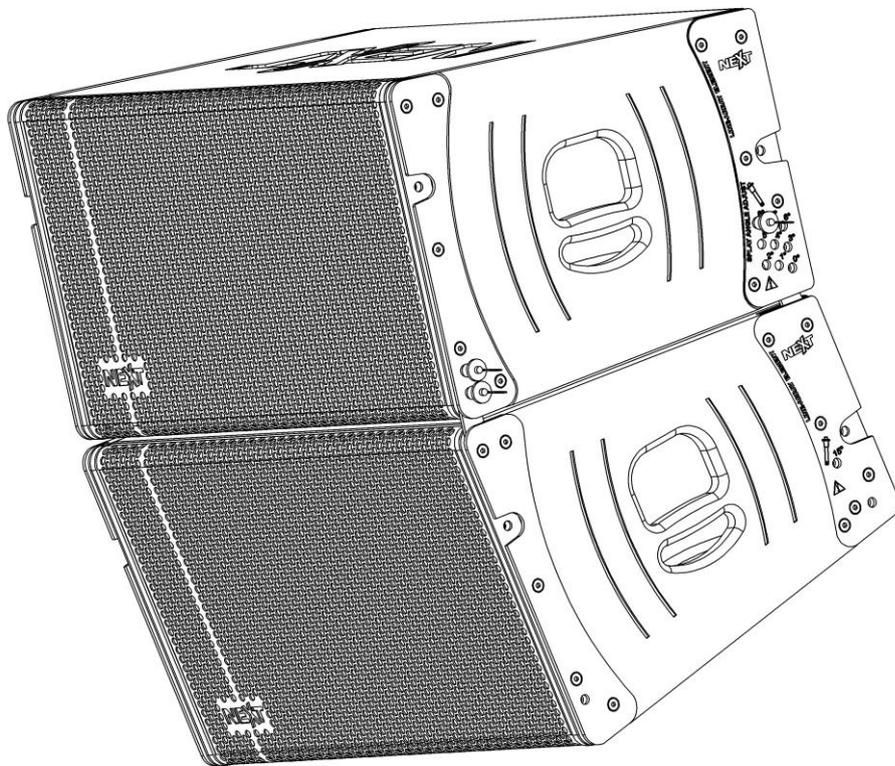


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LA122/LA122W

**2-Way Compact
Line Array Element**

USER MANUAL

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INTRODUCTION

Thank you for purchasing a NEXT-proaudio LA122/LA122W 2-Way Compact Line Array Element. This manual will provide you with useful and important information about your NEXT LA122/LA122W 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 LA122/LA122W Line Array element will help you to operate your system to its full potential.

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 LA122/LA122W Line Array element.

DANGER – HEARING DAMAGE



NEXT LA Series systems are capable of producing 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.

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 LA122/LA122W under heavy rain or moisture, it is weather-resistant but not completely “weather-proof”. Also do not expose the systems to extreme heat or cold conditions to prevent component damage.

RIGGING AND SUSPENSION SAFETY CONSIDERATIONS

Before rigging or suspending NEXT LA122/LA122W 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. Don't forget that the hardware won't just hold the systems weight. It has to be sturdy enough to handle dynamic forces like winds without any part deformation. NEXT-proaudio advises customers to contact a licensed, professional engineer regarding equipment installation.

NEXT LA122/LA122W 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. Also, be sure you understand all local and national regulations regarding equipment installation. Failure to comply with these instructions may result on injury or death.

UNPACKING

Each NEXT LA122/LA122W 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 LA122/LA122W, 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 through the use of non-approved packaging.

