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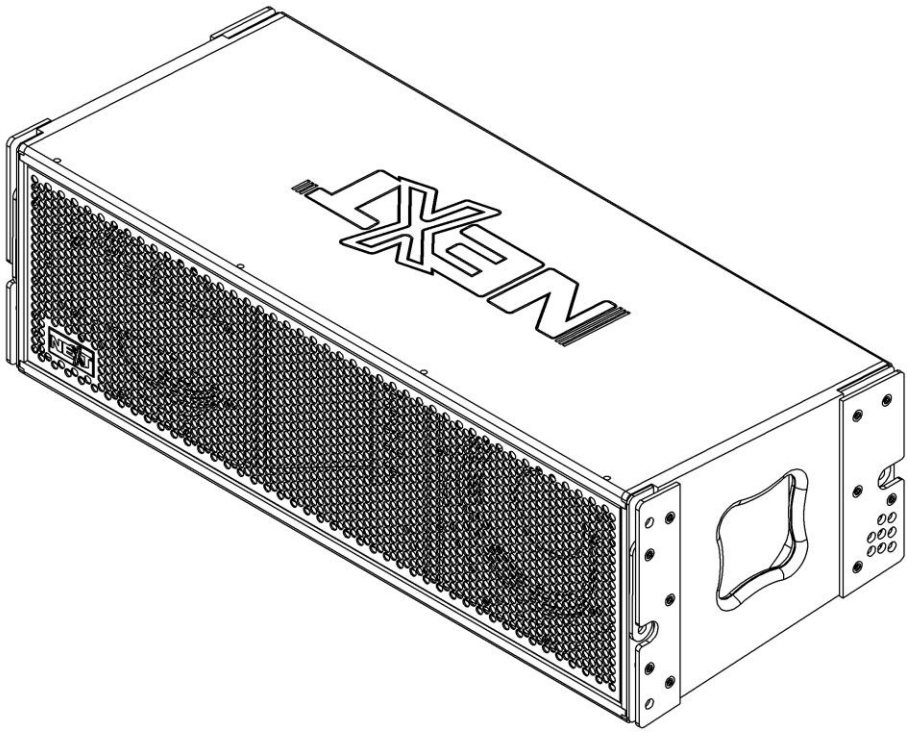


USER MANUAL

LA8v2

Professional Line-Array Element

V012015

Content

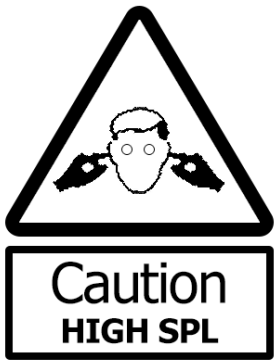
INTRODUCTION

Thank you for purchasing a NEXT LA8v2 Line-Array. This manual will provide you with useful and important information about your NEXT LA8v2 system. 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 LA8v2 Line-Array system 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 LA8v2 line-array element.

DANGER – HEARING DAMAGE



LA8v2 line-array 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 LA 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

Before rigging or suspending NEXT LA8v2 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 LA8v2 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 LA8v2 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 LA8v2, 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.

LA8v2 OVERVIEW

The LA8v2 is a full-range, wide angle line-array speaker designed for a multitude of situations. From concert halls to nightclubs, theatres to ball-rooms, you are sure to have a versatile system. This line-array system features an open natural sound and an exceptional 120º horizontal dispersion pattern.

The LA8v2 mid-low section comprises two high power 8" drivers housed in a compact, vented trapezoidal enclosure. To ensure smoothest response in the critical mid-range, the LA8v2 incorporates a special crossover circuit, at the lowest frequencies, both

