

LA122A/LA122WA
Active 2-Way Compact
Line Array Element
USER MANUAL

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INTRODUCTION

Thank you for purchasing a NEXT LA122A/LA122WA Line Array element. This manual will provide you with useful and important information about your NEXT LA122A/LA122WA element. Please devote some time reading this manual and keep it at hand for future reference. NEXT-proaudio is concerned with your safety and well-being, so please follow all instructions and heed all warnings. Also, a better understanding of some specific features of the LA122A/LA122WA line array element will help you to operate your system to its full potential. With a continuous evolution of techniques and standards, NEXT-proaudio, reserves the right to change the specifications of its products without early warning. For the most current data, please visit our website: www.next-proaudio.com

UNPACKING

Each NEXT LA122A/LA122WA line-array element is built in Europe (Portugal) by NEXT-proaudio, to the highest standard and thoroughly inspected before it leaves the factory. When unpacking the NEXT LA122A/LA122WA, examine it carefully for any signs of possible transit damage and inform your dealer immediately if any such damage is found.

It is suggested that you retain the original packaging so that the system can be repacked in the future if necessary. Please note that NEXT-proaudio and its authorized distributors cannot accept any responsibility for damage to any returned product using non-approved packaging.

LA122A/LA122WA OVERVIEW

The LA122A/LA122WA is part of the NEXT-proaudio LA series. It's a compact line array element that incorporates an impressive battery of high technology features that makes it able to achieve an unprecedented level of performance on compact line array systems.

The LA122A/LA122WA incorporates a special 12" low frequency transducer employing a 75mm voice coil and neodymium magnet motor assembly. High frequency reproduction relies on the exceptional characteristics of two 1.4" neodymium compression drivers designed for use in applications where high SPL and low distortion are required. A titanium diaphragm featuring a 65mm copper-clad, aluminium flat-wire voice coil, yields high sensitivity, low distortion and extended frequency response.

The two HF drivers are loaded by a wave converter with path length equalization, the ICWG, that transforms the spherical waves into cylindrical isophasic waves coupling seamlessly with the other high frequency transducers of the array. For maximum flexibility, this line-array element is available in two different coverage angles configuration: 90° horizontal by 8° vertical (LA122A) and 120° horizontal by 15° vertical (LA122WA). A combination of these modules provides optimum vertical coverage for any application.

The integration with the new 1650 Wrms DPAmplifier makes these systems even more versatile. With each unit having its own DSP and amplifier, all interconnected and individually controlled, new possibilities are opened for new and innovative modes of operation.

SAFETY FIRST

It's important that loudspeaker systems are used in a safe manner. Please take some time to review the following points concerning safe use of the NEXT LA122A/LA122WA line array element.

DANGER – HEARING DAMAGE



LA Series systems can produce extremely high sound pressure levels and should be used with care. Hearing loss is cumulative and can result from levels above 90dB if people are exposed for a long period. Never stand close to loudspeakers driven at high levels.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER
NO USER SERVICEABLE PARTS INSIDE
REFER SERVICE TO QUALIFIED PERSONNEL

GROUND STACKING

- Always ensure that the floor or structure where the stack will be placed is even and can withstand the weight of the complete stack.
- Do not stack speakers too high, especially outdoors where winds could topple the stack.
- Place cables in a way that they do not present a trip hazard.
- Do not place any objects on top of the stack, they can fall accidentally and cause injuries.
- Do not attempt to move the enclosures while connected.
- Try not to operate the LA122A/LA122WA under heavy rain or moisture, it is weather-resistant but not completely “weather-proof”.
- Do not expose the systems to extreme heat or cold conditions to prevent component damage.

