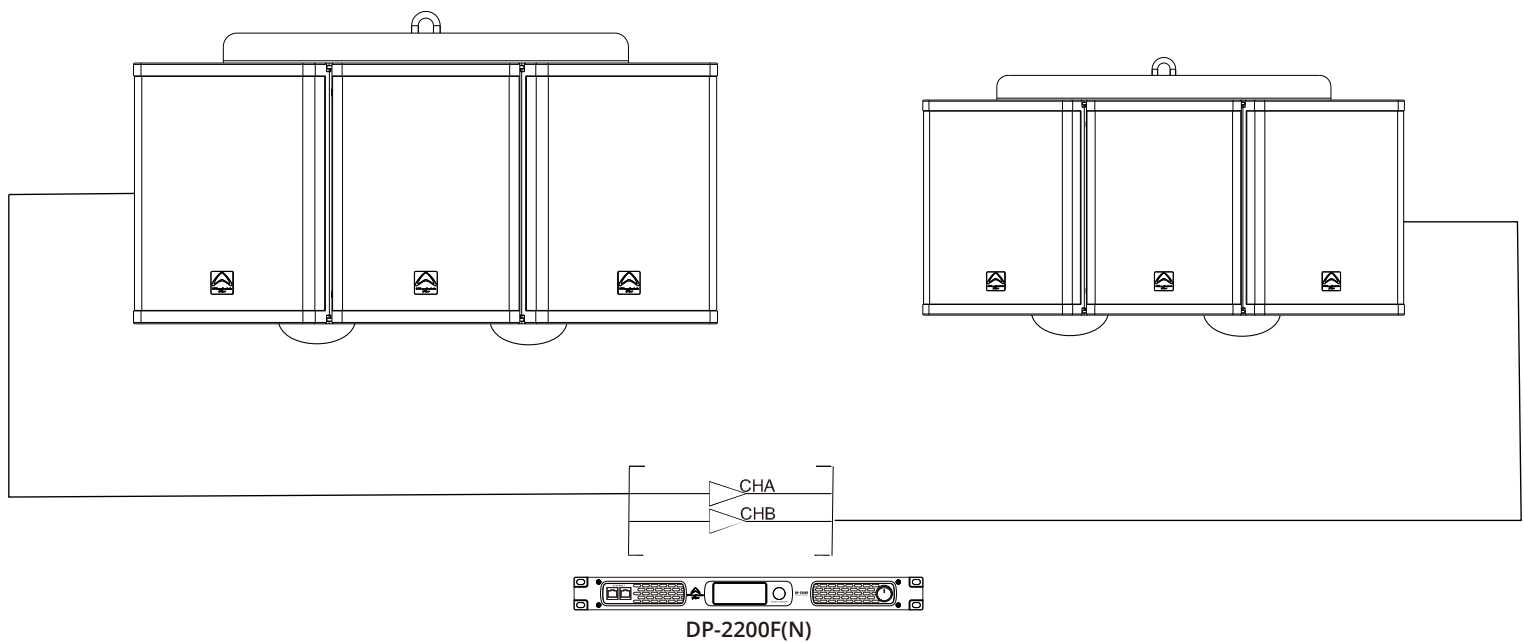


# WLA-1 sound system example

## 4 x WLA-112 and 4 x WLA-115

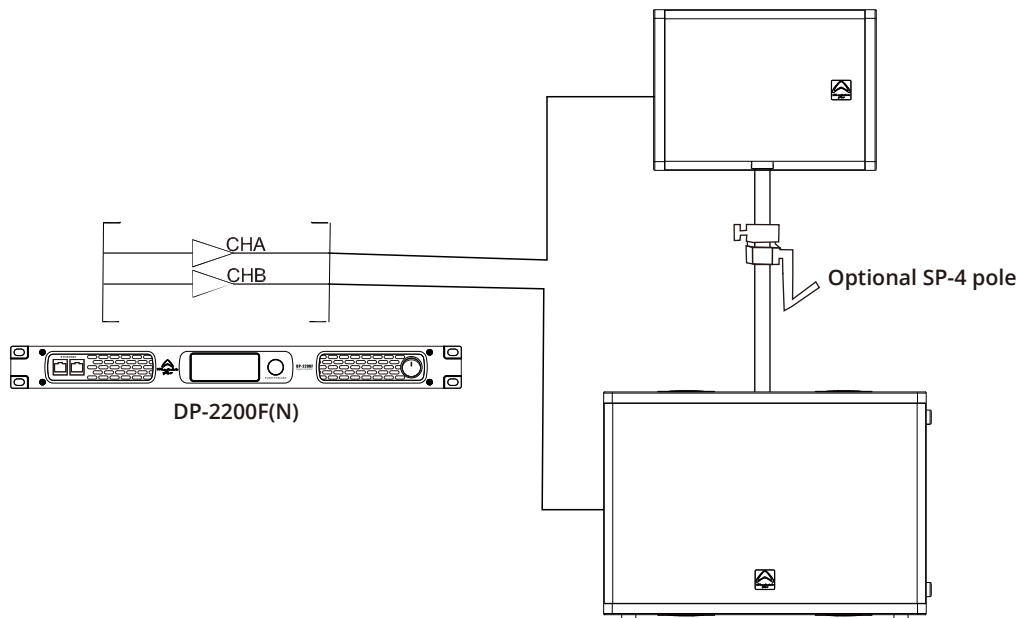


## 6 x WLA-112 or 6 x WLA-115

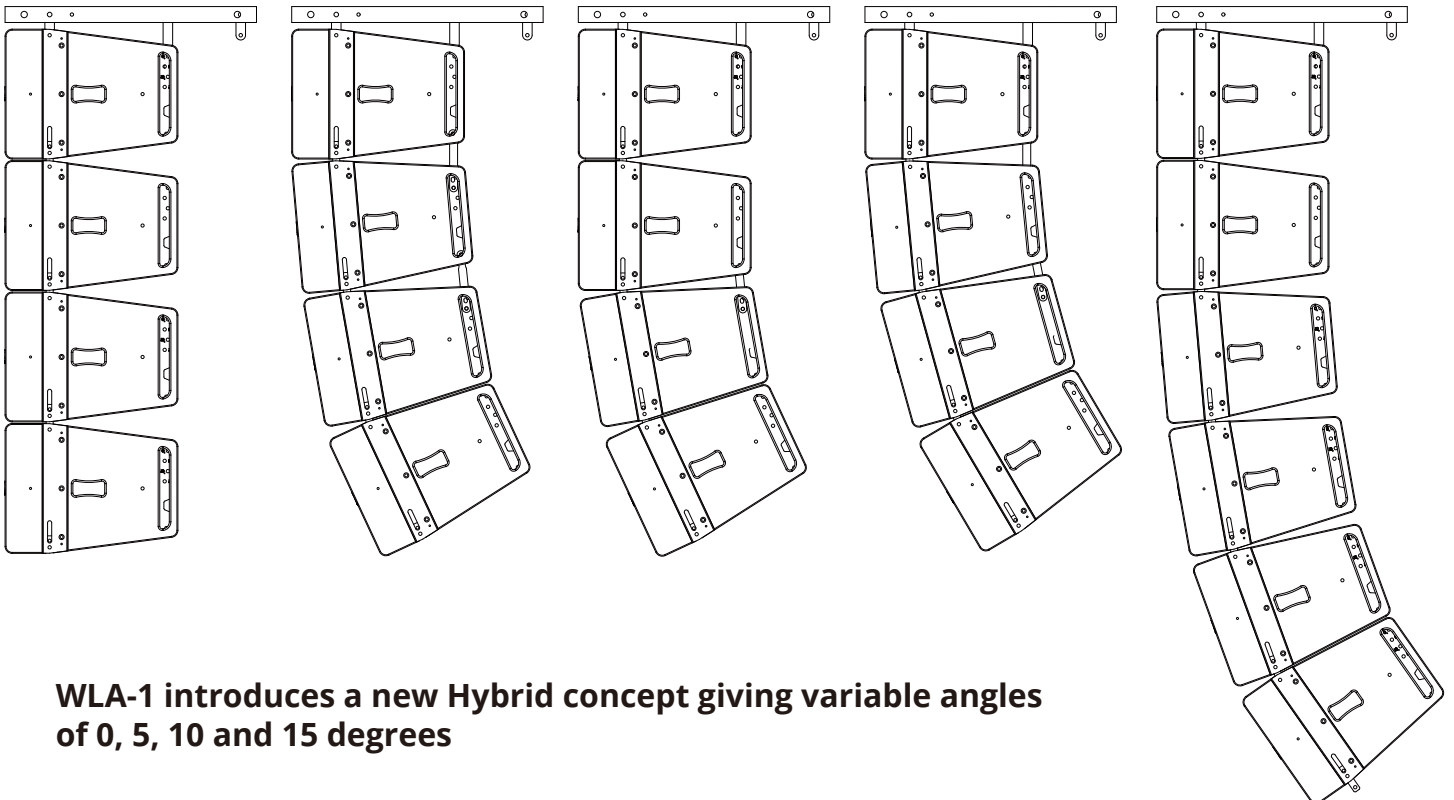