LA122/LA122W OVERVIEW

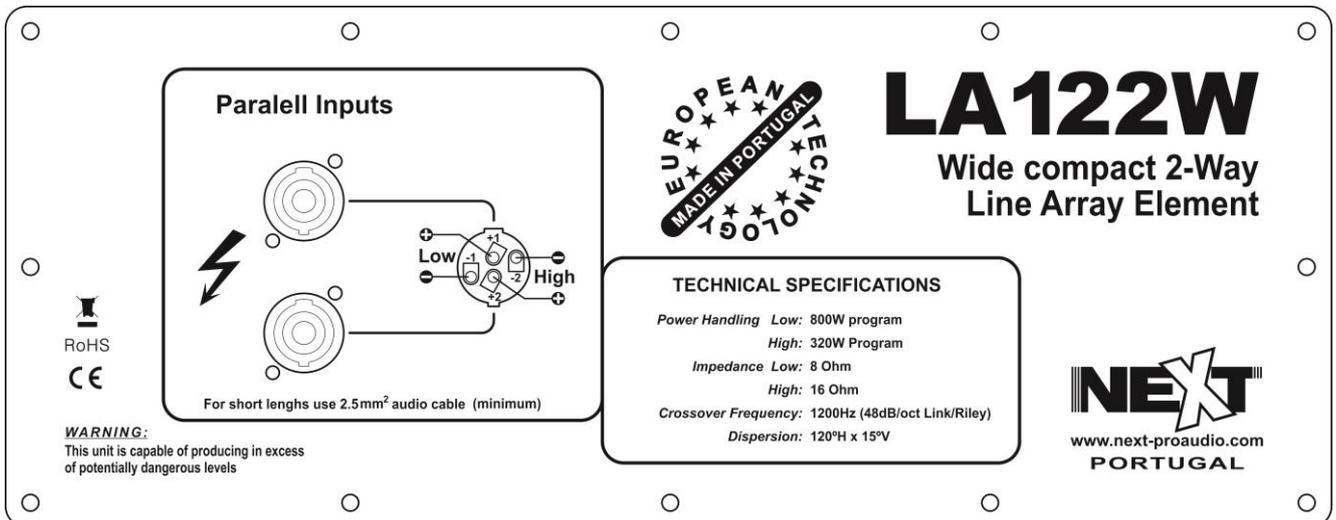
The LA122/LA122W is part of the NEXT-proaudio LA series. It's a compact Line Array element that incorporates an impressive battery of high technology features that makes it achieve an unprecedented level of performance on compact line array systems.

The LA122/LA122W 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: a normal version with 90° horizontal by 8° vertical and a wider version with 120° horizontal by 15° vertical. A combination of these modules provides optimum vertical coverage for any application.

CONNECTIONS AND ELECTRIC DIAGRAM

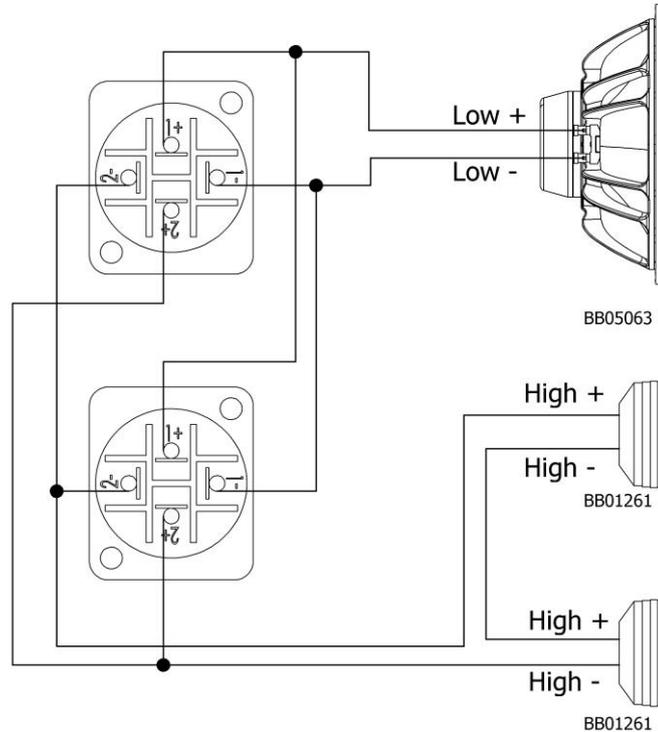
The LA122/LA122W is connected through Neutrik® SpeakON® NL4FC plugs (not supplied). A wiring description is printed on the connections panels located on back of the cabinet.