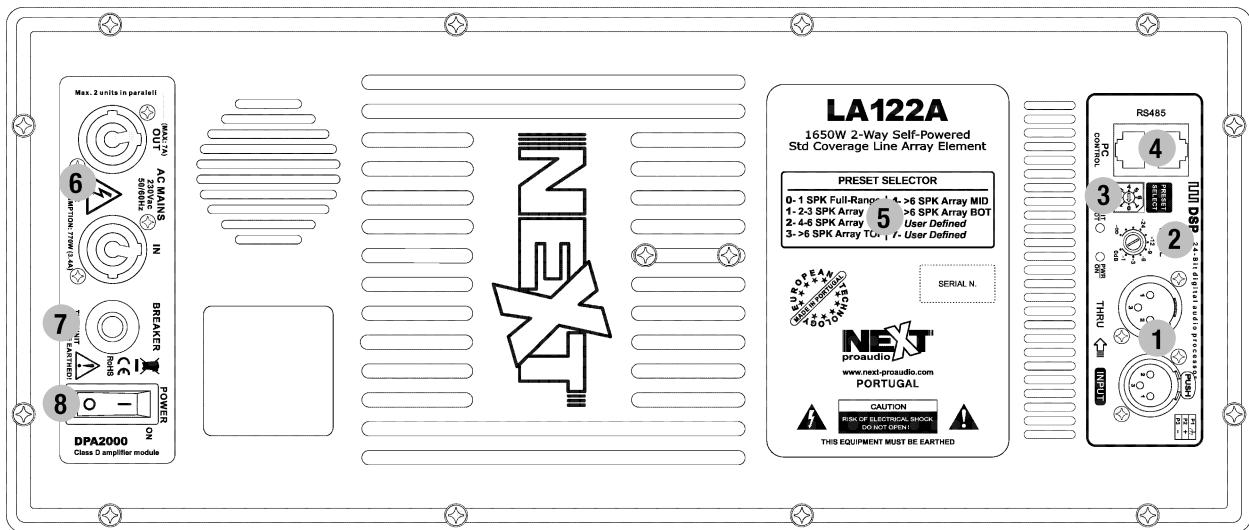
RIGGING AND SUSPENSION

- Before rigging or suspending NEXT LA122A/LA122WA systems, inspect all components and all hardware for any signs of damage or missing parts.
- If you find any damaged, corroded or deformed parts, do not use them, replace them immediately.
- Do not use hardware that isn't load rated or that its' rating is not enough to handle the system's weight with a good safety factor (4 minimum). Don't forget that the hardware won't just hold the systems weight. It must be sturdy enough to handle dynamic forces like winds and other, without any part deformation. NEXT-Proaudio advises customers to contact a licensed, professional engineer regarding equipment installation.
- NEXT LA122A/LA122WA system installation should only be carried out by qualified personnel.
- Always use adequate protective clothing and equipment to prevent possible injuries.
- Only install the systems on solid, levelled ground and isolate the surrounding area during installation and operation, to prevent general public presence near the systems.
- Be sure you understand all local and national regulations regarding equipment installation.
- Failure to comply with these instructions may result on injury or death.

LA122A/LA122WA AMPLIFIER

The heart of the new powered line-array series is a powerful, light weight, highly efficient Class D power amplifier module, with switch mode power supply, that delivers an impressive sonic punch with perfectly balanced, rich and transparent sound at any volume. The integrated DSP with A/D-D/A low noise converters provides 8 selectable memories (6 factory defined and 2 user defined) that can be accessed by an easy selector, located on the module front panel or real time edited by a PC, using the supplied SOUNDWARE software, via USB remote control. This allows to easily customize the sound program, for various applications.

With the SOUNDWARE software it is possible to edit each one of the 6 pre-loaded configurations and store it in any of the 2 free memories. Editable parameters are input equalization, input delay, input High-pass/Low-pass filters and the "Bass Enhancer" function. A total of 255 units can be controlled simultaneously by the software.



AMPLIFIER LAYOUT:

- | | |
|-----------------------------------|--------------------------------|
| 1- Signal Input/Output | 5- List of Available Presets |
| 2- Level Adjustment Potentiometer | 6- AC Mains Power Input/Output |
| 3- Preset Selector | 7- Protection Circuit Breaker |
| 4- RS485 Communication Interface | 8- Power On/Off Switch |

LA122A Preset List:

- 0- 1 SPK Full-Range: Flat Response for Full-Range application (1 single cabinet)
- 1- 2-3 SPK Array: Flat Array response for small arrays (use when making arrays from 2 to 3 cabinets)
- 2- 4-6 SPK Array: Flat Array response for medium size arrays (use when making arrays from 4 to 6 cabinets)
- 3- >6 SPK Array TOP: HF contour compensation for long distances (use for big arrays (more than 6) on the top cabinets)
- 4- >6 SPK Array MID: Flat Array response for big arrays with more than 6 cabinets (use on the middle array's cabinets)
- 5- >6 SPK Array BOT: HF contour compensation for short distances (use for big arrays (more than 6) on the bottom cabinets)
- 6 / 7- User Defined: Free memory for user storage

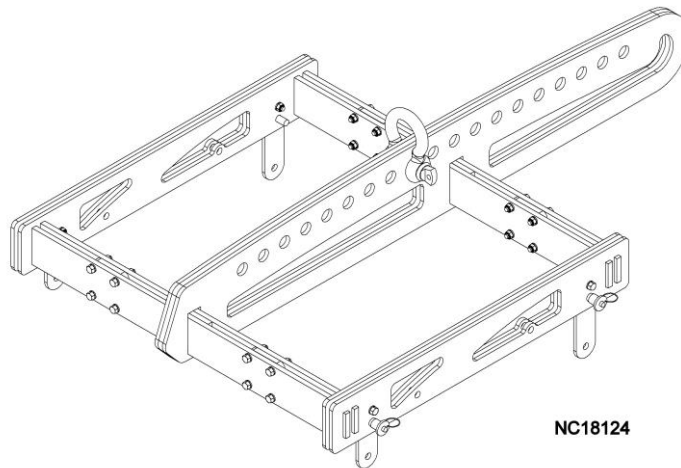
* All the Array presets have a 24dB/oct Linkwitz-Riley High Pass Filter set to 80Hz

RIGGING SYSTEM

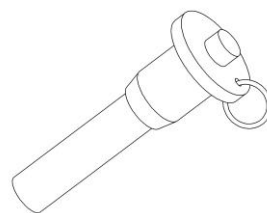
The LA122A/LA122WA has a simple and intuitive four-point rigging system. It has 2 articulated joints on the front and 2 rear adjustable joints. The rear joints let you define the angle between two elements.

The LA122A is the main model. It will be the core of any LA122A/LA122WA system. It has a controlled 8° vertical dispersion and its' angle is adjustable from 0° to 8° relative to the upper element. LA122WA is a wider dispersion element (15°), normally used as the last element on the array, pointing to the nearest public (LA122WA can't be hanged right after LAs118A, a LA122A must be hanged in between).