# WLA-1 sound system example

## WLA-112 and WLA-121SUB or WLA-115 and WLA-121SUB



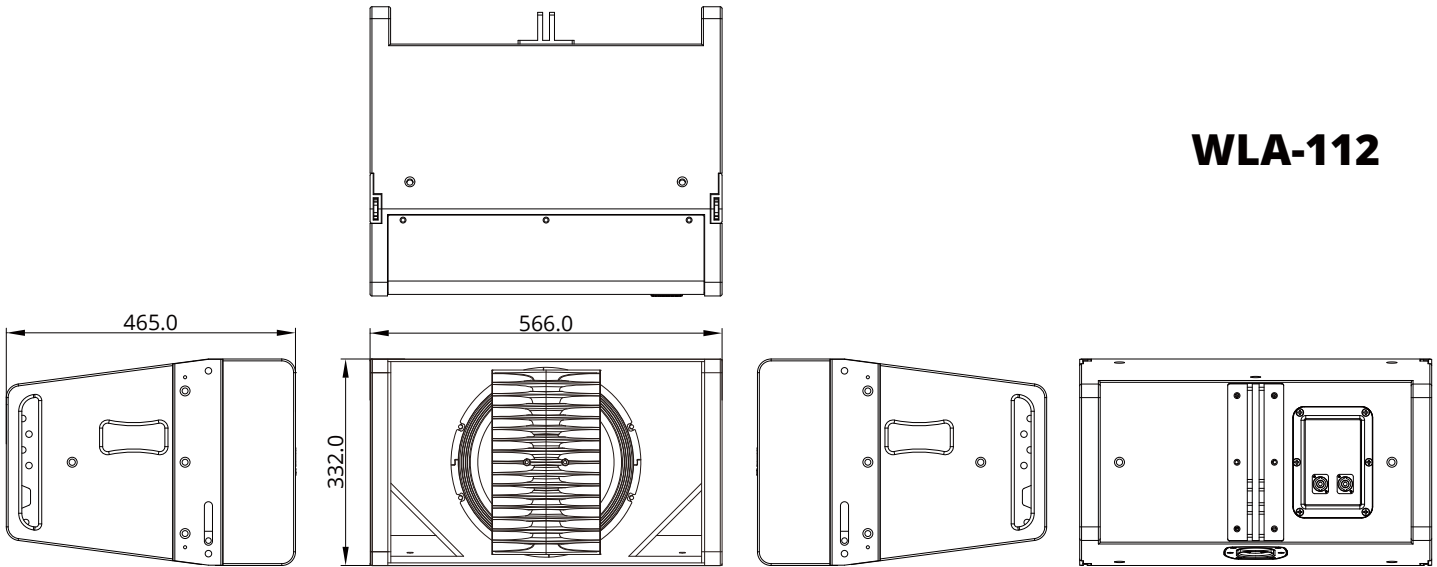
## ANGLE CONFIGURATIONS



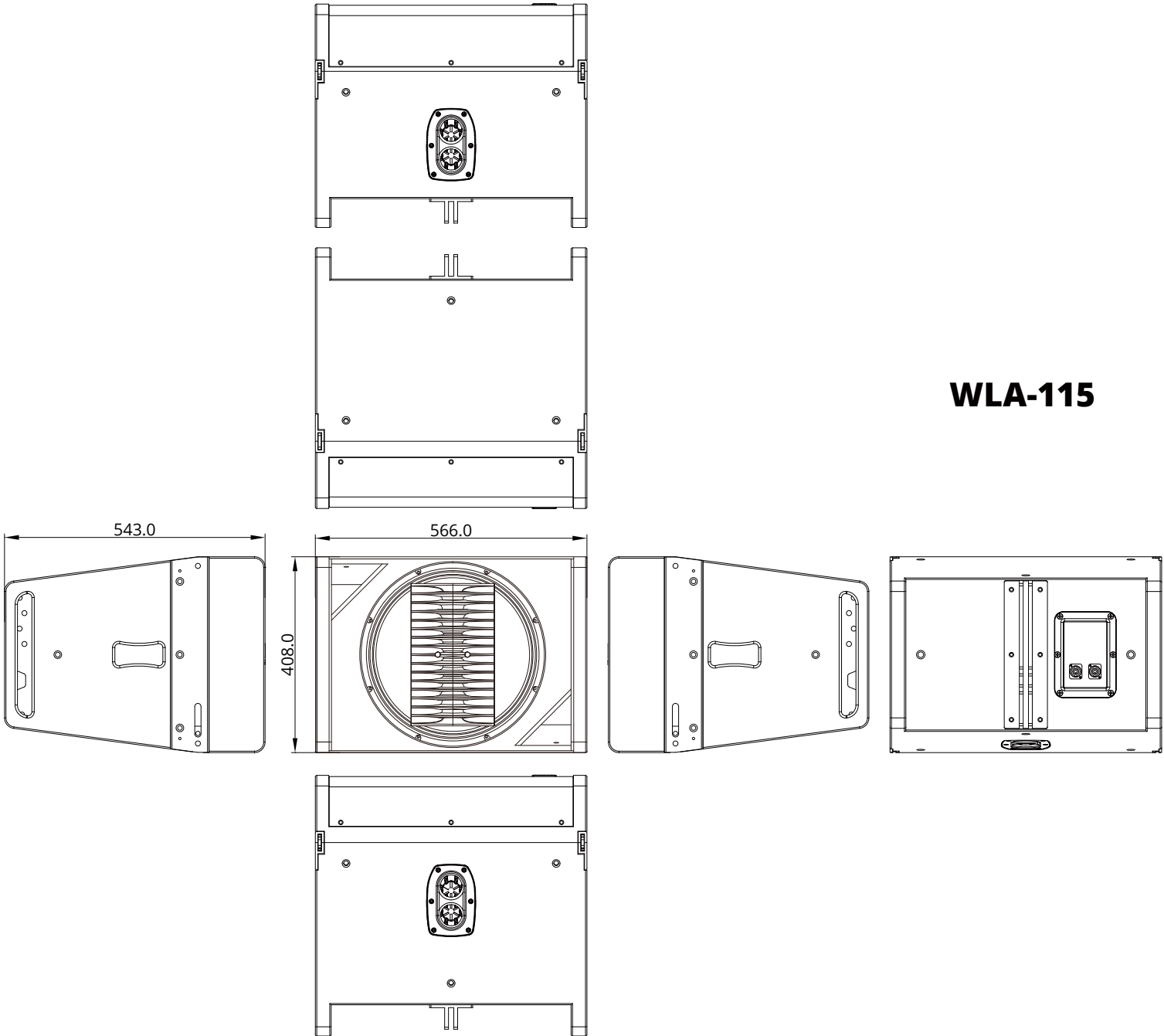
WLA-1 introduces a new Hybrid concept giving variable angles of 0, 5, 10 and 15 degrees