The 4 pins of the two Neutrik® NL4 SpeakON® sockets are wired in parallel within the enclosure. Either connector can be used to connect to the amplifier or another LA122/LA122W element. Please notice that LA122/LA122W Line Array elements are bi-amp only. They were not designed to work in full-range. See the table and the diagram below:

NL4 PIN	Description
1+	LOW +
1-	LOW -
2+	High +
2-	High -

ELECTRIC DIAGRAM



AMPLIFICATION

Normally, LA122/LA122W systems are also supplied with NEXT power-rack mounts already configured for optimum performance, according to the configuration chosen by the customer. NEXT-proaudio recommends using only NEXT-proaudio approved amplifiers and signal processing units, and only provides signal processing configuration files for approved signal processing units.

The LA122/LA122W element is a passive two way system. The high frequency band is reproduced by two 1.4" drivers connected in serial, having a combined nominal impedance of 16Ω. The low frequency is reproduced by a 12" driver with 8Ω nominal impedance. See the table below for recommended power amplifier power:

2x LA122/LA122W Line Array Element	
Input	Recommended Amplifier (1 channel) ¹
HF	NEXT MA2300 - 600W at 8Ω
LF	NEXT MA3200 - 1200W at 4Ω

¹ - Power ratings are indicated according to the specific load conditions described. For more accurate information on NEXT amplifiers, visit www.next-proaudio.com.

CABLE SELECTING

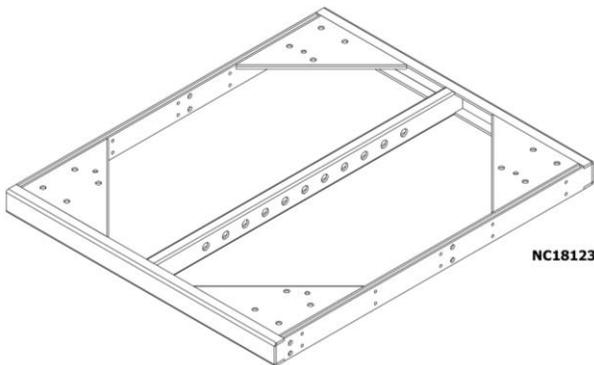
Selecting a cable consists of calculating the correct cable section (size) in relation to the load impedance and the required cable length. A small cable section will increase its serial resistance, which will induce power-loss and response variations (damping factor).

The following table indicates, for 3 common sizes, a cable length with a maximum serial resistance equal to 4% of the load impedance (damping factor = 25):

Cable section	Maximum Length related to load impedance	
	8 Ω	4 Ω
1.5 mm ²	12 m [40 ft]	6 m [20 ft]
2.5 mm ²	20 m [64 ft]	10 m [32 ft]
4 mm ²	32 m [104 ft]	16 m [52 ft]

