

# GTX SERIES

USER MANUAL



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

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**CE CERTIFICATION, EUROPEAN PRODUCT**

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# CONTENTS

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## 1. INTRODUCTION

Description of the GTX front panel .....	7
GTX Characteristics.....	8
Output power.....	8

## 2. OCS DSP CONTROL.....9

GTX_OCS DSP Control.....	9
DSP management using OCS and amplifier display.....	9
DSP specifications.....	9
Online Control System.....	10

## 3. TECHNICAL SPECIFICATIONS.....12

## 4. TROUBLESHOOTING.....13

## LYNX PRO AUDIO GUARANTEE.....16

## WELCOME

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Just contact the new generation of digital amplifiers, designed and manufactured by Lynx Pro Audio S.L.

Before working with the amplifier 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 GTX amplifier 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 thar as a user you will be completely satisfied. We are sure that the GTX amplifier 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 **GTX** amplifier shows that it is verified and tested to accomplish the European Norms and International Norms about Electromagnetic Compatibility and Electrical Safety.



Radiated Emissions : 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



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 processor 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 GTX**

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

# 1.- INTRODUCTION

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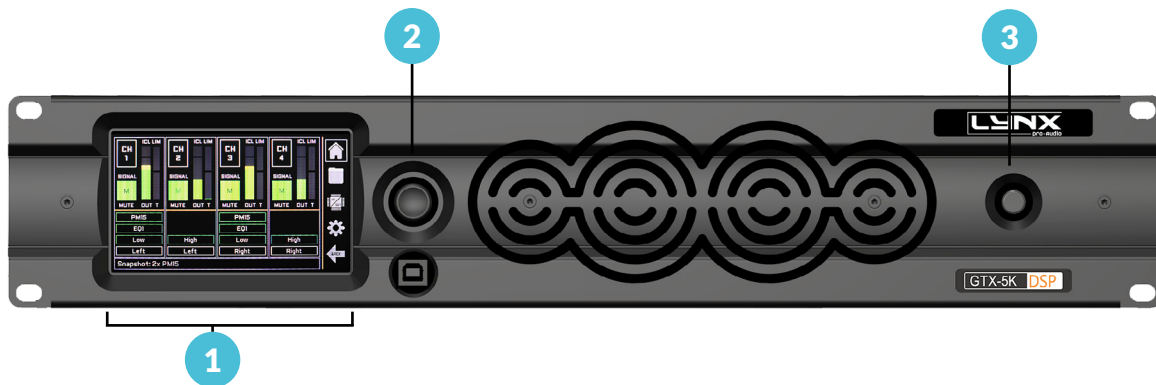
The GTX Series are 4-channel, extremely high power level amplifiers designed to withstand the rough requirements of the touring market.

With outstanding, high efficiency, these amplifiers have been equipped with a quality FIR-DSP with high performance 96kHz DSP processing and a large IPS display with a touch panel user interface.

Advanced Audio Power Control Management has been implemented in the design of the GTX series. This enables the user to configure the division of power between the channels via the DSP enabling them to obtain maximum power through just one single channel if desired.

Optional Dante Networking (AES67) and AES3 Digital inputs are also available.

## GTX frontal panel description



### 01. IPS Display

Capacitive touch panel user interface.

### 02. ENCODER AND PUSH BUTTON

This encoder allows you to control the interface and touch panel.

### 03. POWER ON SWITCH

## GTX amplifier characteristics

- Large IPS display, capacitive touch panel user interface
- 64 bit double-precision 96kHz DSP process
- Optional Dante™ Networking (AES67) and AES3 Digital inputs
- Two ports Ethernet and USB port for DSP control
- Low weight high efficiency class D topology
- Universal power supply with PFC
- Audio advanced Power Control Management (PCMTM)
- Neutrik® XLR and Speakon® connectors
- Up-side-down design to avoid fan dust accumulation
- Temperature controlled, front to back cooling fan
- 8, 4 and 2 Ohm low impedance operation. 100, 70, 50 and 35 V high impedance modes
- Up to 20000 W in 4 channels