# Dimensional Drawings

WLA-112



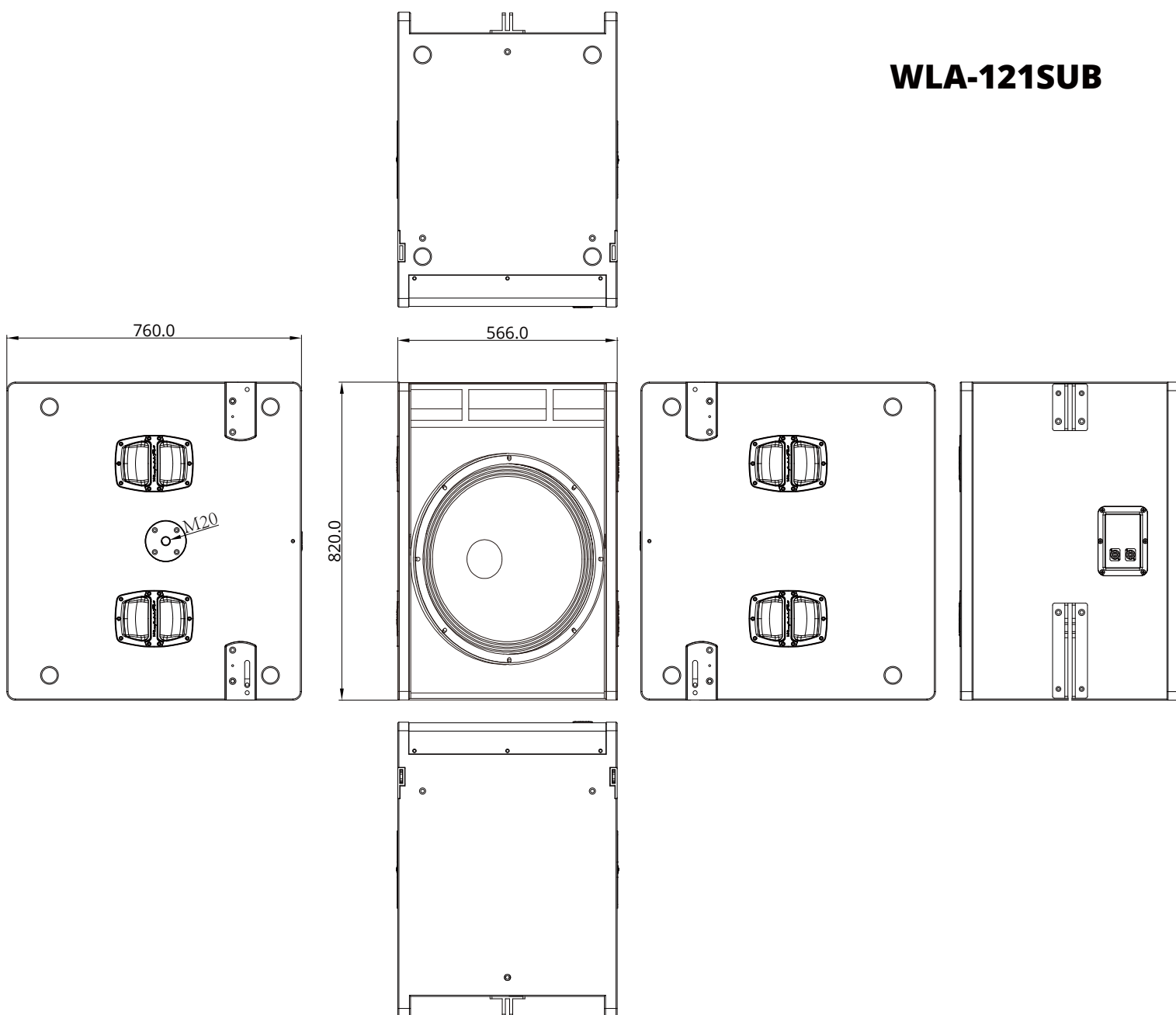
WLA-115





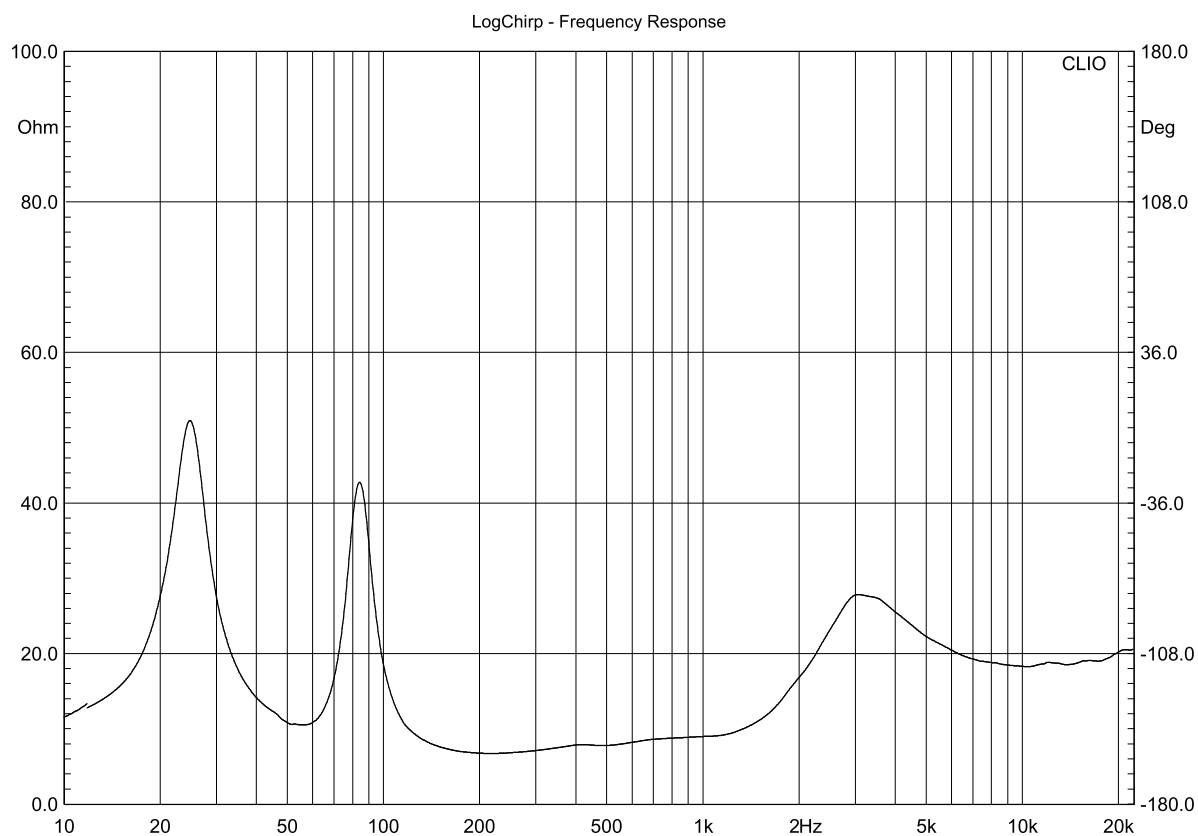
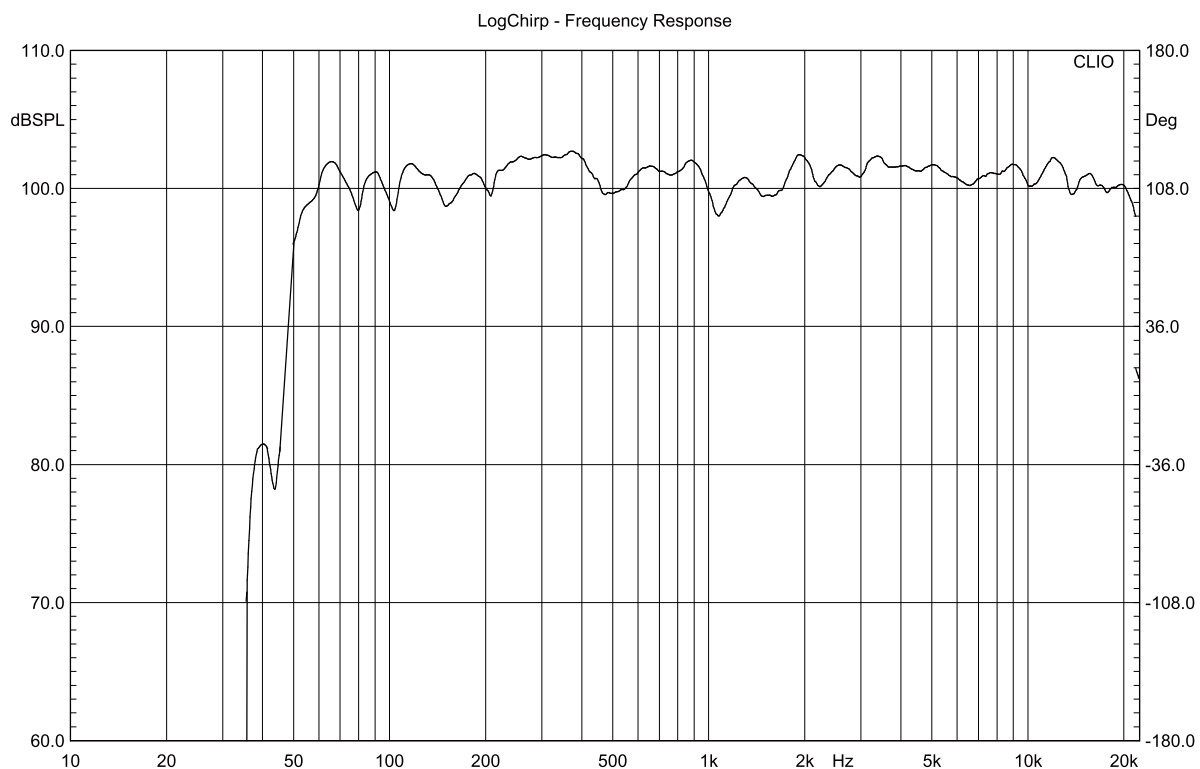
# Dimensional Drawings