RIGGING SYSTEM

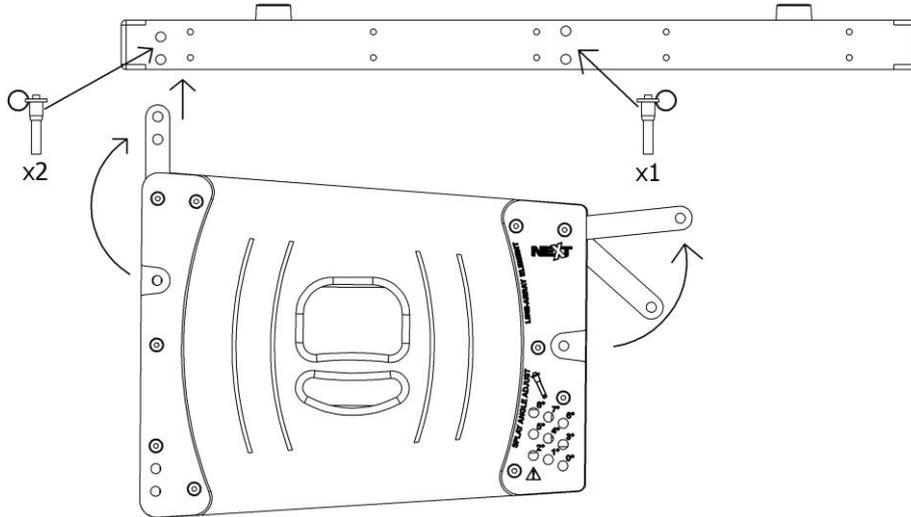
The LA122/LA122W has a simple and intuitive four-point rigging system. It has 2 articulated joints on the front and 2 rear adjustable joints. The rear joints let you define the angle between two elements. The LA122 is the main model. It will be the core of any LA122/LA122W system. It has a controlled 8° vertical dispersion and its angle is adjustable from 0° to 8° relative to the upper element. LA122W is a wider dispersion (15°) element, normally used as the last element on the array, pointing to the nearest public. It has only 2 adjustment positions, 0° and 15°. In order to suspend a LA122/LA122W, you'll need to use the NEXT NC18123 frame. This suspension frame is built specifically to suspend the LA122/LA122W and/or LAs118² elements. It makes possible the suspension of up to 12 LA122/LA122W elements. For more information about the NC18123 frame please refer to NC18123's manual. You will also need the NEXT VP60052 lock pins.



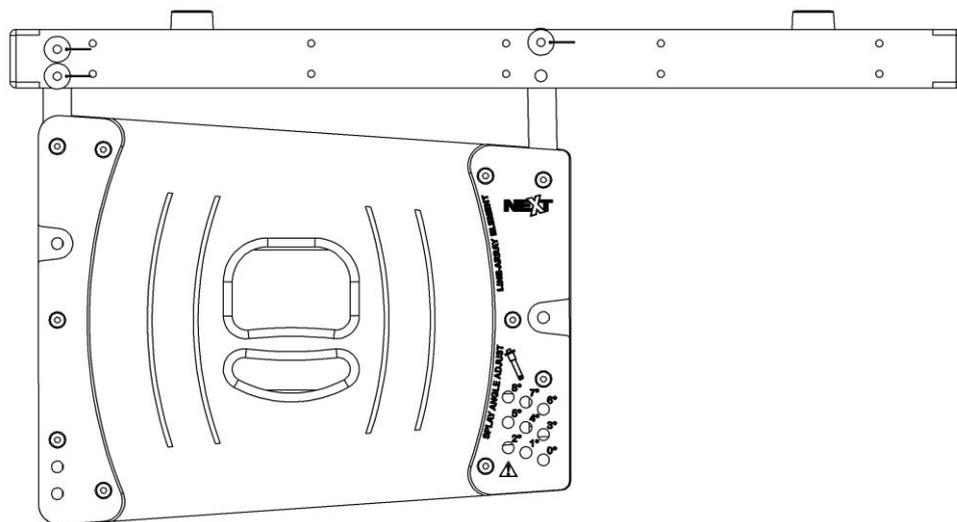
Never use any lock pins but the ones supplied by NEXT-proaudio. These pins are built to withstand the system's weight with a good safety factor. They are also built with very specific dimensions. Also, before you suspend the system, please read the instructions in the "Safety First" chapter.

