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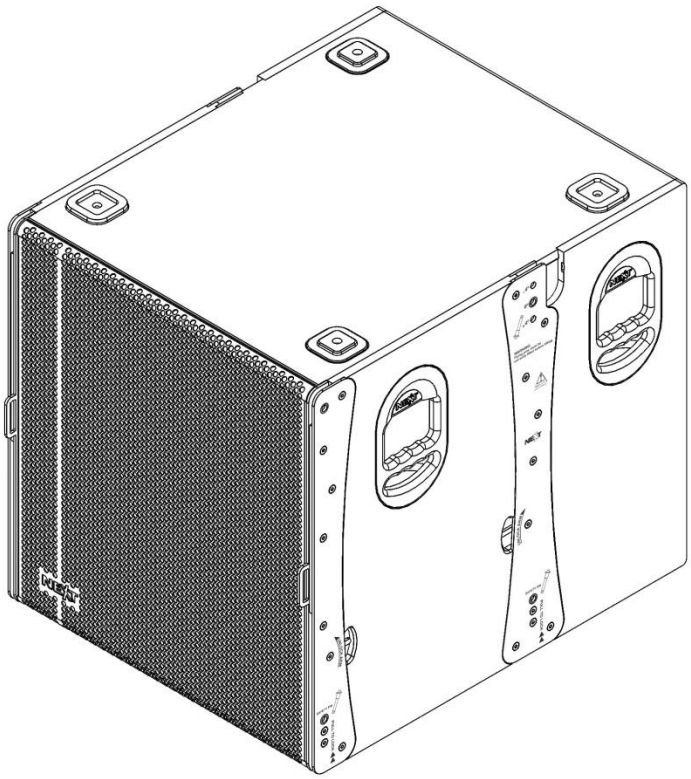


LAs118A

ACTIVE Hybrid-Horn Arrayable Subwoofer

USER MANUAL

V201511

CONTENTS

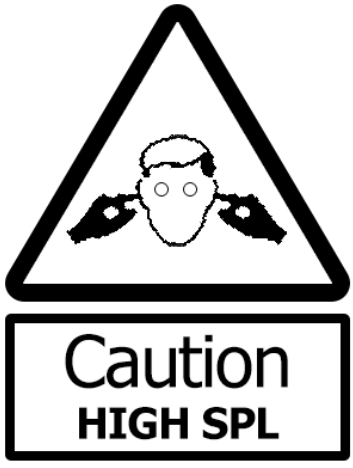
INTRODUCTION

Thank you for purchasing a NEXT-proaudio LAs118A ACTIVE Hybrid-Horn Arrayable Subwoofer. This manual will provide you with useful and important information about your NEXT LAs118A subwoofer. 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 LAs118A subwoofer 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 LAs118A subwoofer 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.

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 LAs118A 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 SAFETY CONSIDERATIONS

- Before rigging or suspending NEXT LAs118A 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 has to 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 LAs118A 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.

UNPACKING

Each NEXT LAs118A subwoofer is built in Europe (Portugal) by NEXT-proaudio, to the highest standard and thoroughly inspected before it leaves the factory. When unpacking the NEXT LAs118A, 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.

LAs118A OVERVIEW

The LAs118A is one of the many members of the NEXT LA Series speakers. It is an ACTIVE Arrayable 18" subwoofer, with integrated rigging hardware, designed to be used as part of a NEXT LA122A system or as a stand-alone system using the exact same rigging frame structures. It is fully compatible with the LA122A line array element also on the ground. The LA122A stacks on top of the LAs118A without the need of other accessories, providing a cheaper solution where this kind of assembly is needed.

The LAs118A is fitted with universal plastic feet, enabling the LAs118A to stack on any position. It stacks upside down and turned backwards. This feature allows, for example, cardioid response system stacks.

The integrated amplifier is a highly efficient class D amplifier, with SMPS, capable of delivering 2200 Wrms. It includes a 24bit 48 kHz DSP, controllable through a RS485 connection to a computer using the supplied RS485 to USB converter and NEXT SOUNDWARE software. In conclusion, it's a great versatile, easy to use subwoofer system able to handle any situation.

LAs118A 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 SPL level.

The integrated DSP with A/D-D/A low noise converters, provides 8 selectable presets (6 factory defined and 2 user defined) that can be accessed through the preset selector or real time using a computer with the supplied SOUNDWARE software, via the USB to RS485 converter cable supplied. This allows easy and fast customization of the configuration setup programs.

With the SOUNDWARE software it is possible to edit any of the 6 factory presets and store them in any of the 2 free user memories. Editable parameters are input equalization, input delay, input High-pass/Low-pass filters, Bass Enhancer and polarity. A total of 255 units can be controlled simultaneously by the software.