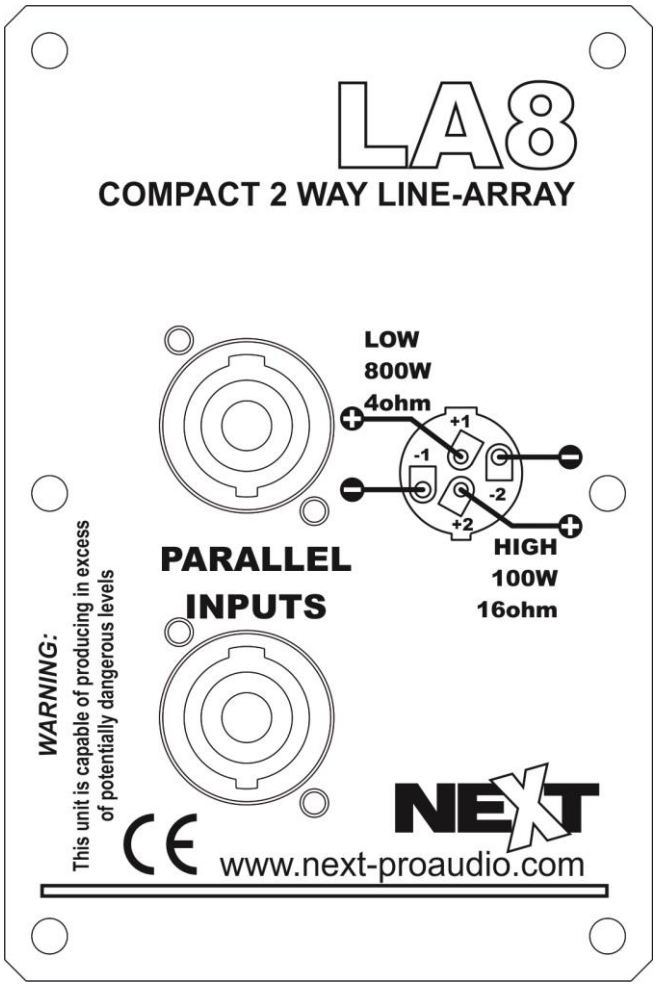
drivers combine to reproduce a powerful coherent bass, while in the mid frequencies the crossover feeds only one of the drivers. This special technique was developed to attenuate the interference between drivers in the mid frequencies region. Besides that, this speaker reproducing the mid frequencies' band is loaded in a special phase plug that widens dispersion on the horizontal coupling plane while narrowing it on the vertical plane.

For high frequency reproduction, the LA8V2 is equipped with two 1" compression drivers mounted on an ICWG wave converter loaded into a 120º constant directivity wave guide.

The LA8V2 was designed to be used in arrays of four or more units, producing a symmetrical and predictable polar pattern with a uniform power response, virtually free of comb-filtering problems.

CONNECTIONS AND ELECTRIC DIAGRAM

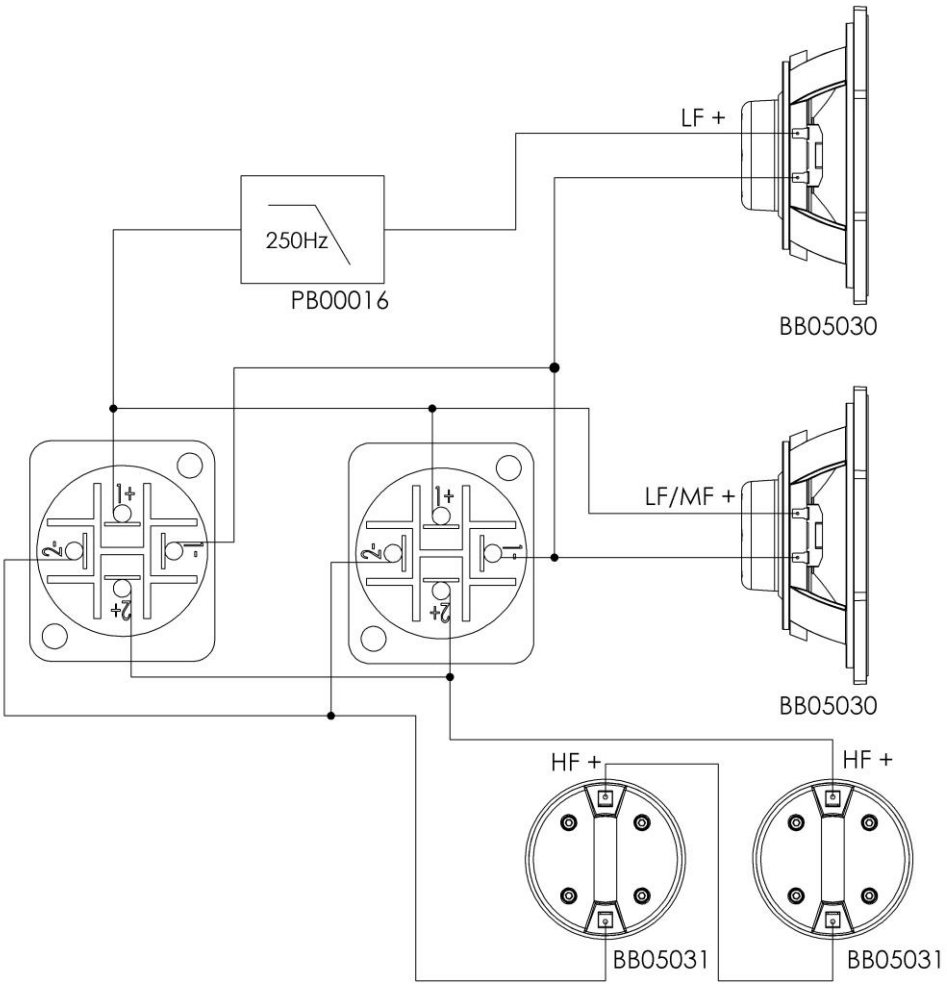
The LA8V2 is connected through Neutrik® Speakon® NL4FC plugs (not supplied). A wiring description is printed on the connections panels located on back of the cabinet.



