LAIA Series

USER MANUAL

LYNX pro-audio

V. 25.01

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LAIA is a trademark of Lynx Pro Audio S.L.

Other product names used in this documentation are for identification purposes only and are trademarks of their respective owners.

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CE

CE CERTIFICACTION, EUROPEAN PRODUCT

CONTENTS

WELCOME

Before working with the LAIA series we recommend that you read this manual, in its pages you will find instructions for use, programming examples and practical advice that will be of great help.

For the maximum optimization of any sound system a first class digital processor with different processing options is required. This LAIA series become a working tool of great value, providing the user with the best solutions in the market with the highest level of accuracy and a host of features for the professional.

We hope that as a user you will be completely satisfied. We are sure that the LAIA series will meet your expectations and make it easier for you to get the most out of your system.

IMPORTANT SAFETY INSTRUCTIONS

The CE mark of the **LAIA** shows that it is verified and tested to accomplish the European Norms and International Norms about Electromagnetic Compatibility and Electrical Safety.

CE

Radiated Emisions :	EN55013-1 (1996)
RF Immunity:	EN55103-2 (1996)
Electical Safety:	EN60065 (1993)
	IEC65 (1985) and emendation 1, 2 and 3

This product also meets the specifications of the following safety directives:

Low Voltage Directive 73/23/EEC
EMC Directive 89/336/EEC

EUROPEAN PRODUCT

Product Developed and Manufactured in the European Union.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

The symbols shown above are internationally accepted symbols that warn of potential hazards with electrical products. The lightning flash with arrowpoint in an equilateral triangle means that there are dangerous voltages present within the unit. The exclamation point in an equilateral triangle indicates that is necessary for the user to refer to the owner's manual.

Warning :

Do not expose the cabinet to humidity and dust.
Do not take off the top cover.
Do not handle internal elements to avoid electrical shock.
Use only power cords in good condition.

Unpacking the LAIA

Before unpacking your new cabinet, verify that the box does not show any damage or deformation. If this happens, please claim the damage to your fordwarder. Once unpacked and verified its correct operation, keep the original box in case you need to ship it back to your provider.

1.- INTRODUCTION

To ensure the correct and reliable use of the **LAIA Series,** we have designed this instruction manual. We strongly recommend reading it thoroughly before proceeding with the installation of the cabinet.

The **LAIA-28** and **LAIA-218S** models are 2-way active speakers, representing the best in their class, delivering powerful and dynamic sound, ideal for both fixed installations and live events. The new LAIA series includes a two-way (dual 8") Line Array module and a dual 18" subwoofer, both self-powered with integrated DSP, offering a perfect solution for a wide range of indoor and outdoor applications where a compact, practical, and reliable Line Array system is needed.

Special care has been taken in designing a first-class Line Array system, providing superior sound quality and ease of use for rental applications during setup. Key components include tetracoil technology, which allows the inductance to be linearised, providing a perfect balance between the driver and the ultra-linear suspension. This enables very high excursion and extreme precision in the midrange, with the lowest intermodulation distortion on the professional market.

Class D amplification, with a universal switch-mode power supply and PFC system, optimises input voltage and current for lower consumption. Equipped with a powerful next-generation 64-bit/96KHz DSP, designed and manufactured by Lynx Pro Audio, it offers the latest advances in digital processing, such as FIR filters, ensuring linear frequency and phase response. The latest 32-bit/96KHz AD/DA converters make the system one of the most advanced and innovative Line Arrays on the market, resulting in superior sound quality. Furthermore, LAIA series systems can be controlled remotely via the OCS control platform, giving users the ability to manage the systems without the need for external processors.

Meticulously crafted, the series includes specially designed accessories, including a 3-point flying system and a stacking system. The system can also be mounted and angled in the rest position, making it incredibly easy to configure without having to lift each enclosure individually.

INSTALLATION GUIDE

- **Indoor use only**

We recommend using this appliance indoors only. Moisture can damage the appliance and cause a fire.

- **Power cord safety**

  - Avoid placing the speaker, cables, or any objects on the power cord. Ensure the cord is free from pinches or damage.
  - The power supply circuit must be equipped with a fuse or circuit breaker for overload protection, and an RCD for ground fault protection.