In order to suspend a LA122A/122WA, you'll need to use the NEXT NC18124 frame. This suspension frame is built specifically to suspend the LA122A/122WA and/or LAs118A¹ elements. It makes possible the suspension of up to 16 LA122A/122WA elements.



You will also need the NEXT VP60052 lock pins.

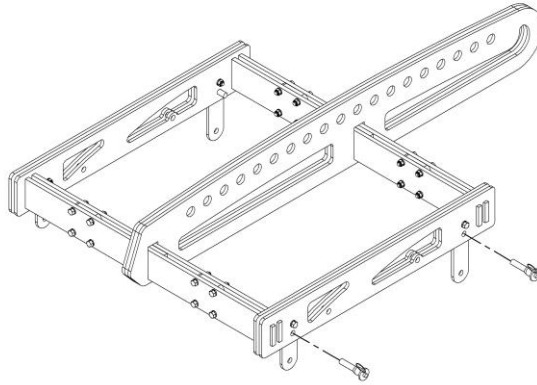


VP60052

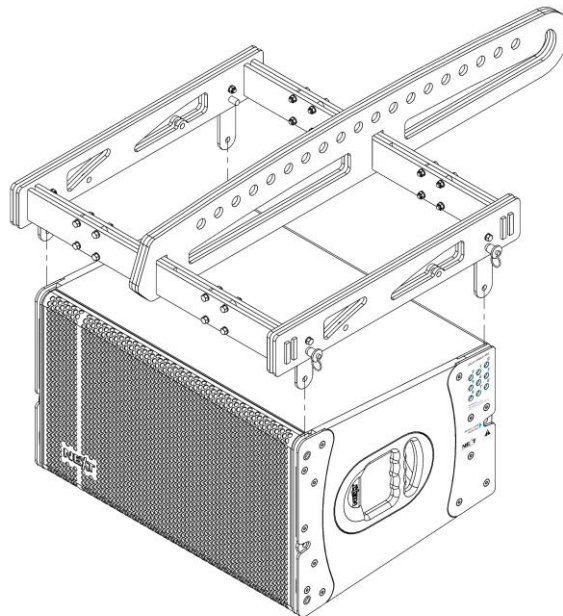
Never use any lock pins but the ones supplied by NEXT-Proaudio. These pins are built to withstand the system's weight with a good safety factor. They are also built with very specific dimensions. On the other hand, before you suspend the system, please read the instructions in the "Safety first" chapter.

¹ For information about NEXT LAs118A please look into LAs118A manual or visit www.next-proaudio.com

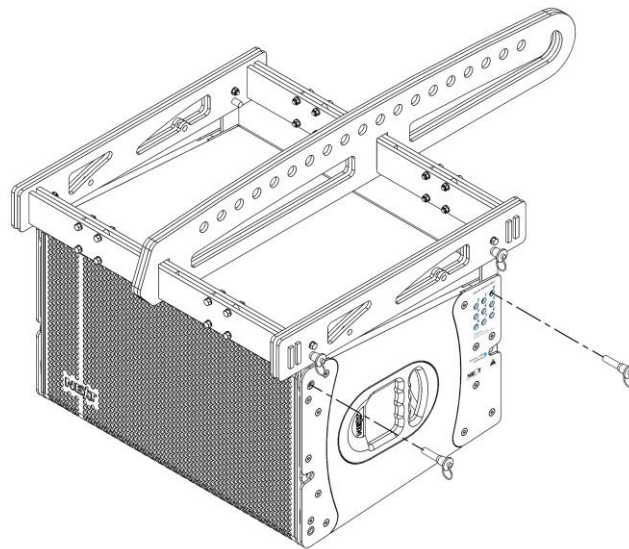
Let's assemble a typical LA122A array system consisting of four LA122A with angle positioning of 0°, 2°, 4°, 8° from top to bottom. After reading and understanding the "Safety first" chapter, follow the instructions below:



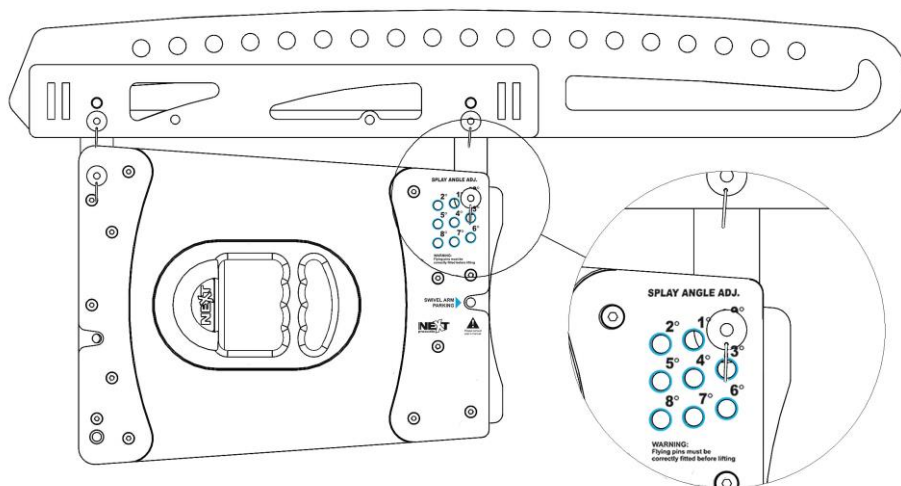
Step 1 - Pull the frame's swivel arms out of the parking position and insert a safety locking pin in each swivel arm locking position as shown in the image above. Verify that the locking pins are secured.