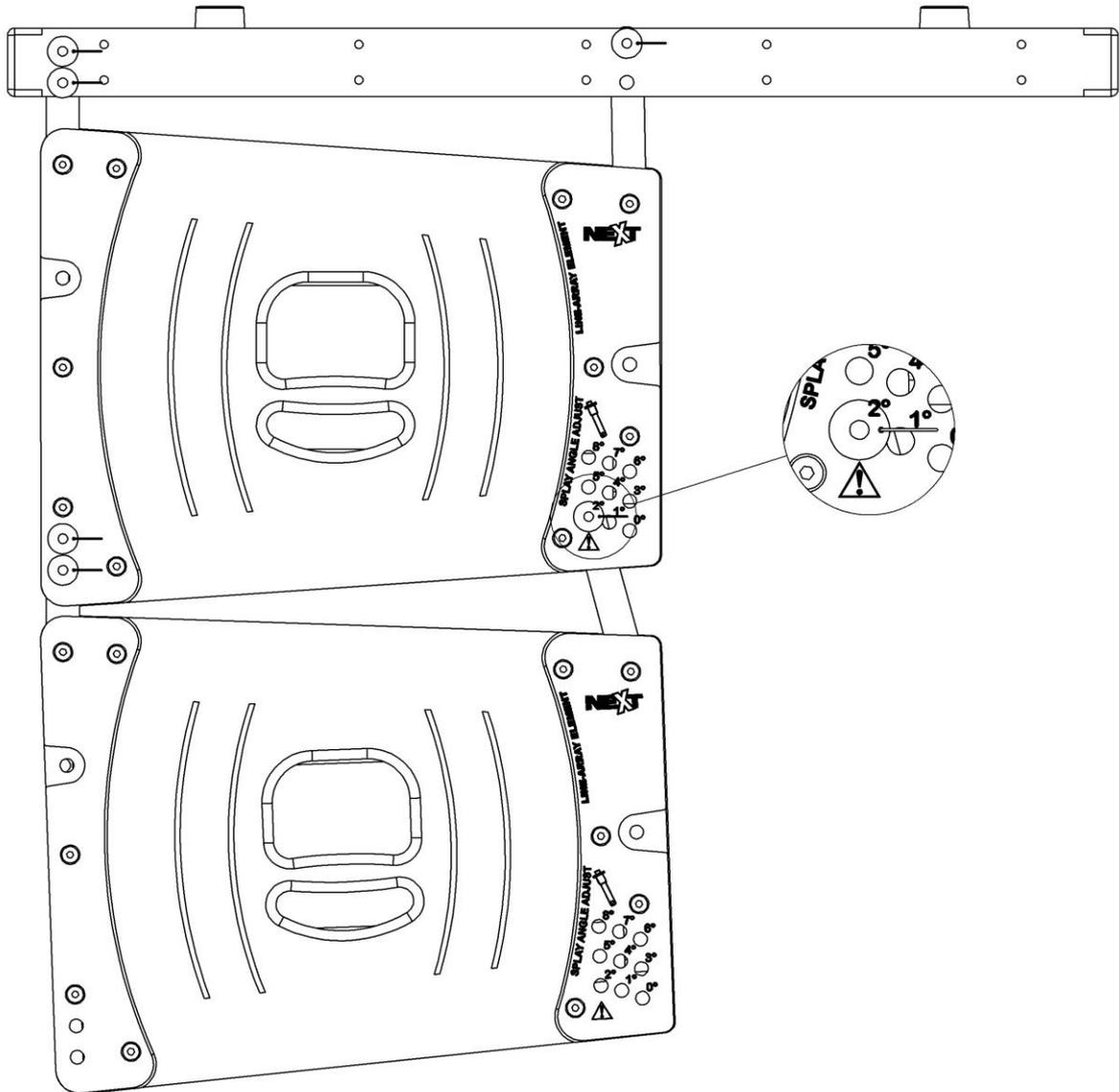
² For information about NEXT LAs118 please look into LAs118 manual or visit www.next-proaudio.com

Let's assemble a typical LA122/LA122W array system consisting of four LA122 and 1 LA122W, with angle positioning of 2°, 4°, 8° and 11.5°. After reading and understanding the "Safety first" chapter, follow the instructions below:

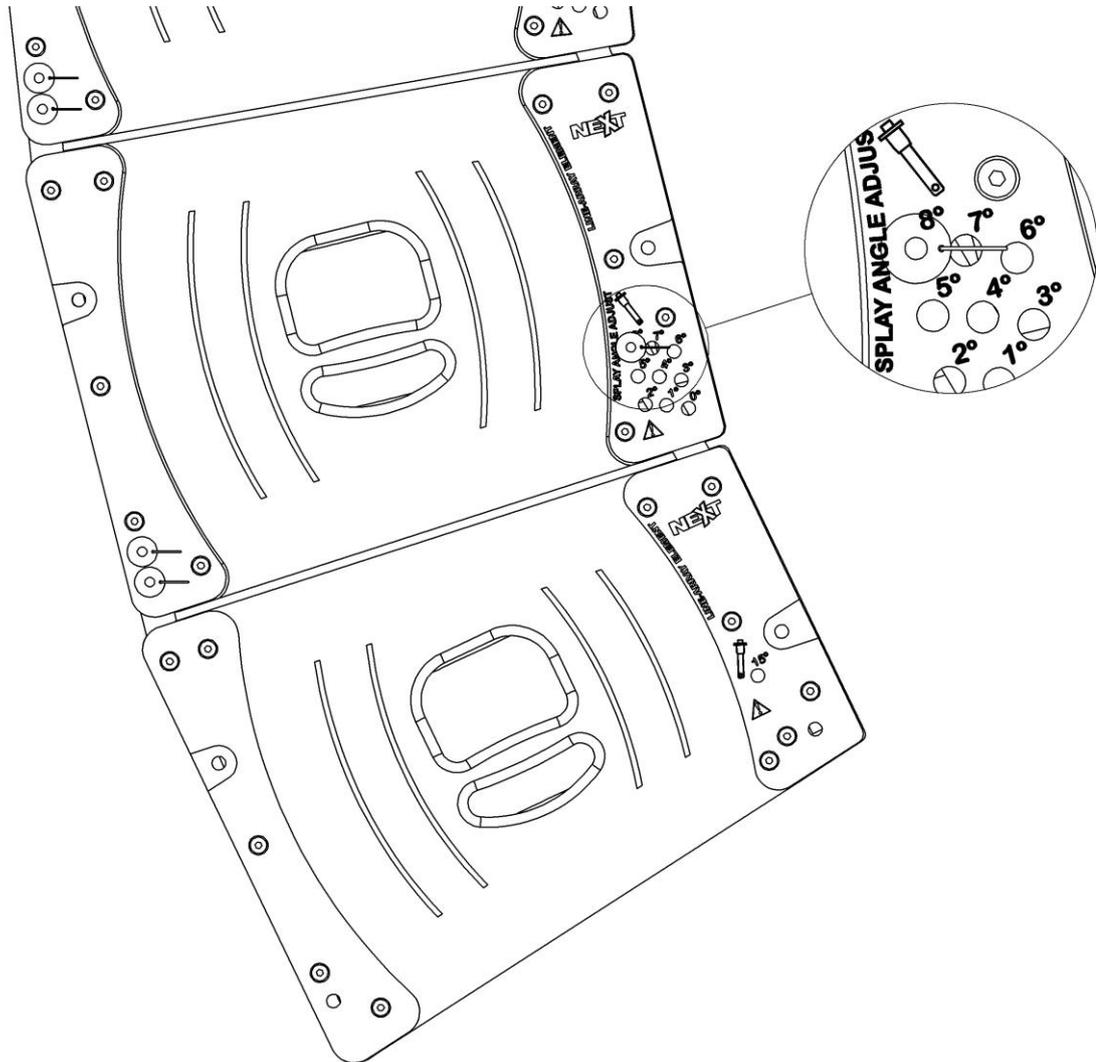


Step1. - Pull the joints out, insert them on the frame and lock them with locking pins. Insert two locking pins on the front joints, and one on the rear joints. To obtain a 0° alignment between the frame and the LA122, you need to lock the rear joints on the upper hole. **Verify that the locking pins are locked.** See below:





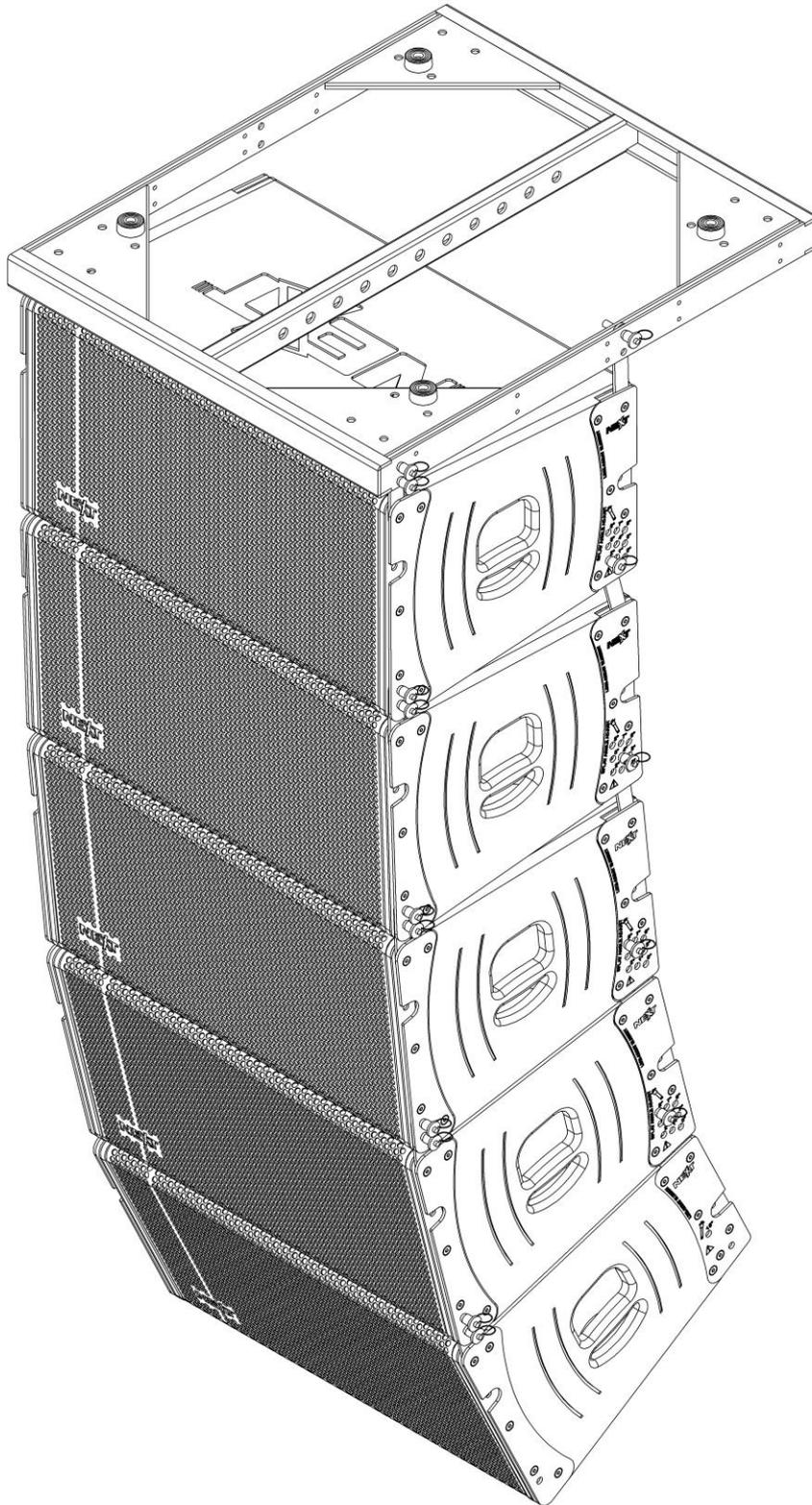
Step 2 - Repeat step 1, this time inserting the LA122 in the previous one. As you can see on the image, the locking pin is inserted in the 2° angle. Repeat the process for the next two LA122 elements for angles 4° and 8°. **Always** verify that the locking pins are locked.