The 4 pins of the 2 Neutrik® NL4 Speakon® sockets are wired in parallel within the enclosure. Either connector can be used to connect to the amplifier or another LA8v2 element. Please notice that LA8v2 line-array element is bi-amp only. Despite having a crossover network it wasn't designed to work in full-range. See the table and the diagram below:

NL4 PIN	Description
1+	Bass/mid POS
1-	Bass/mid GND
2+	High POS
2-	High GND

Electric Diagram



AMPLIFICATION

Normally, LA8v2 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 LA8v2 element is an active two way system, where one of those is a passive two way system. The high frequency band is reproduced by two 1" drivers connected in serial, having a combined nominal impedance of 16Ω. The mid/low frequency is reproduced by a passive two-way system composed by two 8" drivers and a passive crossover that will behave like a dynamic impedance system going from 4Ω nominal impedance in the lower frequencies to approximately 8Ω nominal impedance in the higher working frequency range.

This passive system achieves some predefined goals. In the lower frequencies, both speakers reproduce, achieving a higher impact on the bass range. In the mid frequencies, virtually only one speaker is reproducing, reducing the dipole effect both speakers would create, providing an outstanding response linearity to the LA8v2 within its' dispersion field.

Acoustically speaking, the LA8v2 line-array element was designed to work in a minimum of four unit arrays. Only then can you achieve enough vertical dispersion for the system to be usable. Also line-array effect will be reduced with less than 4 units. In terms of powering, the elements are best used in groups of two. When wired in parallel, the mid/bass speakers will have a nominal combined impedance of 2Ω at the lowest frequencies. That's the lowest impedance most amplifiers can withstand. Taking this into consideration, see the table below:

2 LA8v2 Line-Array elements	
Input	**Recommended Amplifier (1 channel)[1]**
HF	NEXT MA900 - 200W at 8Ω
MF/LF	NEXT MA3200 - 1600W at 2Ω

[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

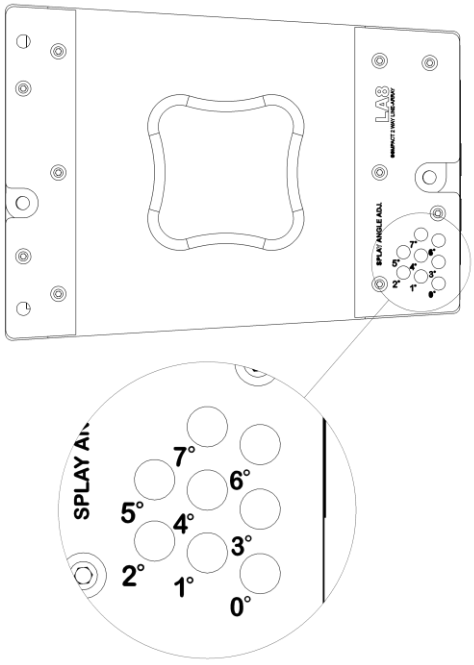
Selecting a cable consists of calculating the correct cable section (size) in relation to the load impedance and the required cable length. A small cable section will increase its serial resistance, which will induce power-loss and response variations (damping factor).