## GTX Output power

	GTX-5K	GTX-10K	GTX-14K	GTX-20K
2 ohms	4 x 1250 W	4 x 2500 W	4 x W	4 x W
4 ohms	4 x 1250 W	4 x 2500 W	4 x W	4 x W
8 ohms	4 x 1250 W	4 x 1250 W	4 x W	4 x W
Hi -Z 100 V	4 x 1250 W	4 x 2500 W	4 x W	4 x W
	1 x 2500 W	1 x 2500 W	1 x W	1 x W
Hi -Z 70 V	4 x 1250 W	4 x 2500 W	4 x W	4 x W
	1 x 8000 W	1 x 2500 W	1 x W	1 x W



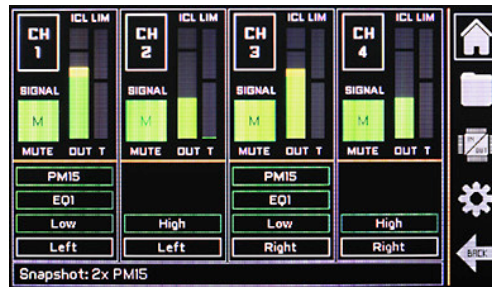
## 2.- OCS DSP CONTROL

### **GTX\_OCS DSP Control**

GTX series DSP is a highly versatile amplifier suitable for any sound system and configurable for any possible application.

This high-performance DSP features FIR filters at 96 kHz.

The digital amplifier has Ethernet control and is managed via Lynx Pro Audio's proprietary control software, GTX\_OCS.



### **DSP management using OCS and amplifier**

- Input Routing matrix Analog/Dante/AES3
- Input EQ section with 8 filters and 20 memories
- Input EQ Mode section
- System Preset selection (Locked/Unlocked)
- Snapshot library management up to 20 presets
- Master Control Groups
- Input EQ Mode section creation, up to 20 presets
- Ways routing section (Locked/Unlocked)
- IIR EQ section: XOver, Gain, Delay and 7 EQ filters
- FIR EQ section: linear phase XOver and EQ filters, or custom up to 1000 taps
- RMS and Peak Dynamic control
- Snapshot Preset library management up to 20 presets (Locked/Unlocked)
- System Preset library management up to 100 pre-sets
- 5 Security levels definition to limit final user functionality

### **DSP Specifications**

#### **Overall:**

- High performance 96kHz/24 bits AD/DA converters
- 64 bit double-precision 96kHz DSP process
- 0.85ms minimum process latency time
- Custom FIR process up to 1000 taps
- Dante and AES3 input versions
- Output FIR EQ: 20 filters per channel (Parametric, Shelving, LP,HP, BP, SB, PA), or Custom. Up to 1000 taps
- RMS and Peak limiter per channel

#### **Input Section (x4):**

- Gain, Mute and Phase inversion
- Delay: in In A: 333ms (114m), In B/C/D: 90ms (31m)
- Input EQ: 16 filters (Param., Shelving, LP, HP, BP, SB, AP)

#### **Output Section (x4):**

- Crossover Filters: FIR and IIR (up to 48dB/oct, Butterw./LR/Bessel)
- Output Delay: 0 to 31 meters (90ms) per channel
- Output IIR EQ: 12 filters per channel (Param., Shel, LP, HP, BP, SB, AP)

#### **Communications:**

- Two ports Ethernet switch for daisy chain connection
- UBS 2.0 Type B port

#### **Miscellaneous:**

- 20 User preset memories library
- 20 User snapshot memories library
- Manufacturer/User passwords
- User control groups for virtual Equalization, Gain and Delay
- Zone management for library, and alerts information
- Smart ® analysis software integration

## ONLINE CONTROL SYSTEM

### • Who is it for?

Users of Self powered DSP incorporated Lynx Pro Audio Cabinets where the user has requested the cabinets be supplied with the Ethernet Module kit.