Step 2 - With the swivel arms locked in place, align and insert them in the LA122A as shown above.

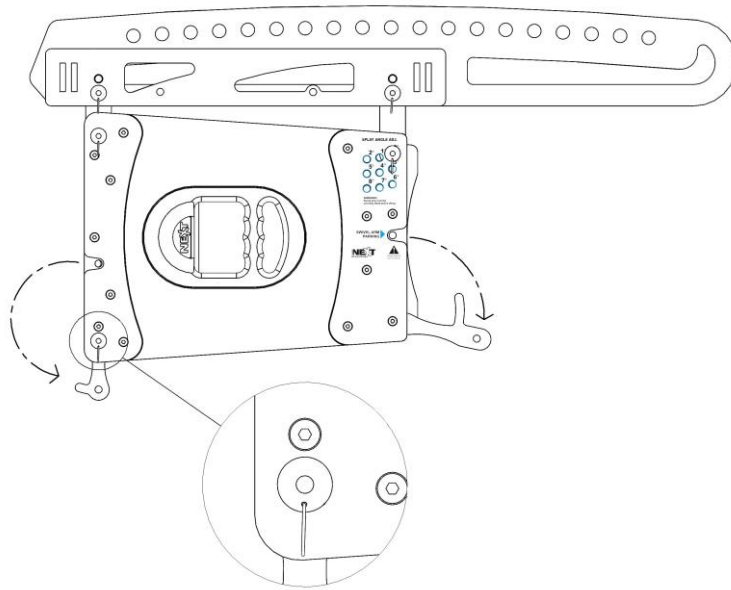


Step 3 - Insert a locking pin on both front swivel arms first, then lift the frame at the back until the swivel arm is aligned with the 0° hole. Insert now lock pins at these holes on both sides of the element and verify they're secure.

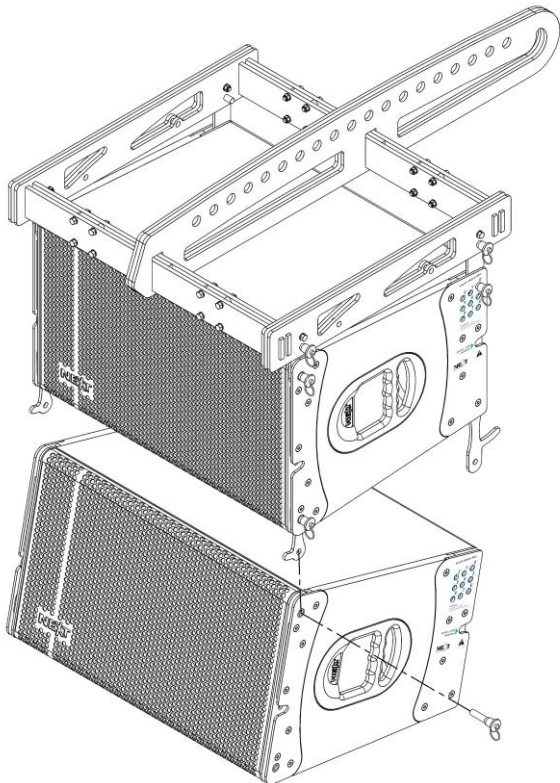


Attention:

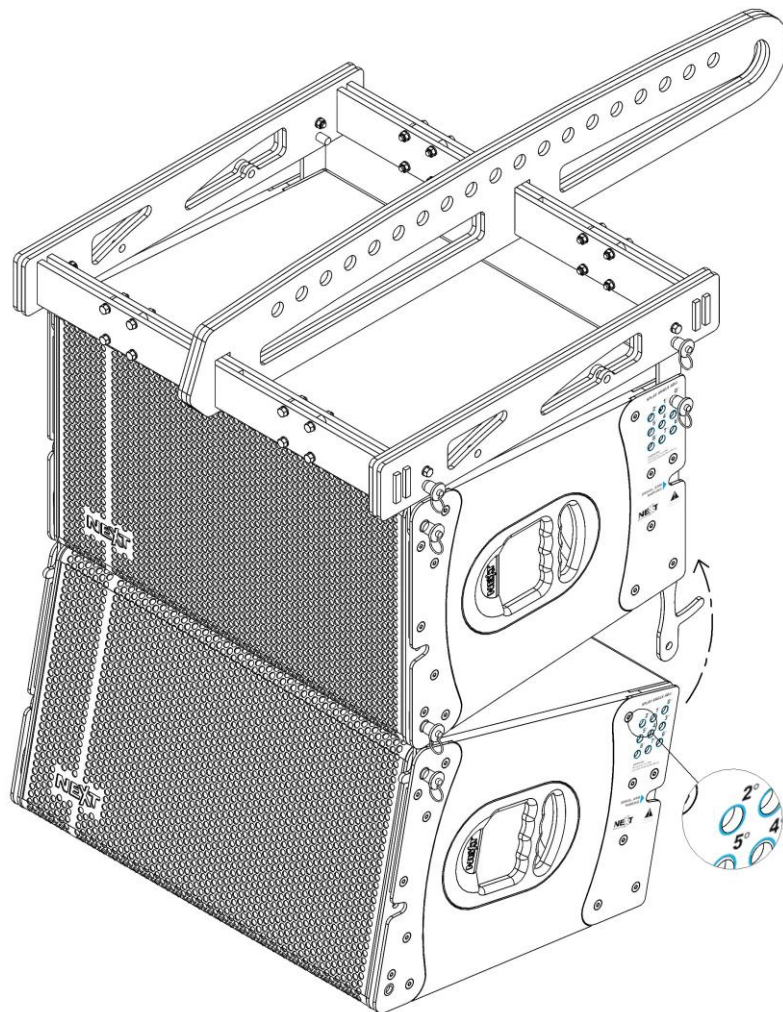
Between the Flying Frame and the first LA122A the splay can only be configured on the 0° position. If any initial inclination is needed move the shackle to the appropriate hole on the centre bar.