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	4Ω
1.5 mm²	12 m [40 ft]	6 m [20 ft]
2.5 mm²	20 m [64 ft]	10 m [32 ft]
4 mm²	32 m [104 ft]	16 m [52 ft]

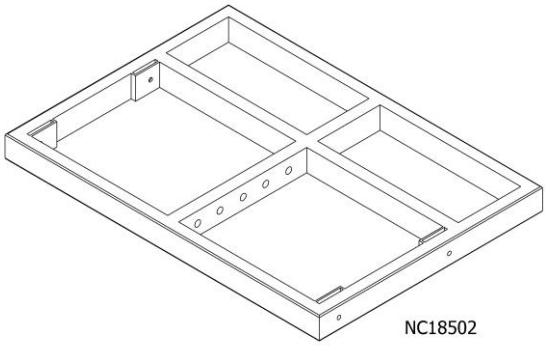
RIGGING SYSTEM

The LA8v2 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.

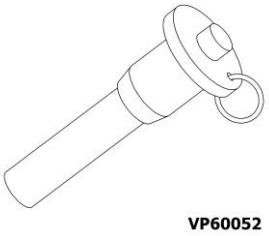


Splay angle adjustment

In order to suspend a LA8v2, you'll need to use the NEXT NC18502 frame. This suspension frame is built specifically to suspend the LA8v2 and/or LAs115[2] elements. It makes possible the suspension of up to 12 LA8v2 elements.



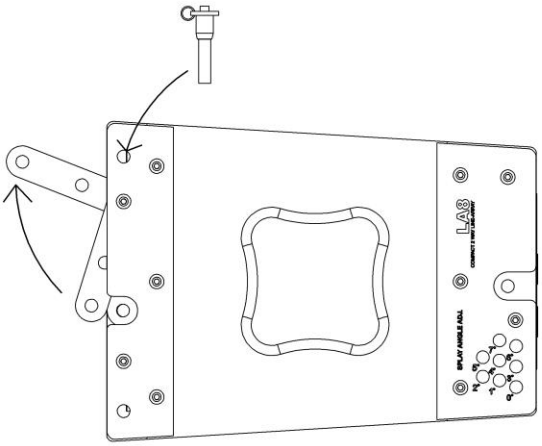
You will also need the NEXT VP60052 lock pins.



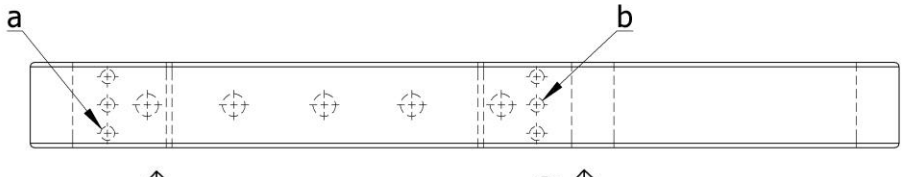
Never use any lock pins but the ones supplied by NEXT-Proaudio. These pins are built to withstand the system's weight with a good safety factor. They are also built with very specific dimensions. Also, before you suspend the system, please read the instructions in the "Safety first" chapter.

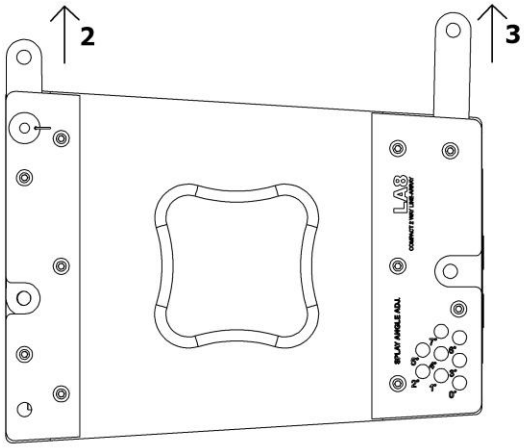
[2] For information about NEXT LAs115 please look into LAs115 manual or visit www.next-proaudio.com

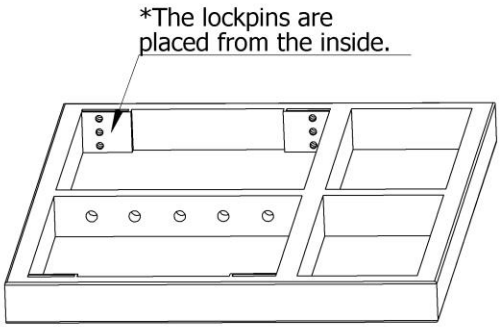
After reading and understanding the "Safety first" chapter, do as follows to rig the system:



1. Pull the front joints out and insert a lockpin on the alignement hole. This lockpin will hold the joint in place and prevent the system from articulating while in the air. **Check if the pin is locked on.**



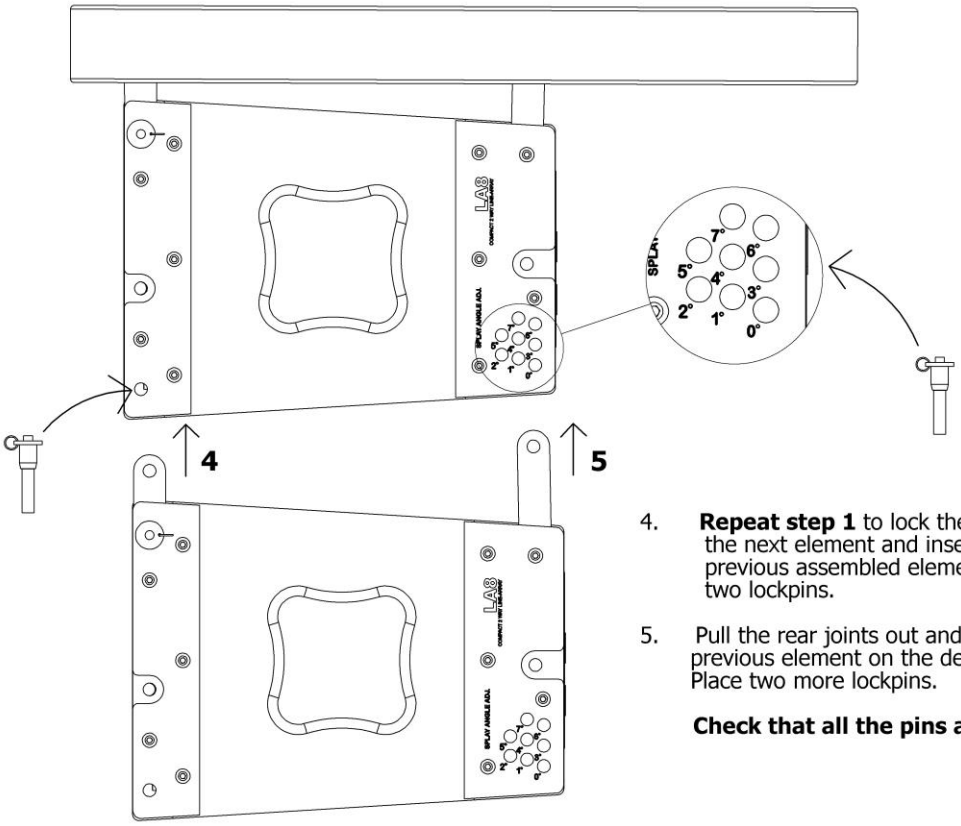




2. Insert the front joints on the frame on hole (a) and place two lockpins.

3. Pull the rear joints out and insert them on the frame on hole(b) for a 0º position. Place two more lockpins.

Check that all the pins are locked.