**WLA-121SUB**



# WLA-1 Series Response graphs

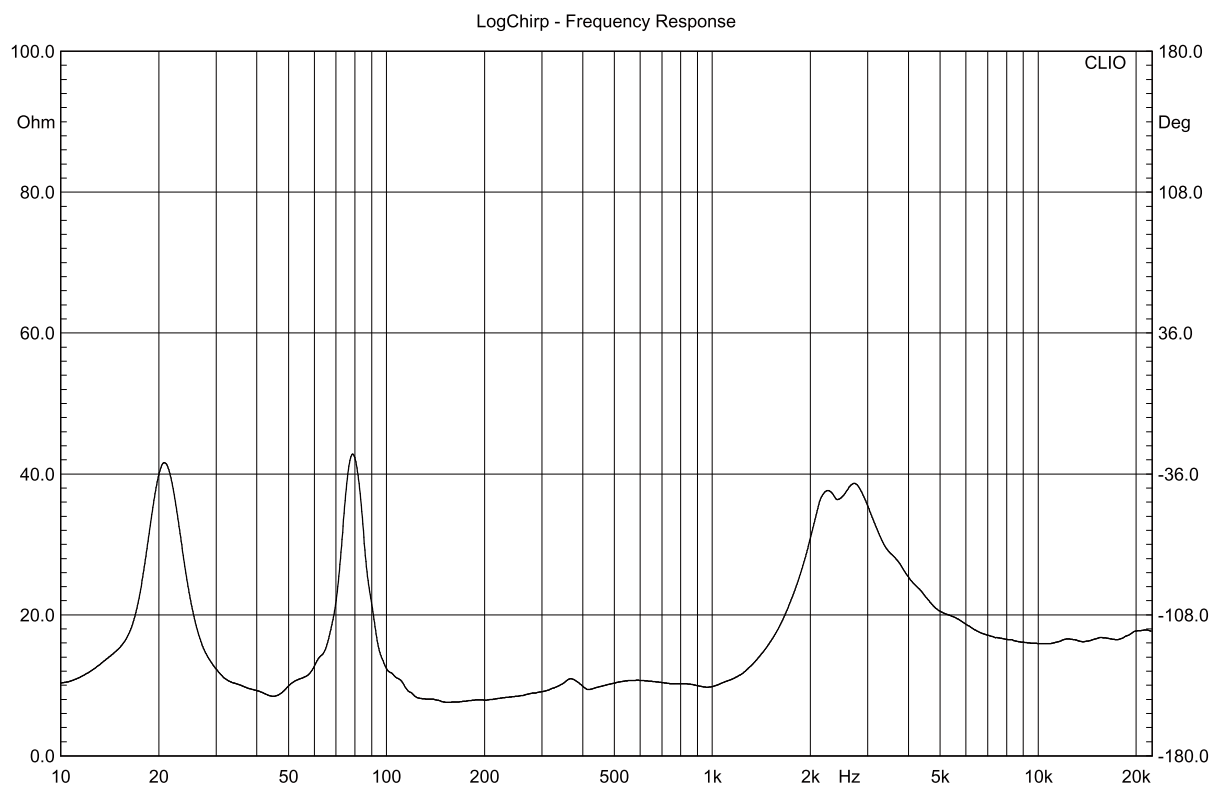
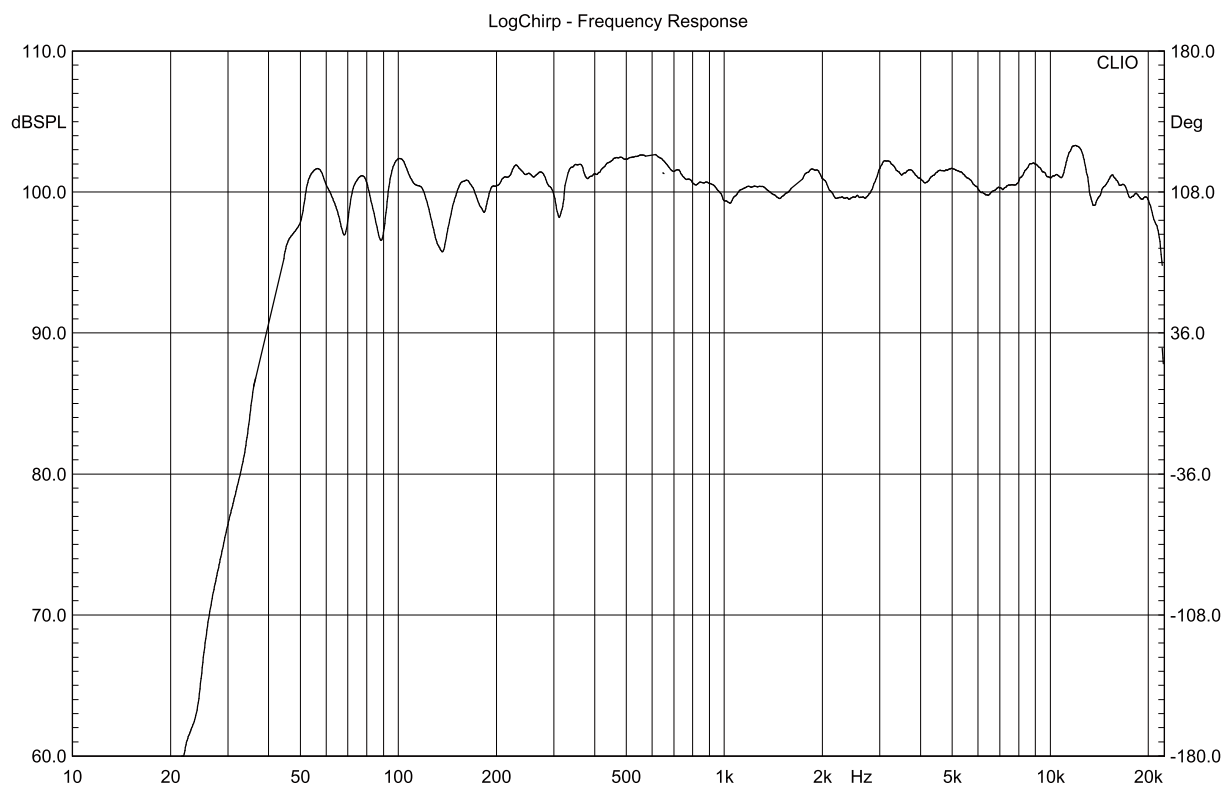
## WLA-112



Note : Specification and graphs are created with the dedicated DSP presets.