Step 4 - Pull the LA122A swivel arms out. On the front swivel arms, insert the locking pin. This will assure that the centre of rotation of the next element is fixed. Check if the locking pin is secured.



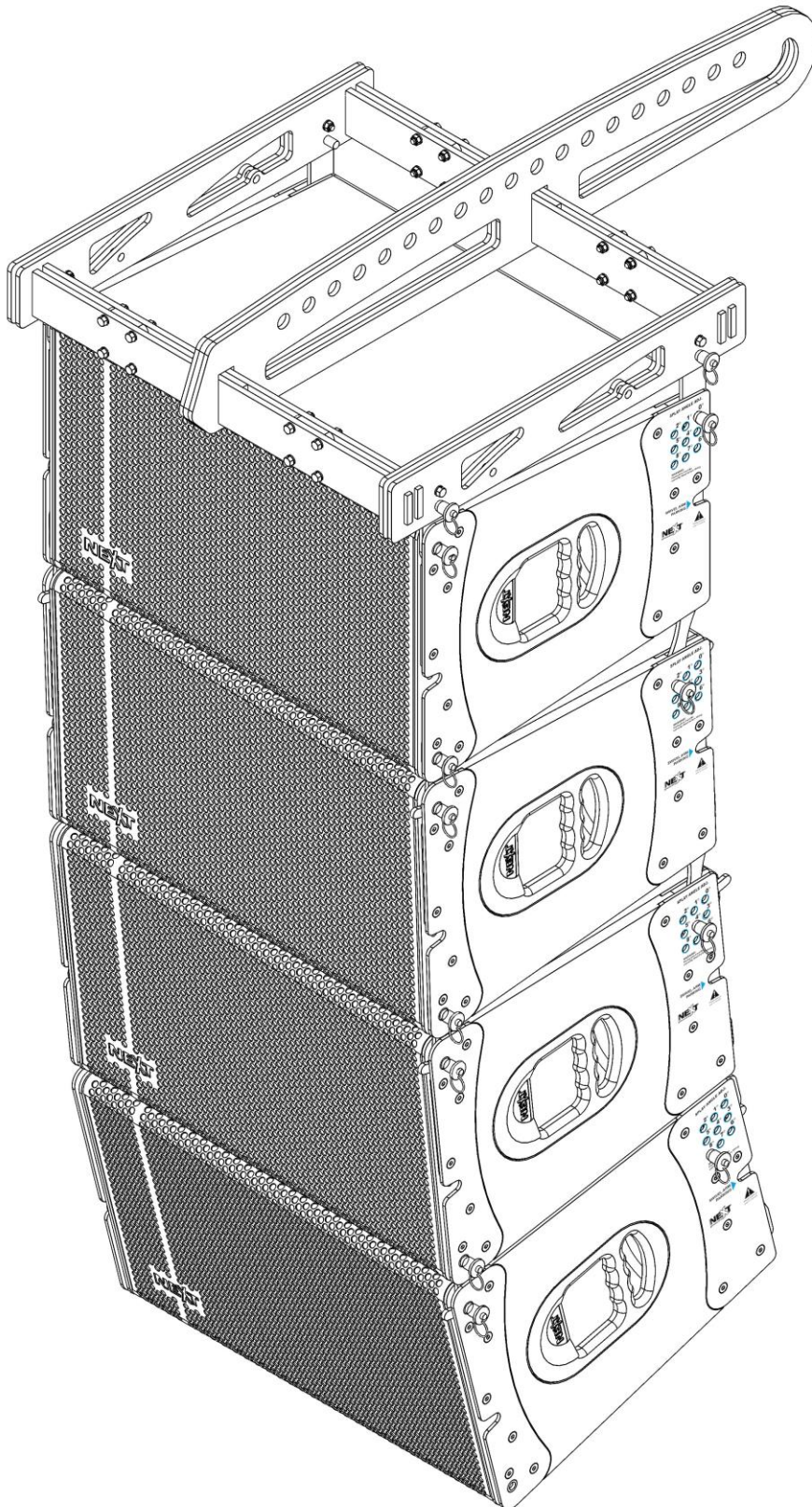
Step 5 - Insert the next LA122A in the array starting with the front side and insert the front locking pins. Check if the locking pins are secured.