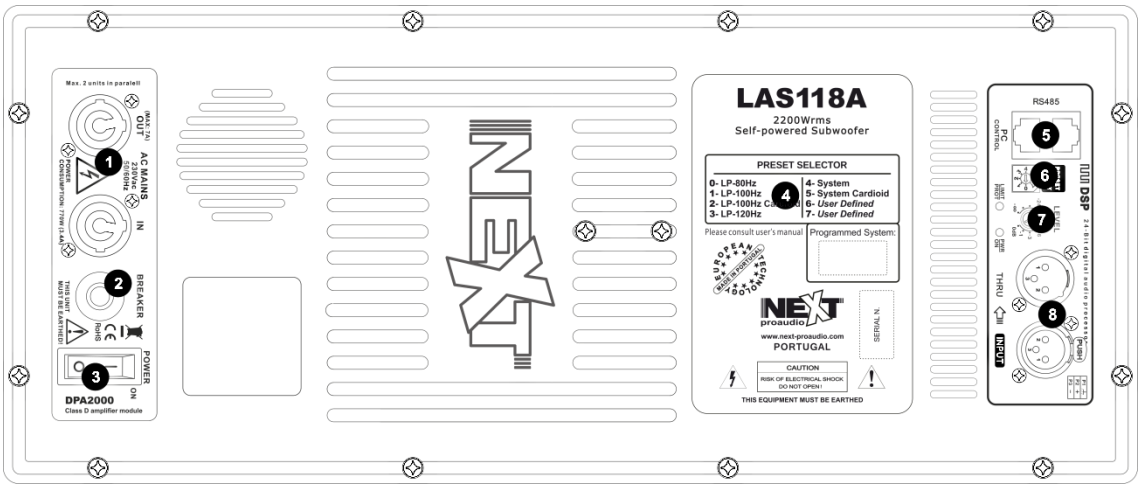


Figure 1 - LAs118A Amplifier Module (DPA)

Amplifier Layout:

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

AC POWER CONSIDERATIONS

In figure 1 we can see that the amplifier has an AC power input and an AC power output. These connectors are wired in parallel and allow the connection of another LAs118A or other through the use of an AC Link cable. This feature cannot be abused though, and a **maximum of 2** LAs118A should be connected in parallel at any time. Other speakers can be connected in this way in higher numbers as long as the total amperage does not exceed 7 A, or you'll risk overheating the main input connector. The circuit breaker present on the amplifier does not activate on exceeded current on the connectors. It only protects the amplifier itself.

FACTORY PRESETS DESCRIPTION

The LAs118A amplifier has a total of 8 available memory positions, in which 6 of them are factory defined preset configurations and 2 are user defined preset configurations. You can't store any preset configurations on the 6 factory memories, they are read only, but you can edit any of them and store the edited configurations on your computer or on the 2 user memory positions. More information on this and other procedures concerning LAs118A presets and the use of the "SOUNDWARE" software can be found on www.next-proaudio.com/downloads/usermanual.

Here's a brief description of the factory presets included:

0 – LP-80Hz

This standard preset configuration was designed with a low-pass filter at 80Hz.

1 – LP-100Hz

This standard preset configuration was designed with a low-pass filter at 100Hz. It can be used also on a cardioid arrangement on the **front facing** LAs118A subwoofer.

2 – LP-100Hz Cardioid

This standard preset configuration is the twin configuration of the LP-100Hz. It was designed to be used in a cardioid arrangement on the **rear facing** LAs118A subwoofer.

3 – LP-120Hz

This standard preset configuration was designed with a low-pass filter at 120Hz.

4 – System

This preset was configured as described on the "Programmed System" on the back sticker. This is a "tailor made" specific preset only applicable on the described system.

5 – System Cardioid

This is the twin preset of the preset number 4. It's designed to be used in conjunction with number 4 on the **rear facing** LAs118A when in a cardioid arrangement.

6 and 7 - User Defined

These are the memory positions that can be used to store customized preset configurations. The LAs118A normally leaves NEXT-proaudio premises with these memories completely blank.

COOLING, PROTECTION AND LIMIT/PROTECTION LED

The DPAmplifier has a great deal of protection circuitry including short circuit protection, high frequency, surge and temperature among others. On most of these protection circuits, whenever they trigger, the amplifier will stop reproducing and the Limit/Prot LED will light on and keep that state until the malfunction is solved. If that happens, try to shut down the LAs118A and wait for a few minutes, then turn it on again. If that doesn't solve the problem or it reappears, you should return your NEXT LAs118A for repair.

When you first switch on the NEXT LAs118A, surge protection activates to protect the speakers from the initial current spikes. If any signal is already applied, you'll notice that audio level will increase progressively up to the volume defined by the level potentiometer. With time, temperature will increase. The temperature protection circuit has two thresholds where the behaviour of the amplifier is adapted to address changes in temperature. In the beginning of operation, the cooling fan will be off. When the first threshold of about 50ºC is reached, the fan starts working to aid in the cooling. If that is not enough and the second threshold is reached, the LAs118A's DPA will reduce volume and the Limit/Prot LED will blink as long as needed to return temperature to safe levels.