- **Power disconnection**

To disconnect the device from the power source, the power plug must be removed from the power outlet. The appliance should be positioned to allow easy access to the power outlet without obstruction. This will allow you to quickly disconnect the power plug in an emergency.

- **Mounting options**

LAIA speaker can be installed on the floor, on a stage, on a subwoofer, on a tripod, wall-mounted, or mounted on a 35mm diameter coupling tube attached to a subwoofer.

- **Safety checks before installaion**

Give your speaker a safety check before mounting it. Make sure the stand, brackets, and anything else it attaches to are in good shape and all the pieces are there. Damaged or missing parts can cause the speaker to become unstable and fall.

- **Floor, tripod, or coupling tube installation**

For floor, tripod, or coupling tube installation, ensure the surface below is flat and stable.

- **Overhead installation**

  - **Strong Support:** Choose mounting hardware or suspension systems that are specifically designed to handle the weight and size of your speakers.
  - **Secure Suspension:** If using a tripod or hanging system, make sure the speaker is well-balanced and securely fastened to prevent it from falling, tipping over, or being accidentally bumped.
  - **Double-Check Fasteners:** Before letting the music flow, take a moment to confirm that all fasteners at the suspension points are tightened properly.

- **Incorrect installation**

Improper assembly or the use of unsuitable mounting equipment can result in an unstable and dangerous installation that could cause injury.

- **Seek professional assistance**

If in doubt, consult a professional to install the equipment. Ensure that national safety regulations for the installation and use of the speaker are followed.

- **Overhead installation safety**

Refer to the speaker's manual for safe overhead installation instructions, which likely recommend two people.

- **Avoid extrem weather conditions**

Do not install the speaker in direct sunlight, rain, or any other liquids. The speaker is not waterproof. If installed outdoors, protect it from the elements.

USER GUIDE

• This cabinet creates a magnetic field that can interfere with other electronic devices like TVs, phones, and radios nearby. The same can happen if the speaker is too close to other appliances. If you notice any problems, turn off the speaker and move it away from potentially affected devices.

•The rubber feet of the appliance may stain the surface on which it rests. If necessary, use an appropriate underlay between the feet of the appliance and the floor.

• This appliance should not be used by persons (including children) with reduced physical, sensory or mental abilities or lack of experience and/or knowledge, unless they are supervised by a person responsible for their safety or have received instructions from that person on how to use the appliance.

• Never leave this appliance unattended when in use.

• In case of malfunction, stop using the appliance immediately. Do not attempt to repair it yourself.

Contact your dealer or an authorized repairer.

• For best performance, avoid using the appliance in the following conditions:

- **Direct sunlight, dusty or dirty areas:** These can damage the appliance or shorten its lifespan.
- **Strong vibrations or bumps**: This can disrupt the appliance's operation and potentially cause damage.
- **Extreme temperatures (below 2°C or above 45°C):** This can affect the appliance's performance and efficiency.
- **Very dry or humid environments (ideally keep between 35% and 80% humidity):** This can impact the appliance's function or shorten its lifespan.

• Never use the appliance near flames, flammable or explosive materials, or hot surfaces. Otherwise, you risk causing a fire.

• It is important to use the supplied mains power cable.

• Before switching on, make sure that the voltage and frequency of the power supply correspond to the power requirements of the appliance, as indicated in this manual.

• Never cut or tamper with the power cord or plug. If a power cord is provided with an earthing wire, this is mandatory to ensure safe operation! Risk of fatal electric shock!

• Always hold the power cord by the plug. Do not pull on the cord itself and never touch the power cord with wet hands as this could cause a short circuit or electric shock.

• Do not stick stickers, decals or other similar objects on this instrument. You could damage the finish of the instrument by removing them.

• To ensure safe operation, avoid placing liquids or objects near the appliance. If a spill happens, unplug it quickly and contact after-sales service.

• Before a thunderstorm or lightning storm, unplug the appliance from the power outlet for safety.

Maintenance

- Never attempt to disassemble, repair, or modify the appliance yourself. Doing so will void the warranty and could result in damage or malfunction. Contact an authorized service center for repair.

- Disconnect the appliance from the power supply before any maintenance or cleaning.

- If the cable or external flexible cord of this appliance is damaged, it must be replaced with a cable or cord specifically designed for this purpose and available from the manufacturer or its authorized service agent.