Step 6 - With the front swivel arms locked in place you can now rotate the element and with the aid of the handles on the rear swivel arms lock the element with a splay angle of 2°. Insert the locking pins and check that they are secured.

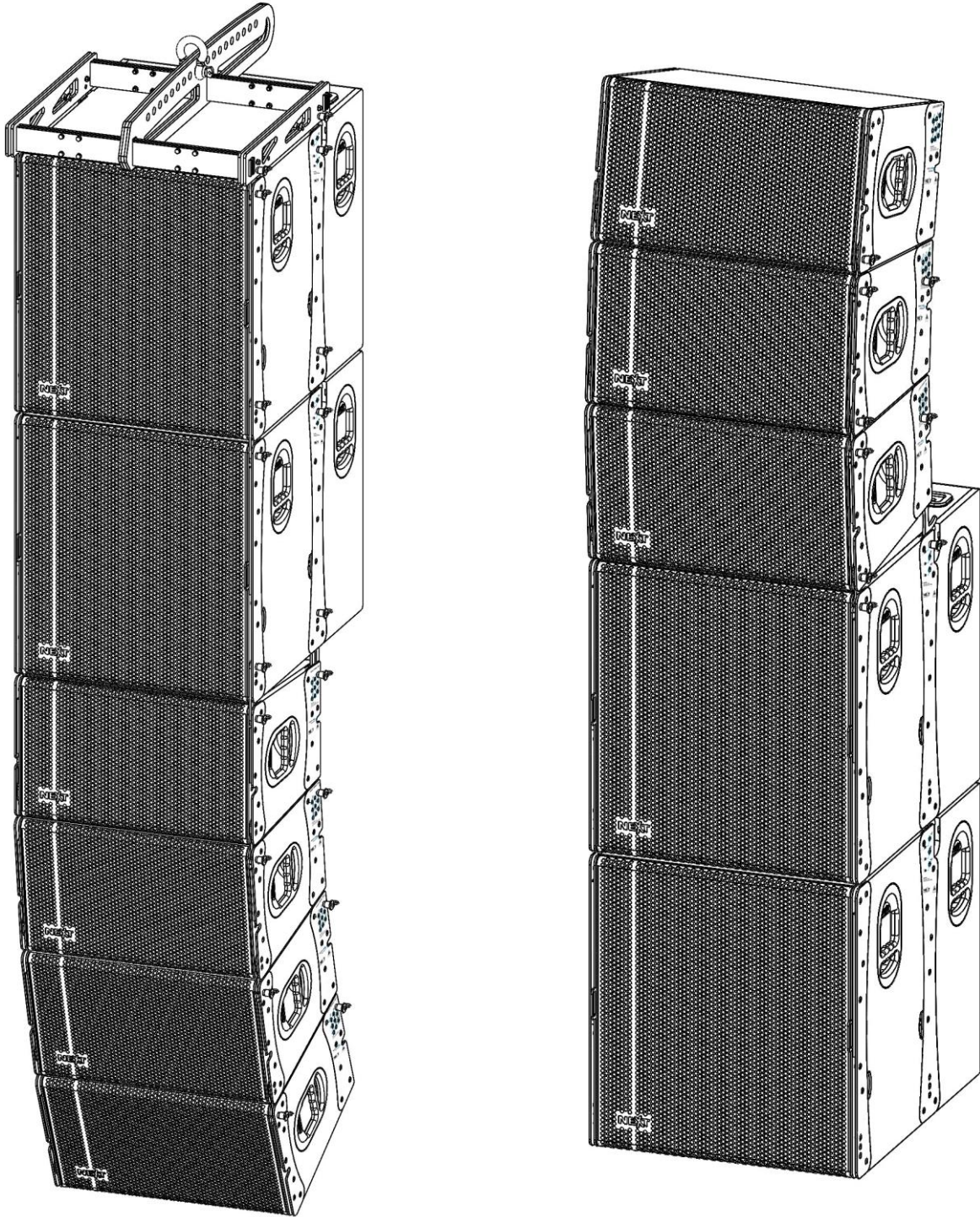
Step 7 - Repeat steps 4 to 6 for the next two elements using the 4° and 8° splay angle adjustment positions respectively.

Here's an image of the full system assembly:

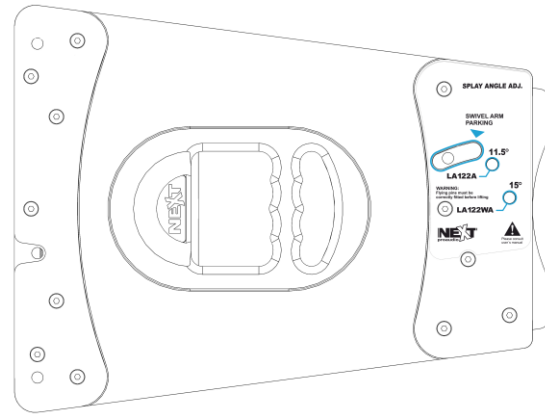


Also, some other configurations can be done using LA122A and Las118A. The flying system is ready to attach subwoofers and full-range speakers on the same array.

The mixed array, with subwoofers and full-range speakers, can be either flown or stacked. The left-most picture is a flown array. The right-most picture is a stacked array.