The Limit/Prot LED also signals when the limiter is being activated or the amplifier is clipping. This is a real time signal measuring and the LED will light on whenever either of the two conditions is present. There is no problem in this while the LED is only blinking, but if you notice that the LED is on more time than it is off, one should take measures in order to reduce that condition. Apart from distortion which deteriorates sound quality, this condition also leads to speakers and drivers overheating and ultimately fail.

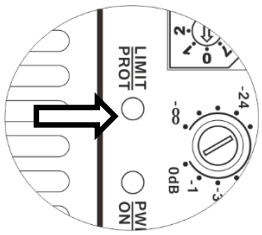


Figure 2 - Limit/Prot LED Location

SIGNAL INPUT/OUTPUT

The audio signal input is made through the XLR connectors in the amplifier. For the LAs118A to work properly, the connectors have to be wired correctly. In the amplifier panel there is a little table that shows the correct wiring as indicated on figure 3.

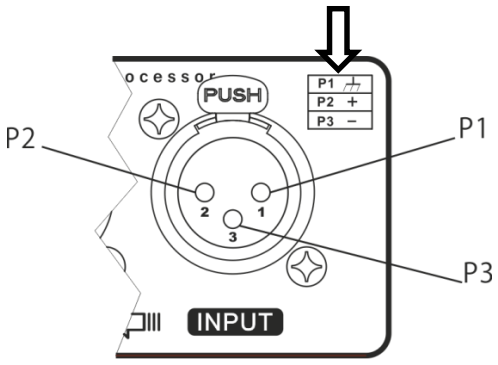


Figure 3 - Audio XLR Connectors Wiring

RIGGING LAs118A

Before continuing, remember the safety considerations on "Safety First" chapter. If you haven't read it yet, please read it now.

The LAs118A was designed having always two main concerns in mind, ease of use and safety. It was especially designed to perfectly complement NEXT LA122A active line array, being able to share the same rigging structures and accessories.

On each side of the LAs118A enclosure are 2 pairs of high strength rigging plates, which form a channel on top of the enclosure for the sliding arms of another LAs118A or the hinges/swing arms of the LA122A. The same plates hold the sliding arms and arm locking mechanisms on the bottom of the enclosure. The normal procedure of rigging a column of LAs118A enclosures is quite simple and fast, as seen later in this manual, but first let's take a look at Figure 4 for a description of the enclosure rigging panels.

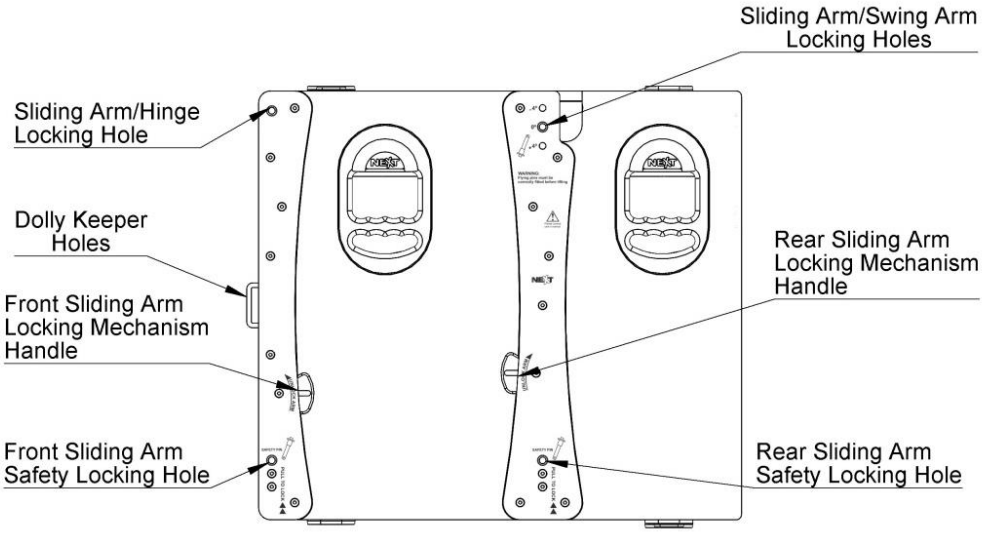


Figure 4 - LAs118A Integrated Rigging Hardware Reference

We'll now discuss the actual rigging of the NEXT LAs118A, either stand-alone LAs118A systems or integrated in the LA122A systems. Keep in mind though that this is a minimum 2-man job. These are heavy enclosures and it's easy for someone to get injured if he/she tries to manage it alone. In every step of the rigging procedure always check that the locking pins a secure. In order to successfully suspend the LAs118A you'll need to have these accessories:

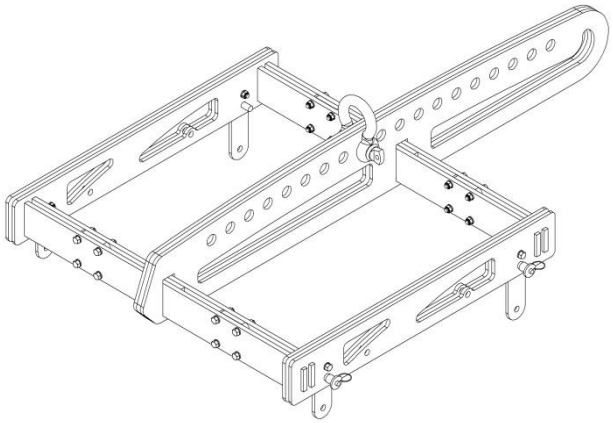


Figure 5 - NC18124 Rigging Structure

In Figure 5 we can see a drawing of the NC18124 Rigging Structure. This structure is used both on the NEXT LAs118A subwoofer and the NEXT LA122A Line Array element. With a working load limit (WLL) of around 600 kg and a minimum safety factor of 4:1 this structure can hold up to 8 - NEXT LAs118A or any combination of NEXT LAs118A and NEXT LA122A under the WLL.

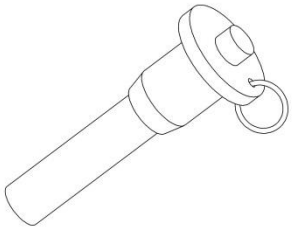
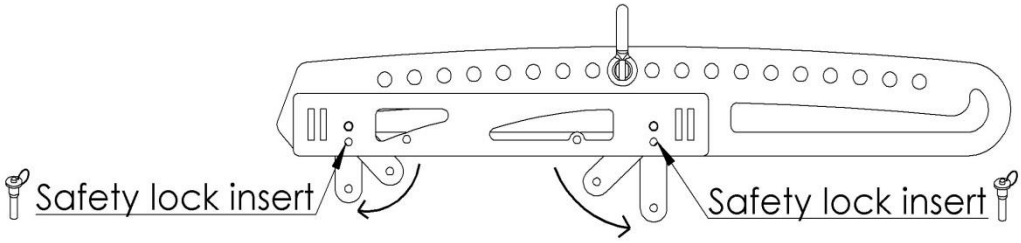


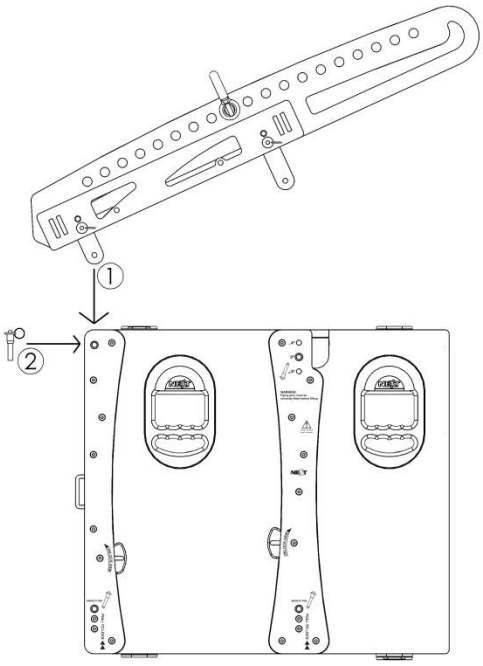
Figure 6 - NEXT VP60052 Locking Pin

Figure 6 shows the locking pin used with NEXT LAs118A and NEXT LA122A. **Never use any other locking pin than the one supplied by NEXT-proaudio.** These locking pins were designed with very specific dimensions and materials to withstand the amount of force required.

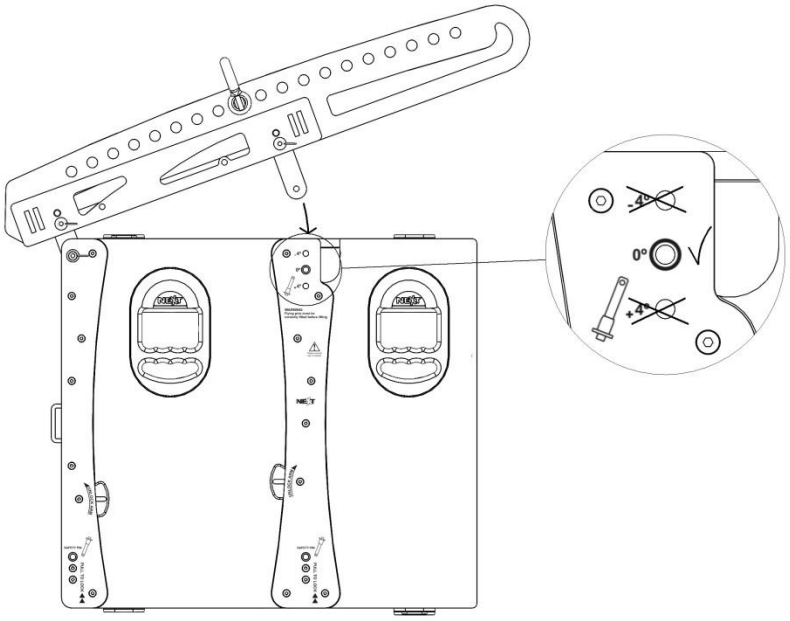
Now let's review a 6 unit LAs118A suspended system rigging procedure.