- Never immerse the appliance in water or any other liquid. Wipe it only with a slightly damp cloth.

Power supply

Connect the power cord to the IEC socket on the back of the speaker. Make sure the plug is fully inserted into the IEC socket of the speaker. Make sure the power switch is OFF before connecting the cable plug to the power source and then connect the power cable to the local power outlet.

The correct procedure for turning on and off can help prevent unexpected sounds from being produced by the system (cracks, clicks and small muffled noises). Always follow the rule that the speakers are “last on and the first ones off”. If a RX cabinet is driven from the output of another RX cabinet, it must be on after the unit providing the signal and off before the unit providing the signal.

CABLE (EU)	CABLE (US)	(PIN)	INTERNATIONAL
Brown	Black	Live	I
Light blue	White	Neutral	N
Yellow/Green	Yellow/Green	Earth	⏚

3. TECHNICAL SPECIFICATIONS

LAIA - 28

Components	LF: 2 x 8" (2" voice coil), Tetracoil ultra linear motor HF: 1 x 1.4" exit throat, (3" voice coil) with titanium diaphragm
Frequency range	65 Hz - 20 KHz (-10 dB)
Frequency response	75 Hz - 18 KHz (± 3dB)
Max SPL	130 dB / 136 dB Peak
Coverage	100° H x 10 ° V
Power	1200W Class D with switching power supply & PFC LF amplifier: 1 x 800 W RMS, 1600 W peak HF amplifier: 1 x 400 W RMS, 800 W peak
DSP Processing	96 KHz / 64 bit double-precision
Control	User control interface
Control connections	USB (DSP updating) / Ethernet (OCS)
Input	Analog
AC Power	90 – 264V. 50/60 Hz with PFC
AC connnections	USB (DSP updating) / Ethernet (OCS)
Finish	Polyurea coating, high grade resistant paint
Material	15 mm Premium birch plywood
Dimensions	247 x 600 x 444 mm (H x W x D) without pins
Weight	25 Kgs

LAIA - 218S

Components	LF: 2 x 18", 4" voice coil
Frequency range	30 Hz - 120 Hz (-10 dB)
Frequency response	35 Hz - 100 Hz (± 3dB)
Max SPL	136 dB / 142 dB Peak
Coverage	Omnidirectional
Power	4000 W Class D with switching power supply & PFC, 2 x 2000 W
DSP Processing	96 KHz / 64 bit double-precision
Control	User control interface
Control connections	USB (DSP updating) / Ethernet (OCS)
Input	Analog
AC Power	90 – 264V. 50/60 Hz with PFC
AC connnections	16A Neutrik powerCon true1 TOP with looping output
Finish	Polyurea coating, high grade resistant paint
Material	18 mm Premium birch plywood
Dimensions	605 x 1205 x 725 mm (H x W x D)
Weight	98 Kg

DSP Processor

4 Audio Modes	Normal, Speech, Live and DJ
2 Position Presets	Normal, Monitor
HPF SUB Filter	ON/ 80/ 100/ 120
LED Display	ON/ OFF/ LIMIT

Level, Treble, Mid, Bass, Delay

4. RAINBOW (Acoustic Prediction Software)

Lynx Pro Audio's R&D department is working on Rainbow 3D, our acoustic simulation software with dynamic 3D features. With a sophisticated design, Rainbow 3D stands out for its speed, being able to provide a simulation in just a few seconds. It also provides algorithms for beam steering and optimizing the listening area.

- **Designed from scratch by professionals**

Rainbow 3D has been programmed from scratch by Lynx Pro Audio engineers, using new programming procedures that achieve an effective simulation with really low calculation time.

- **Multiple listening zones**

The program can simulate all Lynx Pro Audio's acoustic enclosures located in a 3D space, including the classic side, top and front views. It can also define multiple listening zones and allows offset positioning and symmetry. Blueprint images, textures and PNG format pictures can be imported.

- **Unlimited sound sources**

Allows the acoustic simulation for an unlimited number of sound sources and audio systems. You can place as many systems (subwoofers, line arrays, columns and individual boxes) as you desire. Also, the line arrays can be placed in stack or flown configuration.