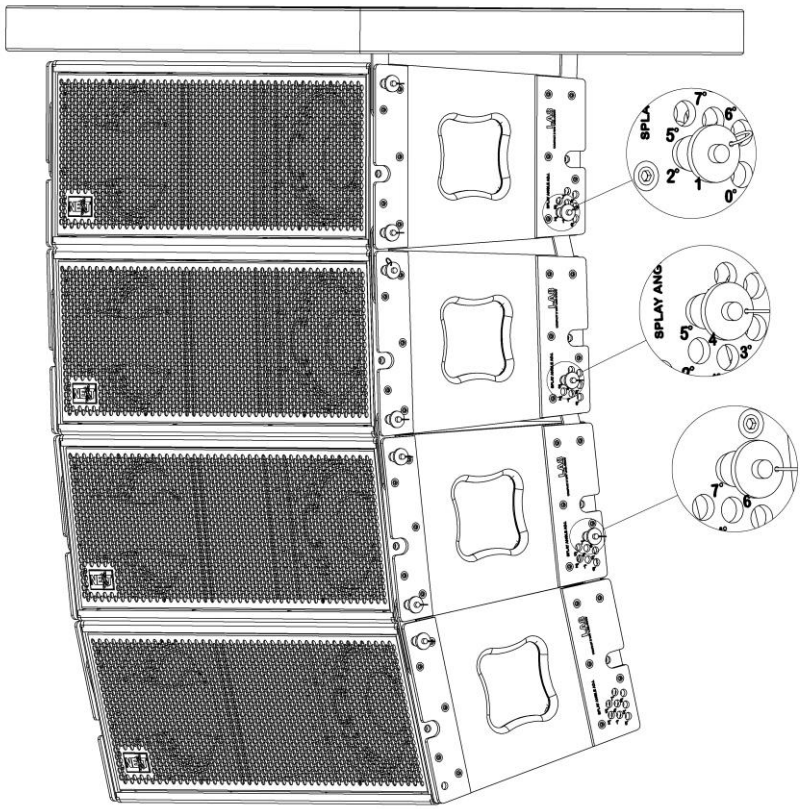


4. **Repeat step 1** to lock the front joints of the next element and insert them on the previous assembled element. Insert another two lockpins.

5. Pull the rear joints out and insert them on the previous element on the desired angle. Place two more lockpins.

Check that all the pins are locked.

Here's an example of a four element system with 2º, 5º and 7º angles:



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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.

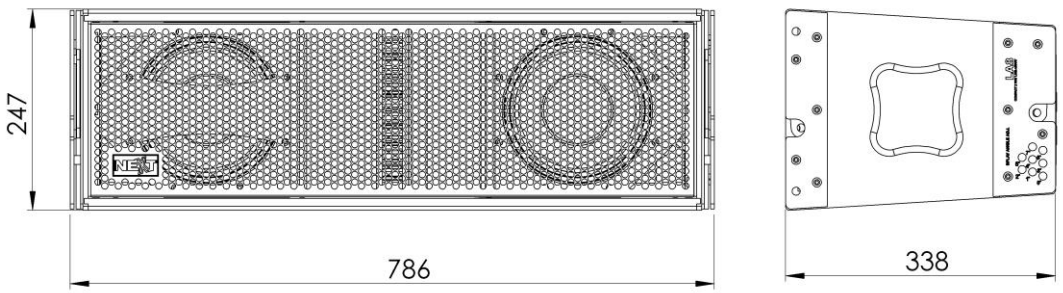
NEXT-proaudio cannot be held responsible for defects caused by unauthorized modifications, improper use, negligence, exposure to inclement weather conditions, act of God or accident, or any use of this product that is not in accordance with the instructions provided by this manual and/or NEXT-proaudio.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

TECHNICAL SPECIFICATIONS

LA8V2 TECHNICAL SPECIFICATIONS	
Design	2.5-way front loaded line-array element
Frequency Response (+/-3dB)	70Hz to 19KHz
Horizontal Coverage (-6dB)	120º
Vertical Coverage (-6dB)	7º
Components	LF - 1 x 8" Speaker LF/MF - 1 x 8" Speaker HF - 2 x 1" Compression Driver
Power Handling (Continuous program)	LF/MF - 800W Cont. 1600W Peak HF - 100W Cont. 400W Peak
Impedance	LF - 4Ω (Freq. < 250 Hz) MF - 8Ω (Freq. > 250 Hz) HF - 16Ω
Sensitivity (1W/1m Half-space)	LF/MF - 98dB HF - 106dB
Max. SPL (calculated)	LF/MF - 124dB Cont. 127dB Peak HF - 126dB Cont. 129dB Peak
Crossover Frequencies	2250 Hz Active
Connectors	2 x NL4
Rigging	Integrated, adjustable 0º - 7º
Enclosure Material	13-ply birch plywood
Finish	Semi-mate textured paint (Black/White)
Grille	Black-powder coated perforated grille
Dimensions W x H x D (mm)	786 x 247 x 338
Weight	27Kg

Dimensions



LA8v2 SPARE PARTS

Reference	Description
NCS05502	LA8 Connection Patch
PB00016	LA8 LF Crossover Network
BB05030	LA8 8" LF - LF/MF Speaker
BB05031	LA8 8" HF Compression Driver
NCS01502	LA8 Front-Left Suspension Assembly
NCS02502	LA8 Front-Right Suspension Assembly
NCS03502	LA8 Rear-left Suspension Assembly
NCS04502	LA8 Rear-Right Suspension Assembly

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

Send an e-mail:
info@next-proaudio.com

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