# WLA-1 Series Response graphs

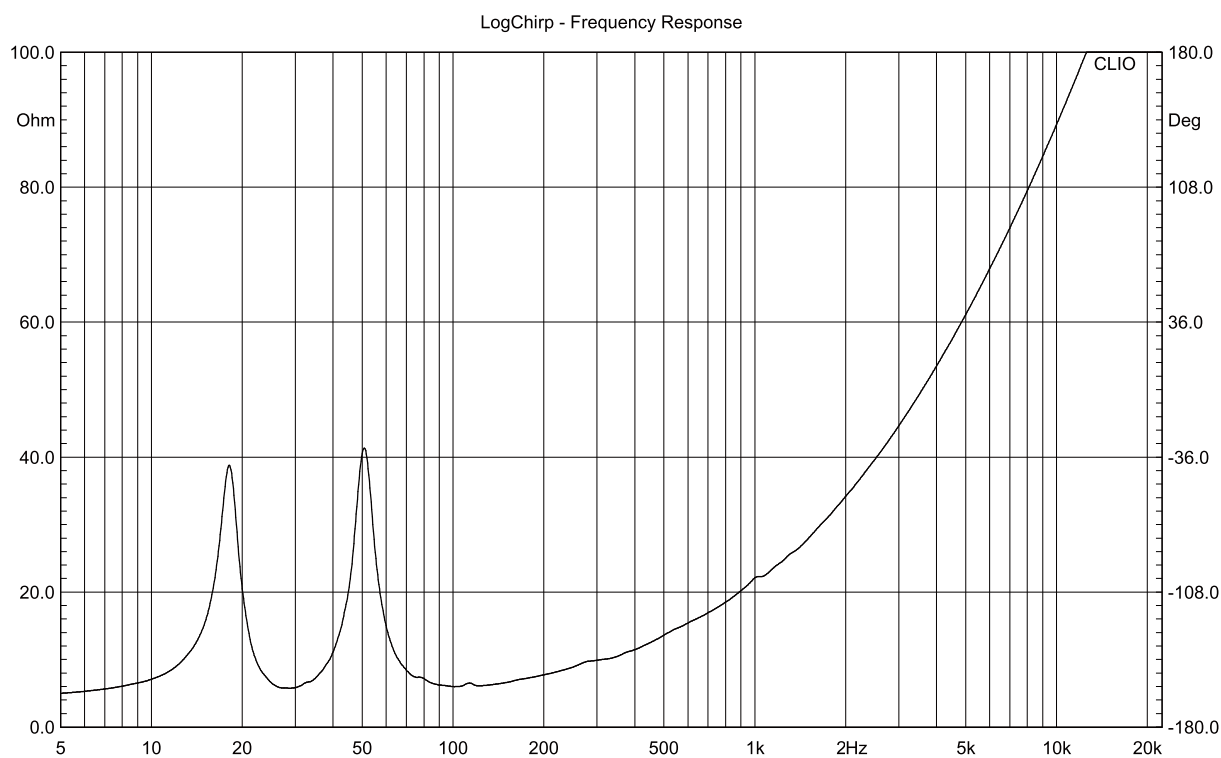
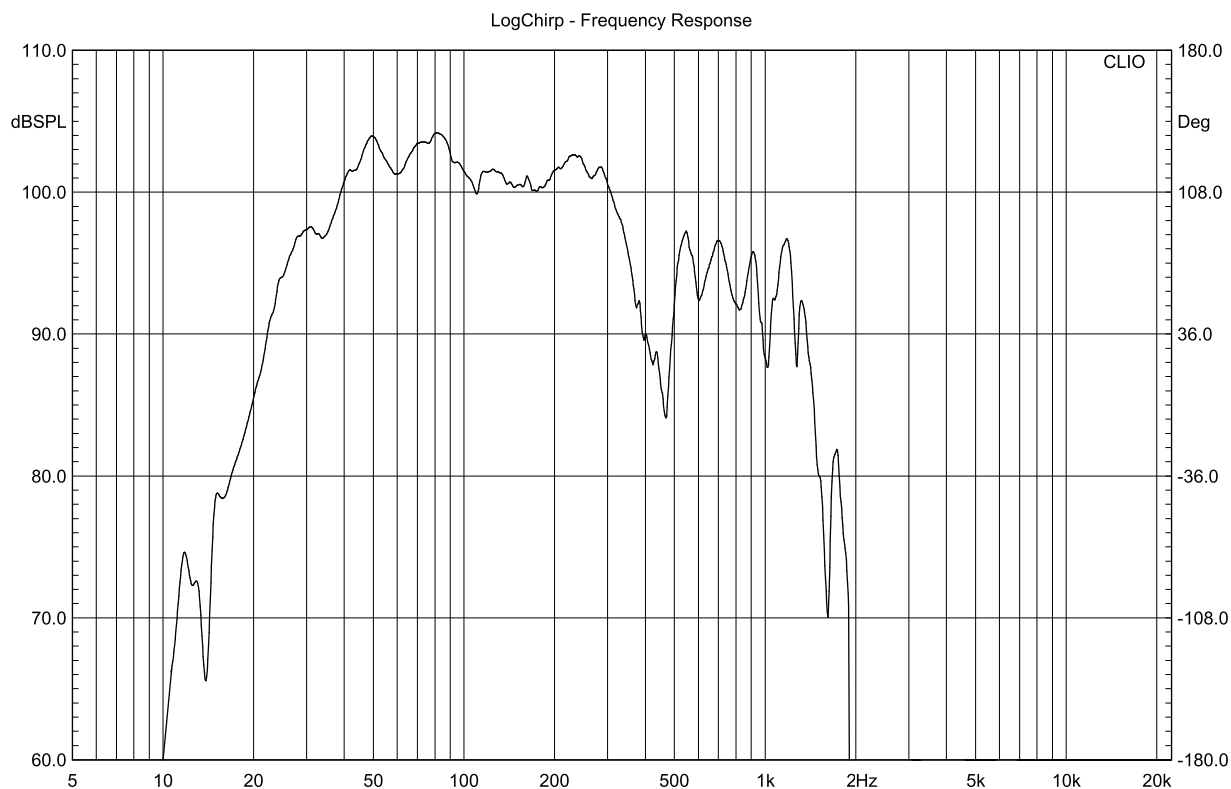
## WLA-115



Note : Specification and graphs are created with the dedicated DSP presets.

# WLA-1 Series Response graphs

## WLA-121SUB



Note : Specification and graphs are created with the dedicated DSP presets.

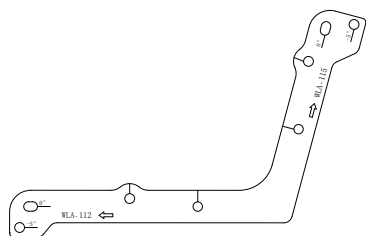
# Specifications

Model Name	WLA-112	WLA-115	WLA-121SUB
Design	Hybrid Curvature Array	Hybrid Curvature Array	Subwoofer
System Type	12" coaxial passive	15" coaxial passive	21" Subwoofer
Configuration	two-way	two-way	Single Subwoofer
Frequency Response (+/-3 dB)	55 Hz - 20 KHz	42 Hz - 20 KHz	25 Hz - 100 Hz
Frequency Range (- 10 dB)	35 Hz - 25 KHz	25 Hz - 25 KHz	18 Hz - 125 Hz
Sensitivity 2.83 V/1 m	101 dB	102 dB	103 dB*
Calculated Maximum SPL @ 1 m	133 dB	135 dB	141 dB*
System Peak SPL	139 dB**	141 dB**	147 dB**
System Rated Impedance	8 Ω	8 Ω	4 Ω
*			level at 1 m under half space conditions using pink noise with crest factor 2, with dedicated pre-set.
**	level at 1 m under free field conditions using pink noise with crest factor 4, with dedicated pre-set.	level at 1 m under free field conditions using pink noise with crest factor 4, with dedicated pre-set.	level at 1 m under half space conditions using pink noise with crest factor 4, with dedicated pre-set.
Low Frequency Transducer			
Size	312 mm / 12"	388 mm / 15"	545 mm / 21"
Voice Coil Size	101.6 mm / 4.0"	101.6 mm / 4.0"	101.6 mm / 4.0" QUATTRO (4 layers)
LF Frame Material	Aluminium	Aluminium	Aluminium
High Frequency Transducer			
HF Driver Type	Compression Driver	Compression Driver	/
Coil Size (mm / inches)	72.2 mm / 2.87"	72.2 mm / 2.87"	/
Exit Size (mm / inches)	38.1 mm / 1.5"	38.1 mm / 1.5"	/
Diaphragm Material	Composite titanium/ polyester	Composite titanium/ polyester	/
Waveguide Type	EVO-Fold®	EVO-Fold®	/
Nominal Coverage (HxV)	100° x 20°	100° x 20°	/
Special Features			
	Copper Demodulating rings in both LF and HF units		Aluminium demodulating ring
	Waterproof LF cone		Waterproof LF cone
	Shared High performing Ferrite magnet system design		Malt Cross® TCS
Power(AES2)			
System Continuous Power (W)	450	500	1600
System Programme Power (W)	900	1000	3200
System Peak Power (W)	1800	2000	6400
Crossover Frequency	1.2 KHz	1.2 KHz	100 Hz
Recommended HPF = BW 18 dB/oct.	30 Hz	25 Hz	20 Hz
Input Connector	2 x speakON compatible	2 x speakON compatible	2 x speakON compatible
Rigging & Hardware:	3 points for rigging	3 points for rigging	3 points for rigging
Vertical Splay angle range:	0°- 5° - 10° - 15°	0°- 5° - 10° - 15°	/
Horizontal Splay angle	15°	15°	/
Optional Accessories	WLA-1 Common Fly Frame	WLA-1 Common Fly Frame	WLA-1 Common Fly Frame
Optional Accessories	WLA-1 Link	WLA-1 Link	-
Stand pole:	Dual Angle -2.5° / + 7.5°	Dual Angle -2.5° / + 7.5°	M20 Pole mount
Handles:	2 side / 2 back	2 side / 2 back	2 side (4 pcs)
Enclosure			
Cabinet Type	Trapezoid	Trapezoid	Rectangular
Enclosure Material and finish	15 mm plywood / Rhino Rock	15 mm plywood / Rhino Rock	18 mm plywood / Rhino Rock
Colour	Black paint	Black paint	Black paint
Grille Material & Finish	Powder coated perforated steel	Powder coated perforated steel	Powder coated perforated steel
Dimensions - Unpacked:			
Height Front	332 mm / 13.1"	408 mm / 16.1"	820 mm / 32.3"
Height Rear	246.4 mm / 9.7"	302 mm / 11.8"	/
Width	566 mm / 22.3"	566 mm / 23.4"	566 mm / 23.4"
Depth	465 mm / 18.3"	543 mm / 16.5"	760 mm / 29.9"
Dimensions - Packed:			
Height	661 mm / 26.0"	661 mm / 26.0"	895 mm / 35.2"
Width Front	550 mm / 21.7"	630 mm / 24.8"	656 mm / 25.8"
Width Rear	550 mm / 21.7"	630 mm / 24.8"	/
Depth	410 mm / 16.7"	490 mm / 19.3"	850 mm / 33.5"
Weight			
Net Weight	29.4 kg	34.5 kg	70.5 kg
Gross Weight	31.8 kg	37.5 kg	76.5 kg