1. - Start by preparing the rigging structure to be positioned on the LAs118A. Take the swing arms out of the parking positions and rotate them until they are aligned with the safety lock insert and insert a locking pin in each of the four swing arms.

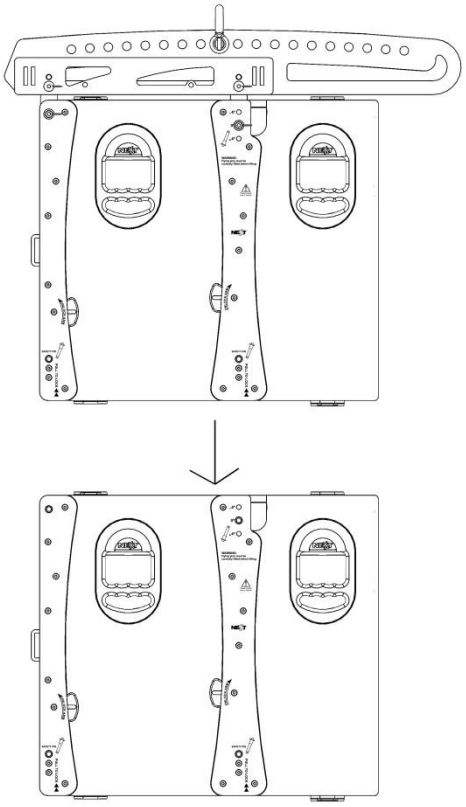


2. – Insert the front swing arms of the structure in the front LAs118A channels as shown in the picture, and insert another 2 locking pins, one in each swing arm.

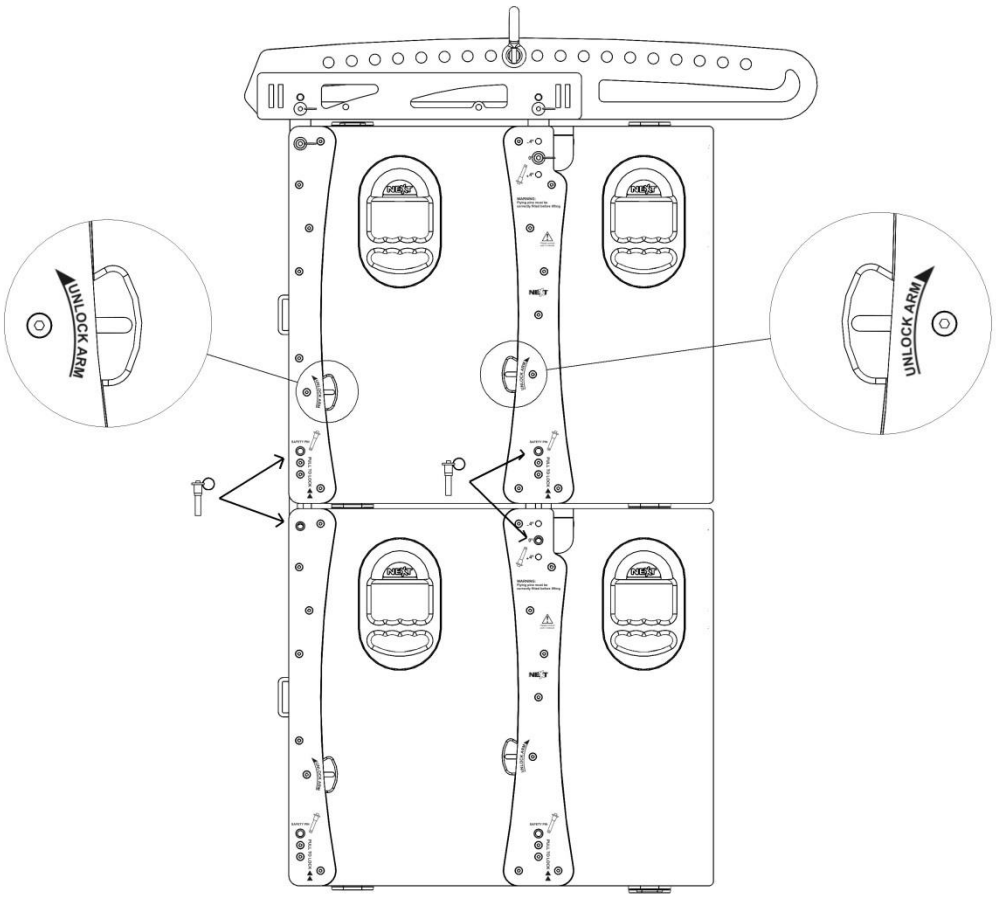


3. – Now rotate the structure until the rear swing arm aligns with the 0º hole in the LAs118A. Insert a locking pin in the designated hole.