Step 3 - Insert the LA122W on the system in the 8° position. Verify that the locking pin is locked.

Note: The LA122W when coupled with the LA122 and locked on the 8° position, will have a 11.5° positioning relative to the LA122. The 15° positioning is only effective between LA122W.

When the assembling is over, you'll have what you see here:



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.

WARRANTY

NEXT products are warranted, by NEXT-proaudio, against **manufacturing defects** in materials or craftsmanship over a period of 5 years for the loudspeakers, and 2 years for the other components, 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. 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.

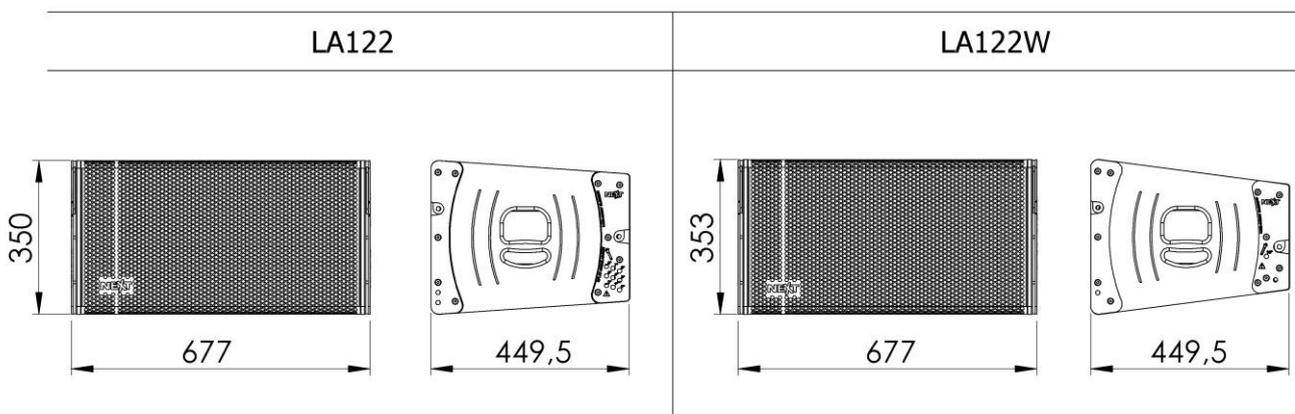
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TECHNICAL SPECIFICATIONS

NEXT LA122/LA122W TECHNICAL SPECIFICATIONS		
Model	LA122	LA122W
Speaker Type	Passive 2-Way Line Array Element	
Frequency Response (-6dB)	58Hz to 19.000Hz	
Horizontal Coverage (-6dB)	90°	120°
Vertical Coverage (-6dB)	8°	15°
Components	LF: 1 x 12" / 3" Voice Coil Custom B&C Speaker	
	HF: 2 x 1.4" / 2.5" Voice Coil Custom B&C Compression Driver	
Program Power	LF - 800W	
	HF - 320W	
Nominal Impedance	LF - 8Ω	
	HF - 16Ω	
Sensitivity 1W@1m	LF - 100dB (Full-Space)	
	HF - 108dB (Full-Space)	
Calculated Max. SPL (Cont/Peak)	LF - 129dB / 135dB (Full-Space)	
	HF - 133dB / 139dB (Full-Space)	
Recommended Crossover Frequencies (ACTIVE)	1150Hz - 48dB/oct Linkwitz-Riley	
Recommended HPF	45Hz - 18dB/oct Butterworth	
Fittings	Adjustable (0° to 8°) Rigging System	Adjustable (0° or 15°) Rigging System
Enclosure Material	15mm Multi-laminate Birch Plywood, Screwed and Glued	
Finish	Black Textured Scratch Resistant Paint	
Grille	Black-Powder Coated Perforated Grille	
Dimensions (W x H x D)	677 x 350 x 450 mm	677 x 353 x 450 mm
Net Weight	32.8 kg	31.4 kg
Shipping Weight	34.8 kg	33.4 kg

Dimensions



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