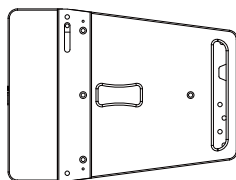
Note : Specification and graphs are created with the dedicated DSP presets.

# WLA-121SUB ARM

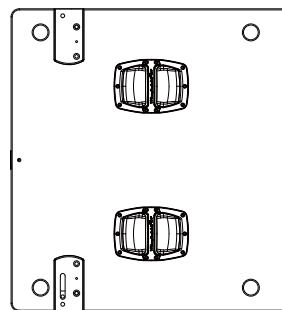
Supplied with the WLA-121SUB is the WLA-121SUB Arm. This arm allows the first speaker of the array (WLA-112 or WLA-115) to be angled as 0° or as -5° down. Simply insert the bolt to select the angles in the diagrams below.



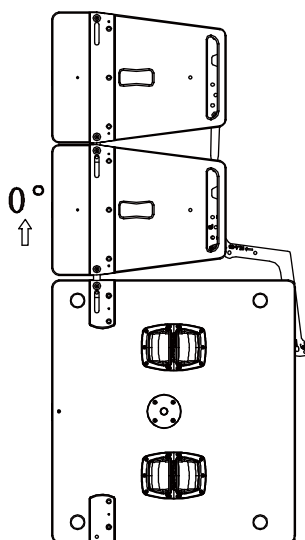
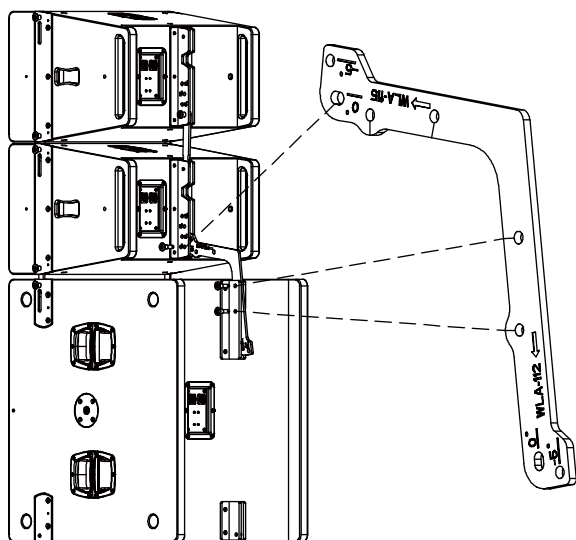
WLA-121SUB ARM



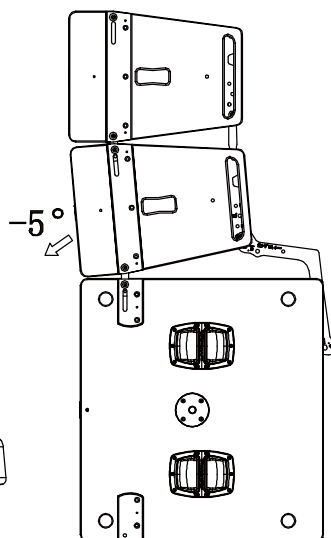
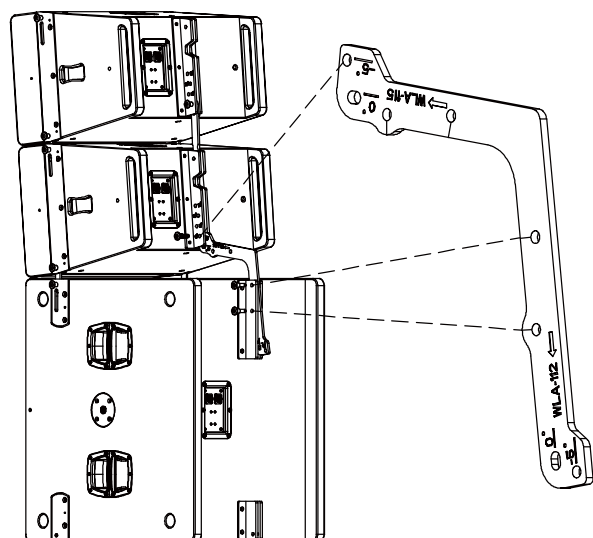
WLA-112/115



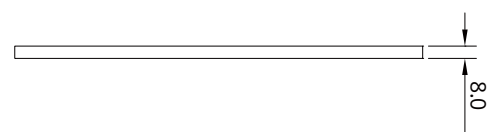
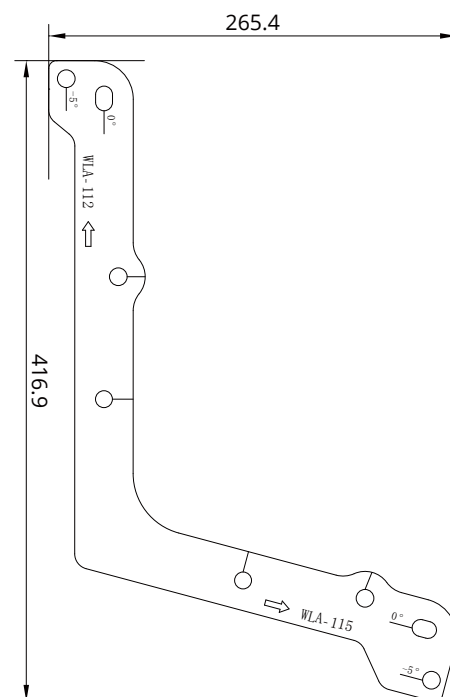
WLA-121SUB