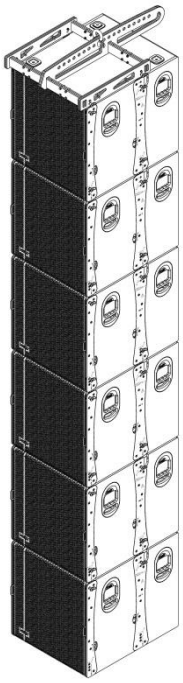
Note that the -4º and 4º holes are marked with an X. These holes are to be used only with the LA122A when in a ground stack to define initial splay as explained later in this manual in the "GROUND STACKING Las118A" chapter.



4. – Lift the assembly with the help of the hoist system being used, until another LAs118A can be positioned right below the assembly, and gently lower it until the LAs118A above fits in the LAs118A below. If both LAs118A are correctly aligned and engaged, one will not rotate over the other more than the allowance in the universal feet.

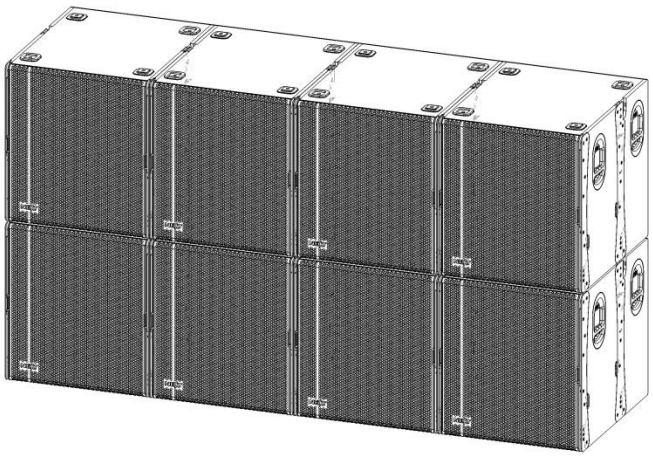


5. – With the LAs118A properly aligned, use the handles shown in the image to unlock the sliding arms of the LAs118A on the top. By gravity, they'll insert in the channels of the bottom LAs118A. Insert the locking pins as shown in the image.



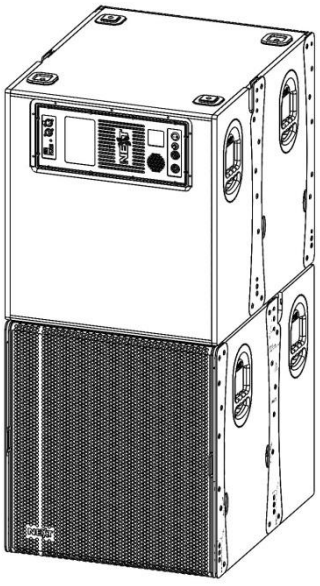
6. – Repeat steps 4 and 5 for all the other enclosures and in the end you'll have a nice rig like this one on the left.

GROUND STACKING LAs118A



Ground stacking of any loudspeaker enclosure is normally an intuitive process. But when talking about the LAs118A, although it is still intuitive, there are a few things to take into consideration. The first is that when packed together like in the image above, they shouldn't be placed touching each other. There should be a gap of at least 2 or 3 mm between vertical stacks to avoid noises due to contact induced by vibration. Another important piece of knowledge is that when ground stacking you should not connect them using the rigging frame structures. The locking mechanism on the sliding arms is not just to keep the arms in place. It also produces a dampening effect on the metal parts and helps to greatly reduce vibration noises created due to the allowance on the sliding arms.

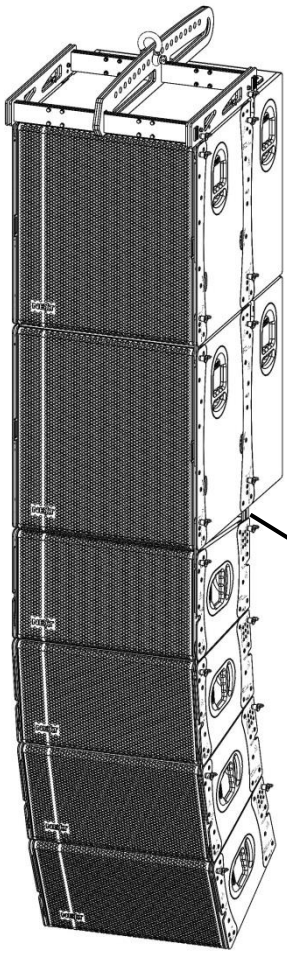
CARDIOID RESPONSE STACKS



A cardioid response stack is a configuration where there is a direct radiating element and an indirect radiating element, placed and configured in a way that while increasing SPL in the viewer's area, decreases it in the stage area through destructive interference. It is becoming a very popular configuration, because when properly configured, it almost completely eliminates the bass at the back of the system. The development of the LAs118A had this principle in mind from the beginning, and has a few features that make it a perfect choice for this purpose. Among those, are the universal feet that allow engagement of the LAs118A both in traditional and cardioid stacks, and comes standard with already configured cardioid ready presets.