- **Beam steering**

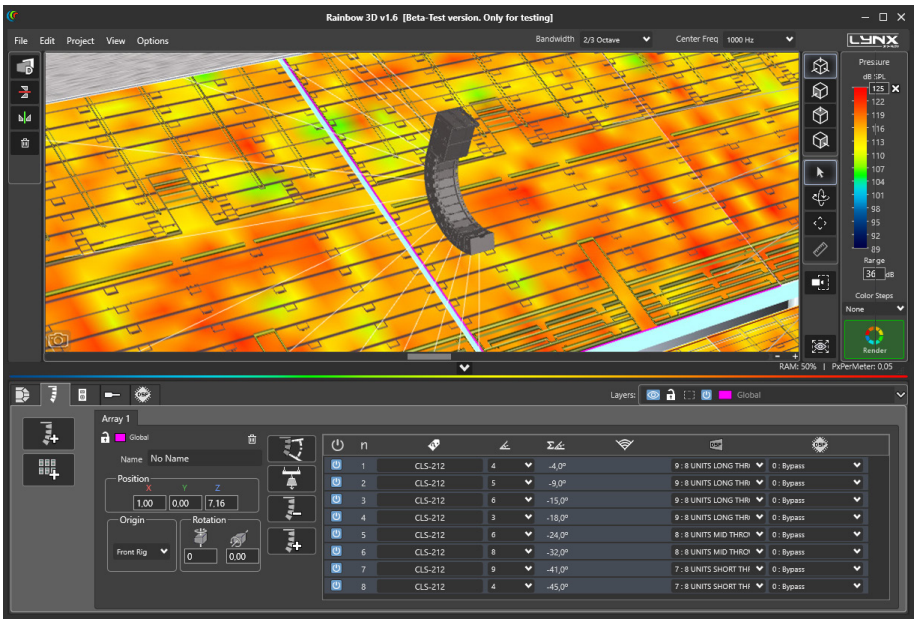
Rainbow 3D has the ability to add DSP processing to the simulation and uses algorithms to control the directivity (beam steering) in columns, without the need to tilt them physically, being able to divide the column into several beams that point to different zones.

- **Accurate optimization thanks to FIR filters**

Optimized algorithms are used in the listening area to improve the sound coverage and the frequency response. This feature can be executed in a matter of seconds. Additionally, the export of FIR coefficients can be performed with the optimization for later loading in the DSP via Ethernet or a USB device. In the near future direct communication with Lynx Pro Audio and OCS will be available.

- **Multiple measures and tools**

Likewise, the R&D department is developing multiple measurement and analysis tools for the calculated data. For example, the sound pressure curves (SPL) in the listening areas and the capture of virtual measurements that show the frequency response in the points of location indicated and added. Among other tools you will find autosplay and a wizard to set up different subwoofer arragements.



LYNX PRO AUDIO GUARANTEE

Lynx products are guaranteed against every kind of manufacturing fault 2 year after the date of sale. When products are under guarantee, the repairing and the free supplying of the device parts in order to correct any kind of defect are guaranteed by Lynx Pro Audio S.L. In the case that the product could not be returned to the factory for checking and repairing, Lynx Pro Audio S.L. would supply all the necessary parts.

Lynx Pro Audio S.L. is not responsible for any damage or defect caused during the transport or caused by an undue or improper handling by a non-authorized person during the life of this guarantee.

All our products go through rigorous testing and quality controls. We guarantee the characteristics described here within and their quality against any fabrication defect.

The user loses all warranty rights if he incorporates or carries out any modification to the product, if he uses it outside of the stated safe working loads or does not secure the system properly using all the pins in their corresponding holes.

For any question regarding the product, the user must quote the model and serial number.

WEEE Declaration: Electrical and electronic equipment must be disposed of separately from normal waste at the end of its operational lifetime. Please dispose of this product according to the respective national regulations or contractual agreements. If there are any further questions concerning the disposal of this product please contact Lynx Pro Audio S.L.