0°  
↑



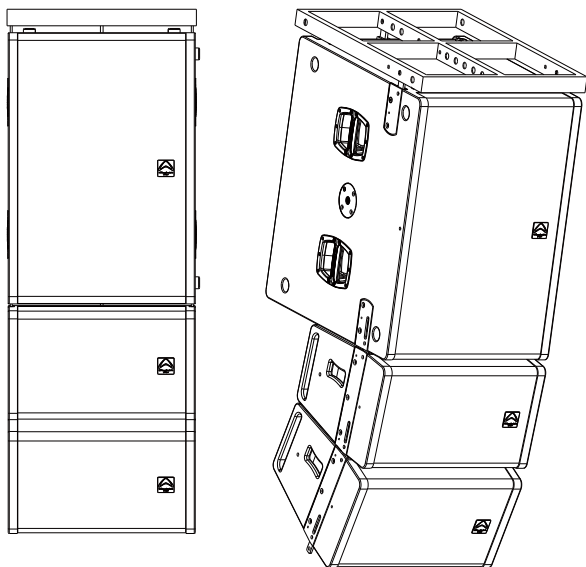
-5°  
↓



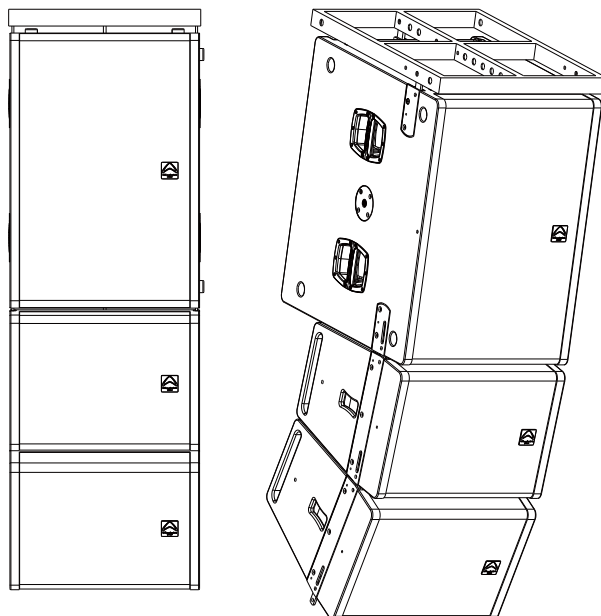
# Configurations

## 1 - Common Fly Frame

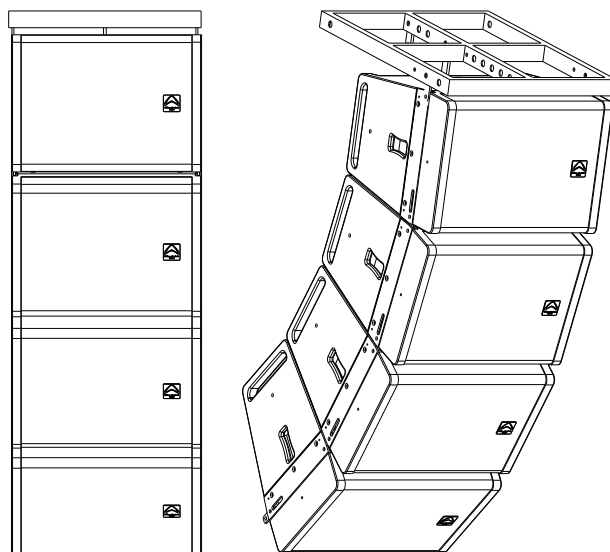
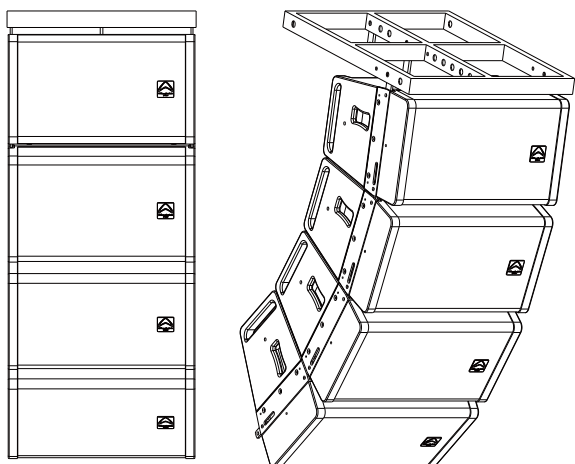
WLA-121SUB + 2 x WLA-112



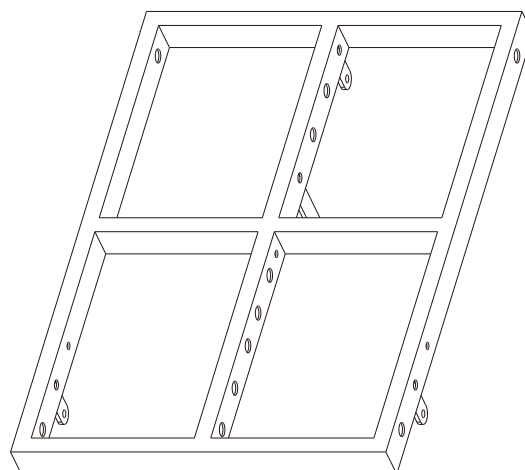
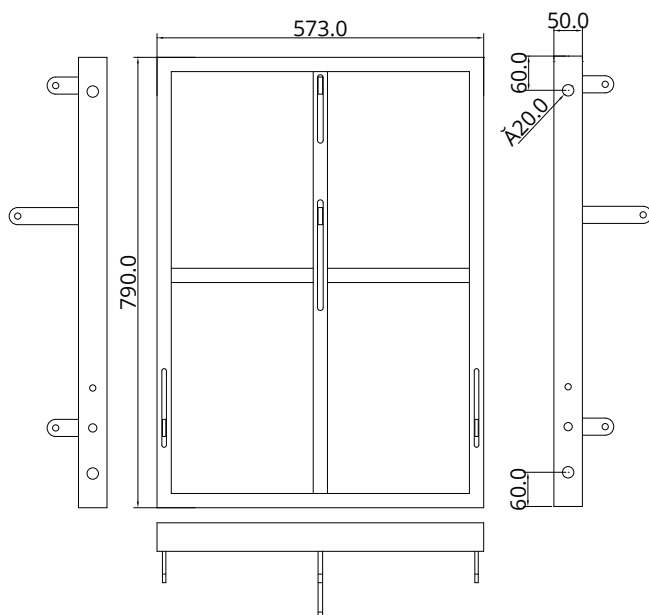
WLA-121SUB + 2 x WLA-115



4 x WLA-112 or 4 x WLA-115 can be flown

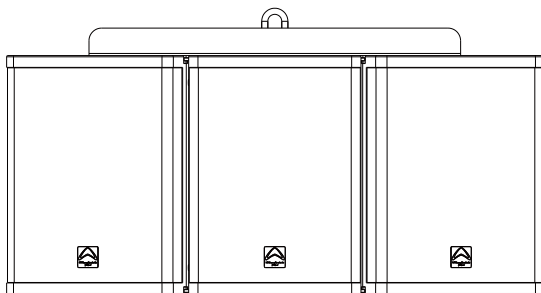


WLA-1 Common Fly Frame

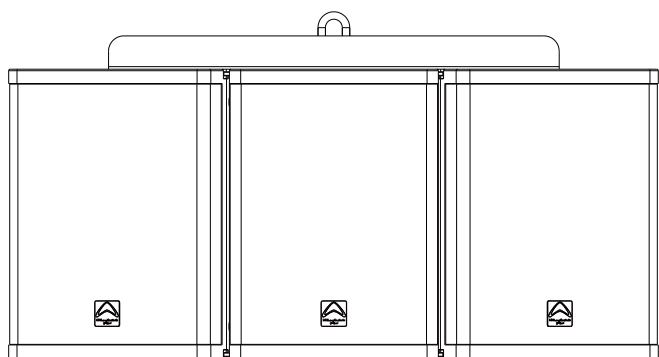
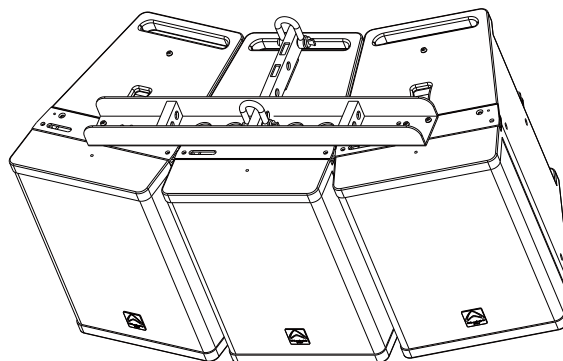


# Configurations

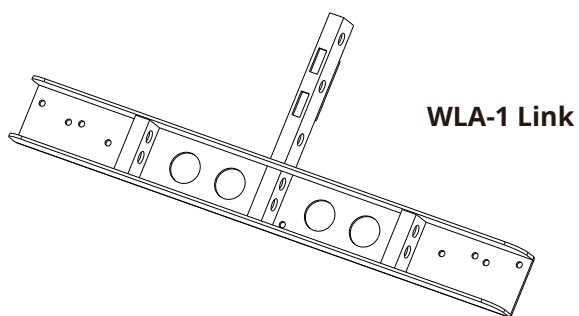
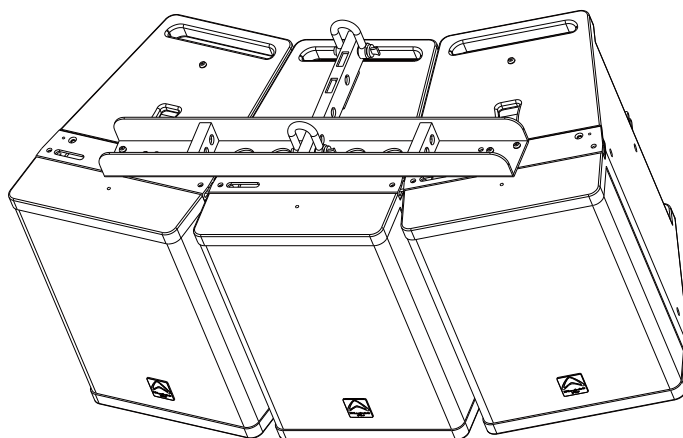
## 2 - WLA-1 LINK