LAs118A and LA122A

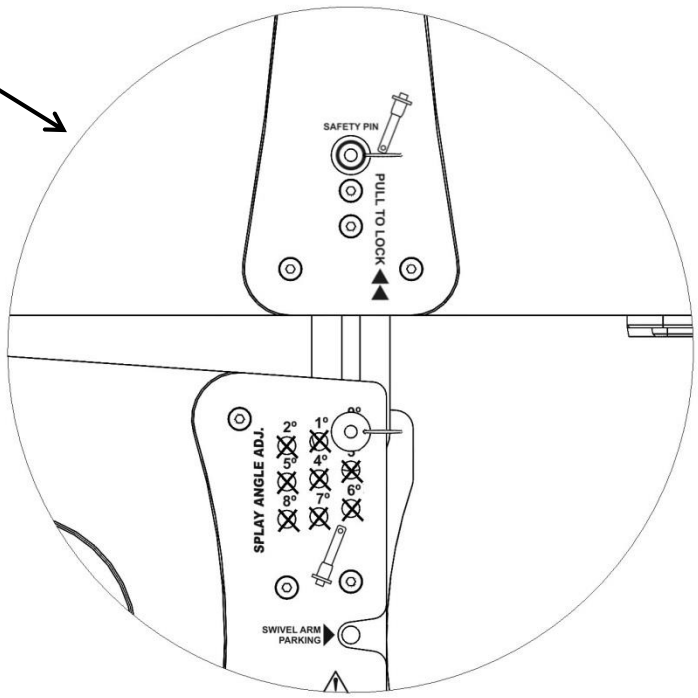
It has been told earlier in this manual that LAs118A was designed to be part of the LA122A system. The purpose of this is to allow for greater versatility of both systems. They can be suspended in the same rigging frame, and engage each other without the need of any other accessories than the locking pins. In this manual we will focus only on the interaction between the two without going much into detail about the LA122A. For more information about the NEXT LA122A please consult its manual or visit http://www.next-proaudio.com/products/LA122A.



SUSPENDING LAs118A with LA122A

There have to be some considerations when rigging the LAs118A and the LA122A together. The first and one of the most important is that the LAs118A have always to be on top. For example, in a "2+4" system, you start with the rigging procedure described in this manual for the 2 LAs118A and then continue with the rigging procedure described in the LA122A manual for the 4 LA122A Line Array element.

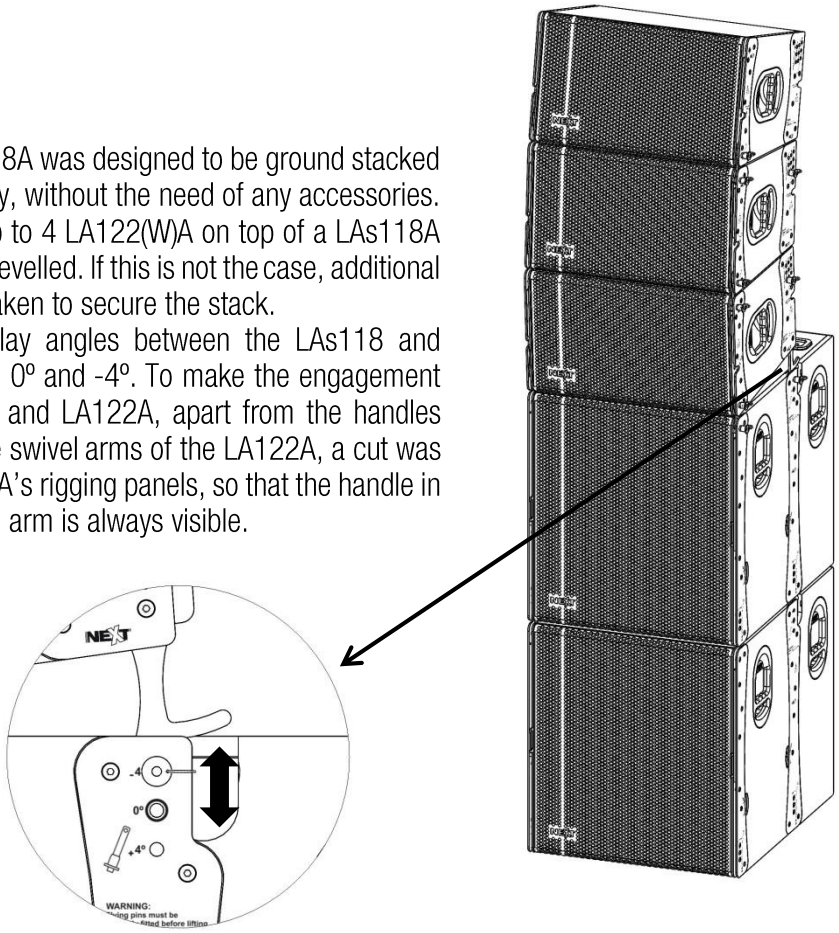
Another thing you need to know, is that between the LAs118A and the LA122A, only one splay position is possible, the 0º (in the LA122A), due to physical limitations in the sliding arm system of the LAs118A. On the bottom of the array (**always** after a LA122A enclosure) is also possible to rig the LA122WA speaker