The LA122WA is a little different from the LA122A. The principle is the same, but instead of eight possible splay angles it has only two splay positions, those differ according to the element that is mounted above it. When it is assembled below a LA122A, for example as a nearfield speaker, the position will be 11.5°. When coupled to another LA122WA, the position will be 15°. We can see this information on the panels of the element as shown on the image.

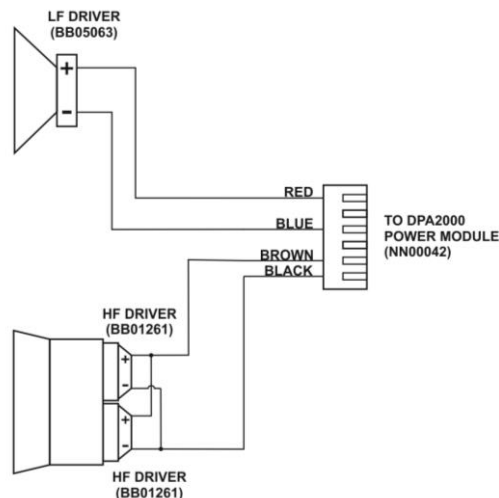


TROUBLESHOOTING

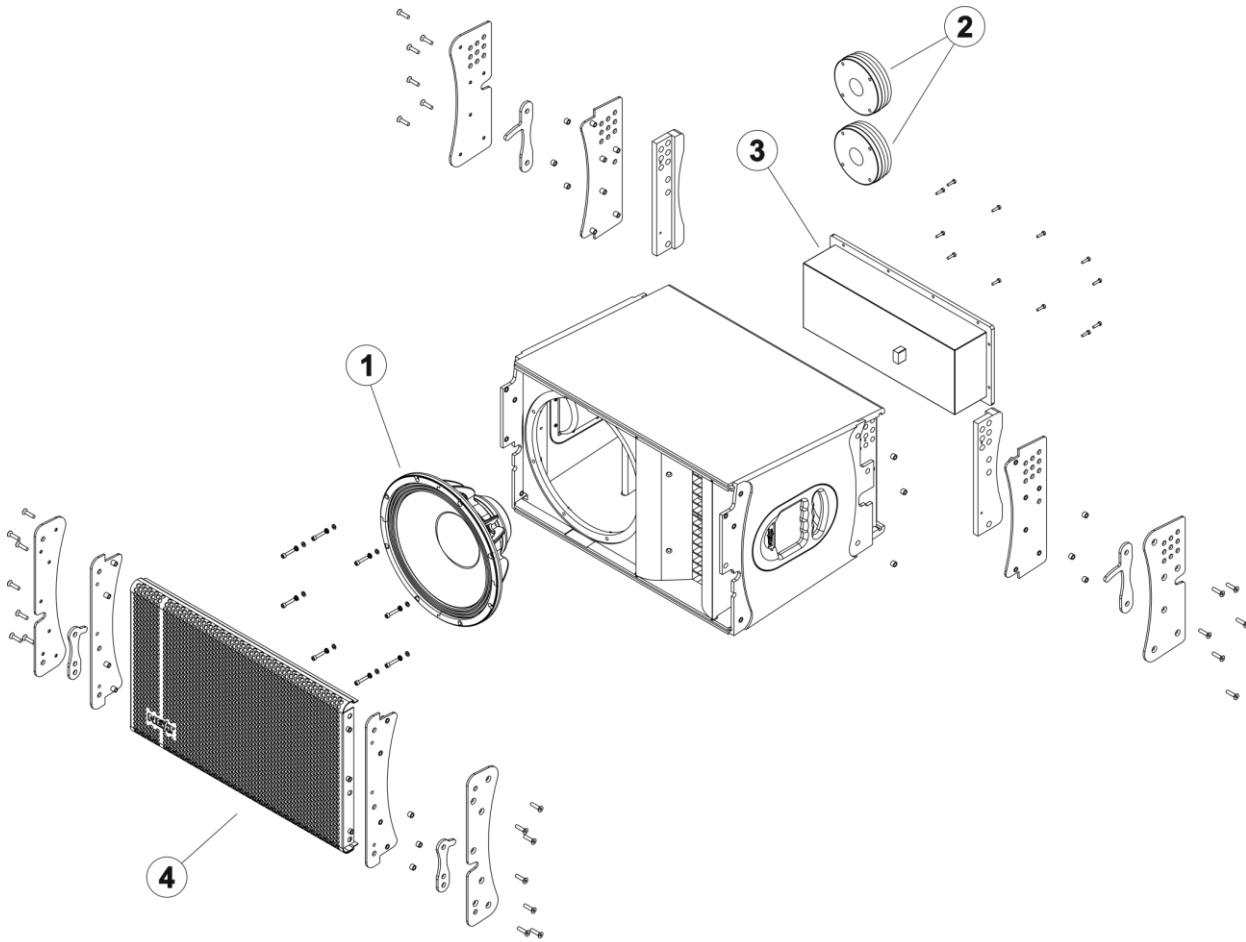
Simple troubleshooting does not require sophisticated measurement equipment and can be easily undertaken by users. The technique should be to segment the system in order to identify the faulty system component: signal source, controller, amplifier, loudspeaker or cable? Most installations are multi-channel, it is often the case that one channel works and others do not. Trying different combinations of system elements can usually help to isolate and locate the fault.