CE

DECLARATION OF CONFORMITY

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Lynx Pro Audio S.L. declares that LAIA series are in conformity with the following EC directives:

Low Voltage Directive	2014/35/UE
Electromagnetic Compatibility EMC	2014/30/UE
RoHS Directive	2011/65/UE
RAEE (WEEE)	2012/19/UE

In accordance with Harmonized European Norms:

EN 60065:2014	Audio, video and similar electronic apparatus. Safety requirements
EN 60065:2002	Audio, video and similar electronic apparatus. Safety requirements
EN 55103-1:1996	Electromagnetic compatibility. Product family standard for audio, video, audiovisual and entertainment lighting control apparatus for professional use. Part 1: Emission.
EN 50581:2012	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

Models

LAIA - 28 | LAIA - 218S

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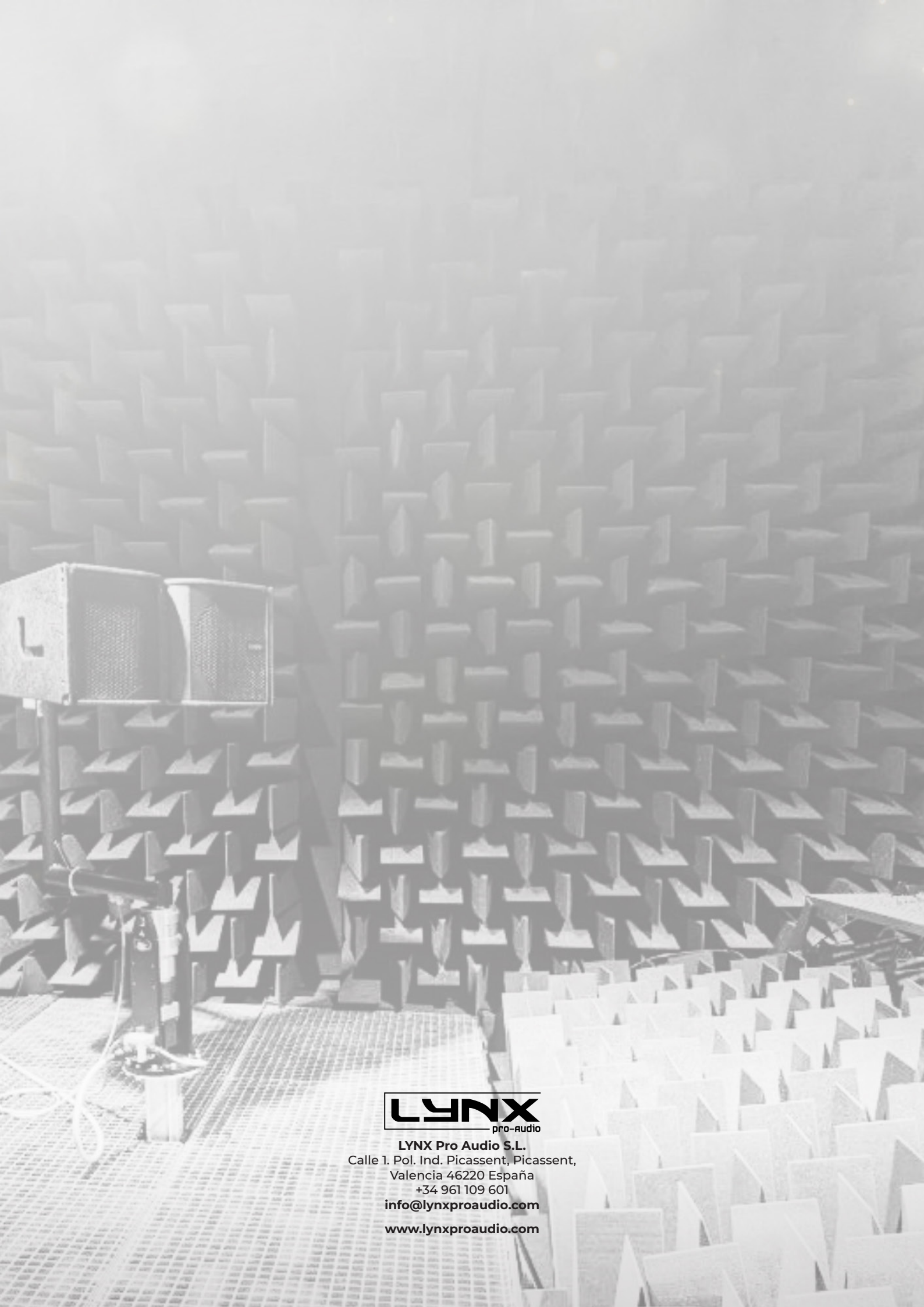

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