GROUND STACKING LAs118A with LA122(W)A

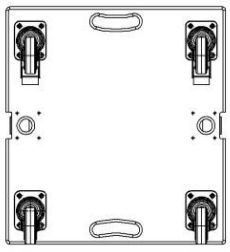
The NEXT LAs118A was designed to be ground stacked with LA122(W)A directly, without the need of any accessories. We can safely stack up to 4 LA122(W)A on top of a LAs118A provided the ground is levelled. If this is not the case, additional measures have to be taken to secure the stack.

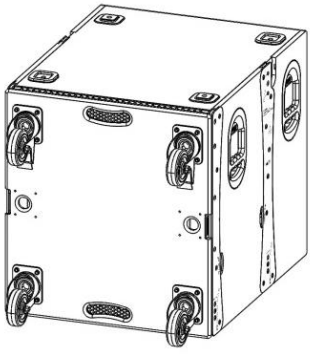
There are 3 splay angles between the LAs118 and LA122A. These are 4º, 0º and -4º. To make the engagement between the LAs118A and LA122A, apart from the handles already included on the swivel arms of the LA122A, a cut was included in the LAs118A's rigging panels, so that the handle in the LA122A rear swivel arm is always visible.



LAs118A DOLLY

Due to allowances on wheel mechanisms, which are needed for the wheel proper functioning, loud noises are produced when subwoofers are reproducing. Because of this and other factors, wheels are not included by default on the NEXT LAs118A. Instead NEXT has developed a dolly (optional) that is used to aid in the transportation of the LAs118A.





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.
- Loudspeaker not connected or phase reversed following a previous inspection, test or repair.

WARRANTY

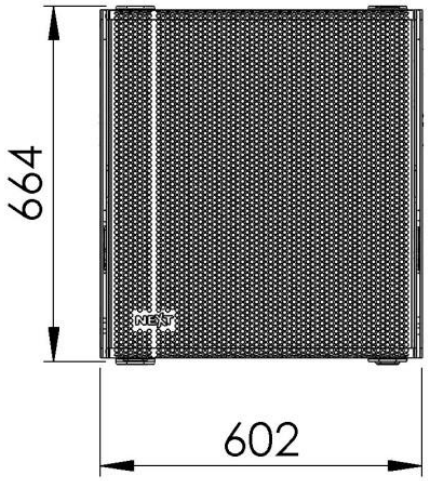
NEXT products are warranted, by NEXT-proaudio, against manufacturing defects in materials or craftsmanship over a period of 5 years for the loudspeakers, and 2 years for the other components, counting from the date of original purchase. The original receipt of purchase is mandatory for warranty validation 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.

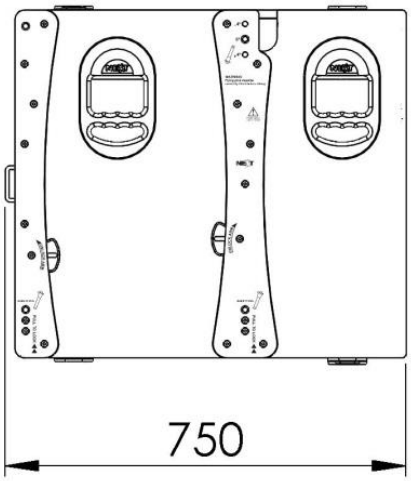
NEXT-proaudio cannot be held responsible for defects caused by unauthorized modifications, improper use, negligence, exposure to inclement weather conditions, act of God or accident, or any use of this product that is not in accordance with the instructions provided by this manual and/or NEXT-proaudio.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

NEXT LAs118A TECHNICAL SPECIFICATIONS	
Speaker Type	Active Hybrid-Horn Subwoofer
Frequency Response (-6dB)	38Hz to 160Hz
Calculated Max. SPL (Cont/Peak)	132.5dB / 138.5dB (Half-Space)
Components	1 x 18" / 4" Voice Coil Custom B&C Speaker
Amplifier Technology	Switched Mode Class D with DSP (2200W)
Controller	PC controlled networkable DSP 24bit/48kHz
System Presets	6 Factory and 2 User Configurable, Selectable Via Software or Rear Panel Switch
PC Control	RS485 to USB Converter and "SOUNDWARE" Software
DSP Adjustment Parameters	6 PEQ, Delay, HPF, LPF, Level, Bass Enhancer, Polarity, Mute
AC Operating Voltage	180V - 245VAC
Power Consumption	770W
Connectors	Signal : 2 x XLR / Power: 2 x PowerCON
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)	602 x 664 x 750 mm
Net Weight	67.3 kg
Shipping Weight	70.2 kg

Dimensions





NOTES

CONTACTS

In case of any doubts or need of information just:

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