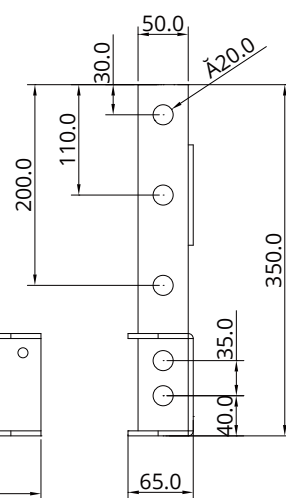
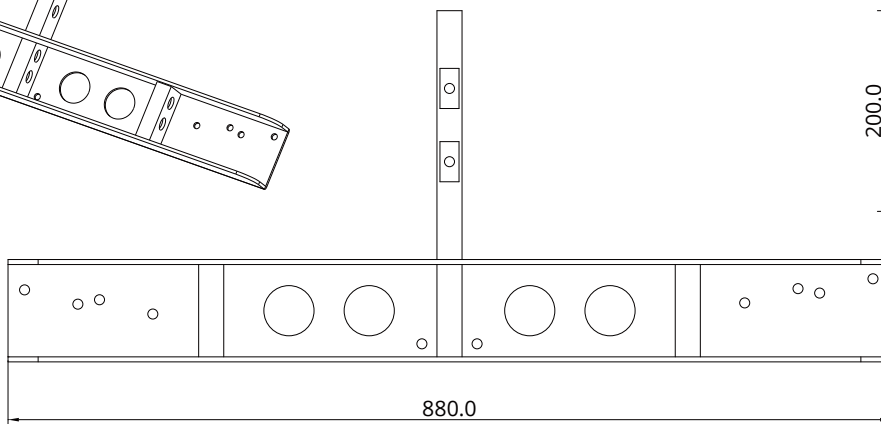
3 x WLA-112



3 x WLA-115



WLA-1 Link

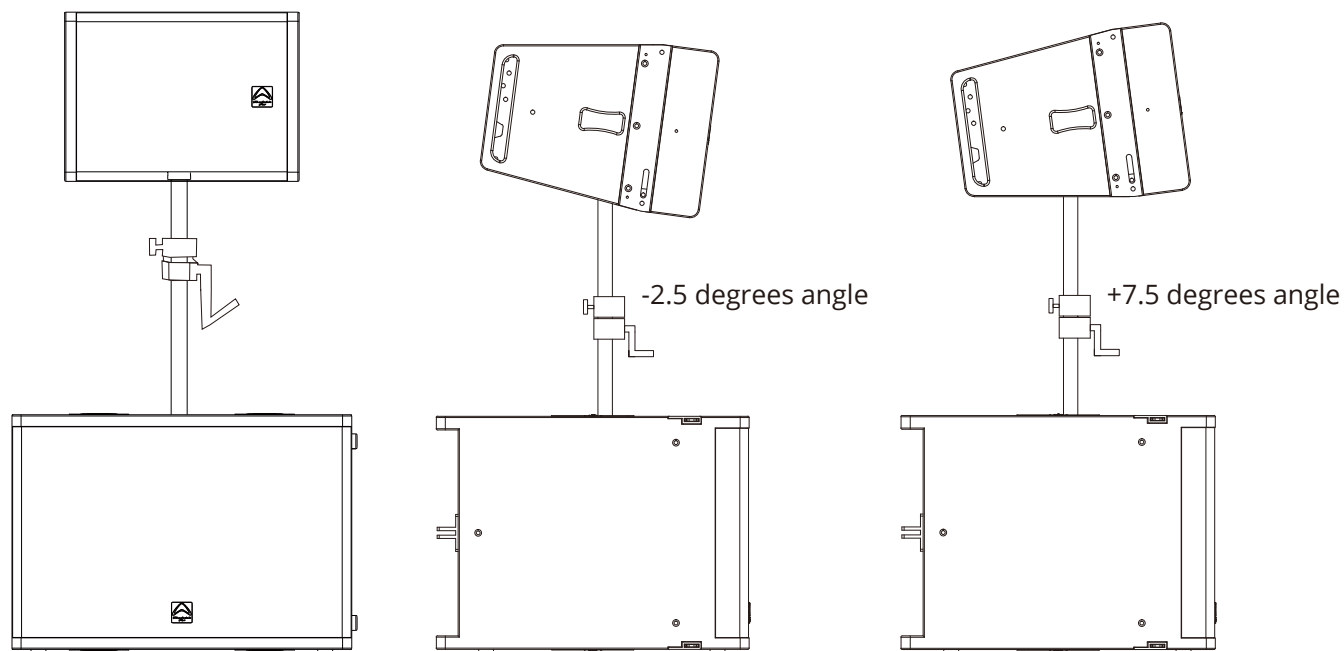




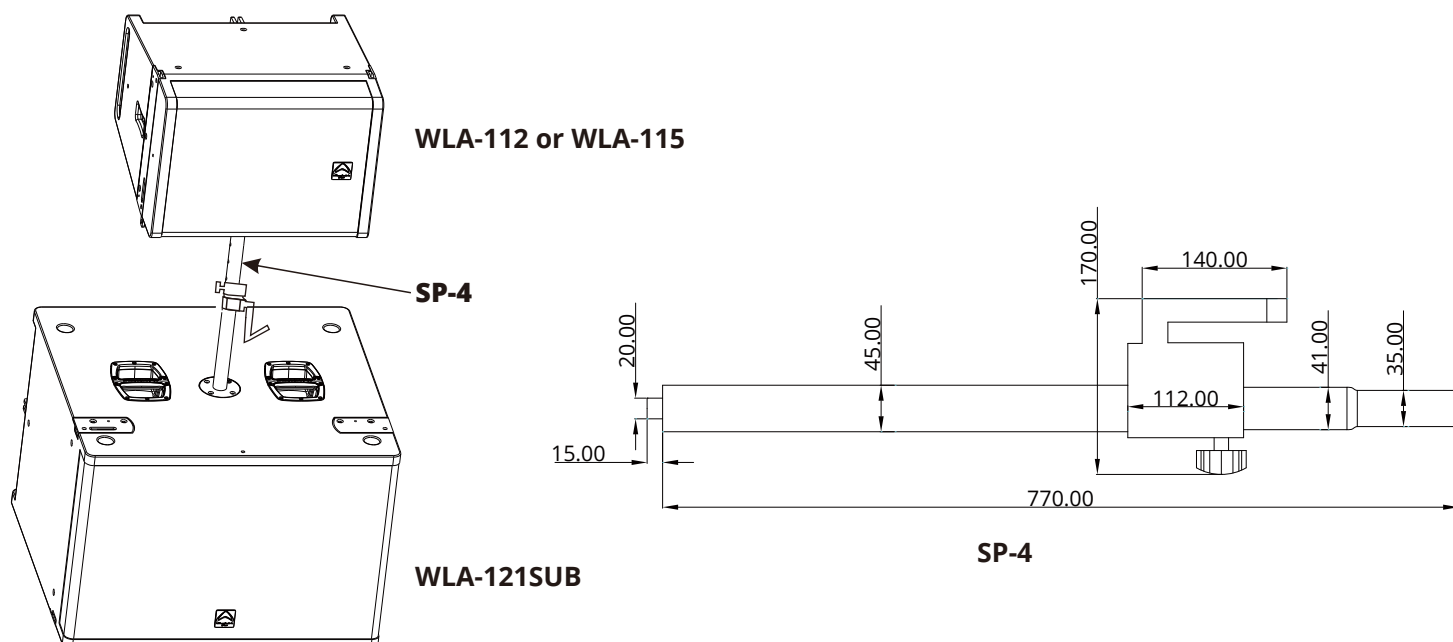
# Configurations

## 3 - SP-4 pole

Using the optional SP-4 pole to connect a WLA-112 or a WLA-115 to the WLA-121SUB



WLA-121SUB + 1 x WLA-112 or 1 x WLA-115



### **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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