Some cabinet faults can be quite easily identified and corrected by the user. A simple sweep with a sine wave generator can be very helpful though it MUST be made at a fairly low level to prevent damage to the speakers. A sine wave sweep can help find:

- Vibrations due to loose screws.
- Air-leak noises: check that no screws are missing, particularly where the accessories attach to the cabinet.
- Vibrations due to a front grille badly positioned on the quick release fixings.
- Foreign object that has fallen into the cabinet after repair or through the ports.
- Internal connection wires or absorbing material touching the loudspeaker diaphragm: check by removing the bass loudspeaker.
- Loudspeaker not connected or phase reversed following a previous inspection, test or repair.



LA122A EXPLODED VIEW



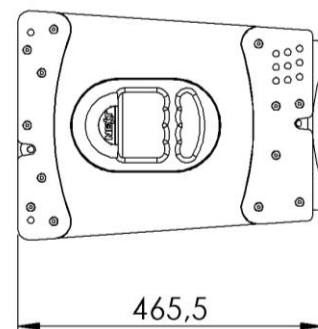
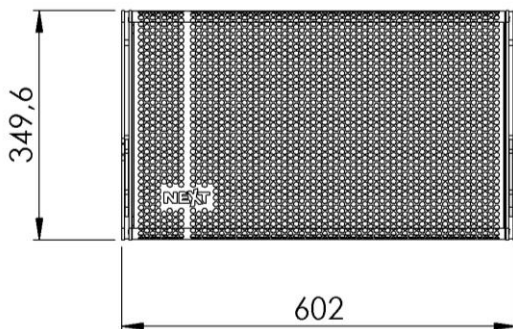
PARTS LIST

Item	Part Number	Qty	Description
1	BB05063	1	12" Low frequency Speaker
2	BB01261	2	1.4" High Frequency Driver
3	NN00042	1	DPA2000 Amplifier Module
4	NC01124	1	Front Grille

TECHNICAL SPECIFICATIONS

NEXT LA122A/LA122WA TECHNICAL SPECIFICATIONS		
	LA122A	LA122WA
Speaker Type	Active 2-Way Line Array Element	
Frequency Response (-6dB)	58Hz – 19kHz	
Calculated Max. SPL (Continuous/Peak)	129dB/135dB	128.5dB/134.5dB
Horizontal Coverage Angle (-6dB)	90° or 120° (with optional accessory)	120°
Vertical Coverage Angle (-6dB)	8°	15°
Components	LF - 1 x 12" / 3" Voice Coil Neodymium B&C Custom Speaker HF - 2 x 1.4" / 2.5" Voice Coil B&C Custom Compression Driver	
Amplifier Technology	2-Channel Switched Mode Class D with DSP	
LF Section Power (RMS/Prog./Peak)	1100W/1480W/2960W	
HF Section Power (RMS/Prog./Peak)	550W/740W/1480W	
Controller	PC Controlled Networkable DSP 24bit/48kHz	
System Presets	6 Factory and 2 User, selectable via software or rear panel switch	
DSP Adjustable Parameters	6 PEQ, Delay, HPF, LPF, Bass Enhancer, Level, Polarity, Mute	
Connectors	Signal: 2 x XLR / Power: 2 x Powercon / PCcontrol: 2 x RJ45 (RS485)	
AC Operating Voltage	180V-245VAC	
Nominal Power Consumption	770W	
Fittings	Adjustable Rigging System (0° to 8°)	Adjustable Rigging System (11.5° or 15°)
Construction	15mm 13-ply birch plywood	
Finish	Semi-matte textured paint	
Grille	Black powder coated perforated grille	
Dimensions WxHxD (mm)	602 x 350 x 465	
Net Weight	36kg	35.6kg

DIMENSIONS



WARRANTY

NEXT-proaudio's products are warranted, by NEXT-proaudio, against manufacturing defects in materials or craftsmanship over a period of 5 years for the passive loudspeakers, and 2 years for all other products counting from the date of original purchase. The original receipt of purchase is mandatory for warranty validation purposes, and the product must have been bought from a NEXT-proaudio authorized dealer.

The warranty can be transferred to a subsequent owner during the warranty period; however, this cannot extend the warranty period beyond the original warranty period of five years from the original date of purchase stated on the NEXT-proaudio's invoice.

During the warranty period NEXT-proaudio will, at its own discretion, either repair or replace a product which prove to be defective provided that the product is returned in its original packaging, shipping prepaid, to an authorized NEXT-proaudio service agent or distributor.

NEXT-proaudio cannot be held responsible for defects caused by unauthorized modifications, improper use, negligence, exposure to inclement weather conditions, act of God or accident, or any use of this product that is not in accordance with the instructions provided by this manual and/or NEXT-proaudio. NEXT-proaudio is not liable for consequential damages.

This warranty is exclusive and no other warranty is expressed or implied. This warranty does not affect your statutory rights.

NOTES

CONTACTS

In case of any doubts or any information just:

Write us:

NEXT-PROAUDIO
Rua da Venda Nova, 295
4435-469 Rio Tinto
Portugal

Contact us:

Tel. +351 22 489 00 75
Fax. +351 22 480 50 97

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info@next-proaudio.com

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