### • What is it for?

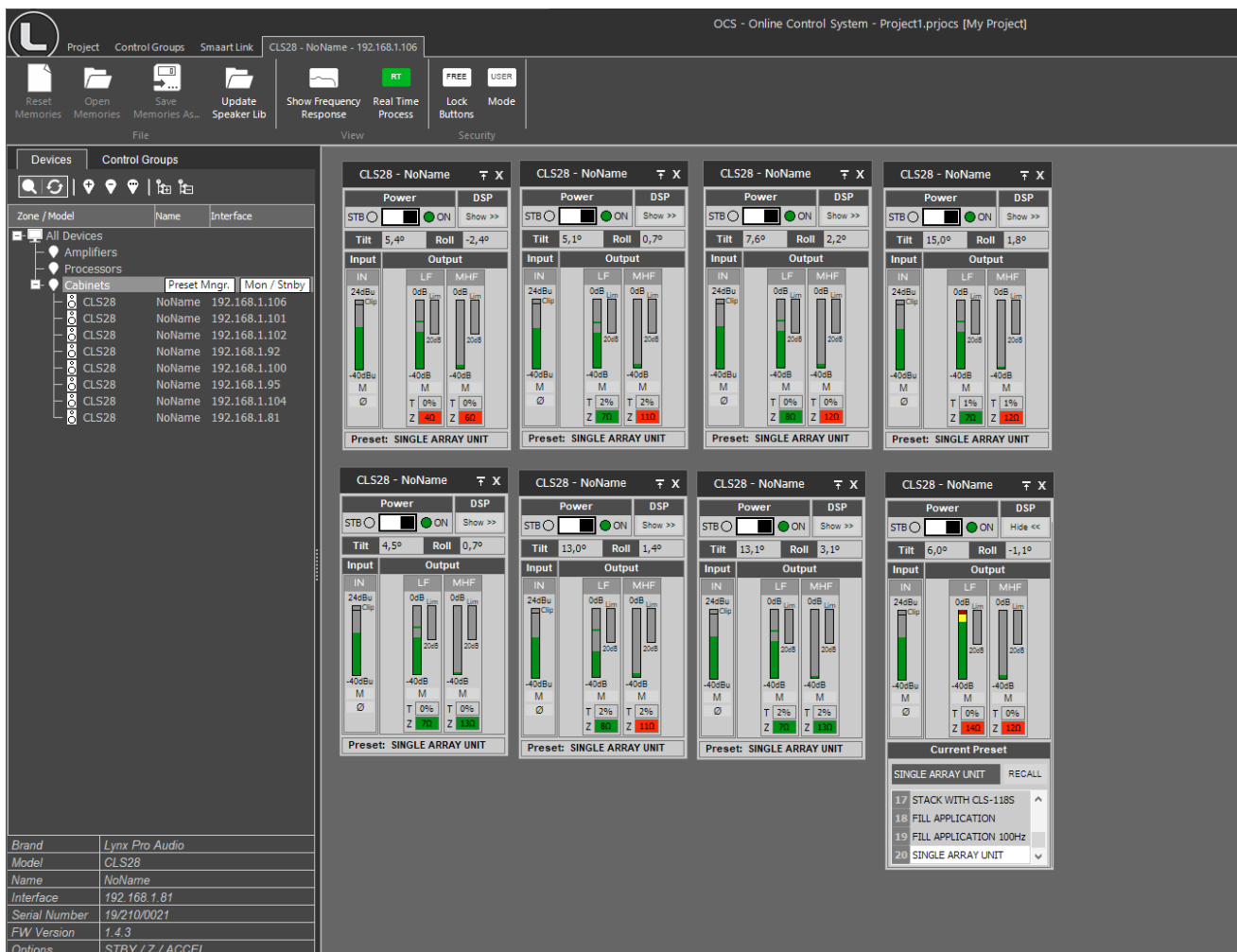
Obtain detailed information of cabinet behaviour and monitor the cabinet/s in real time. You can change the preset, gain, mute, polarity and phase. You can also activate the air absorption compensation and select the «SOLO» mode.

### • How does it work?

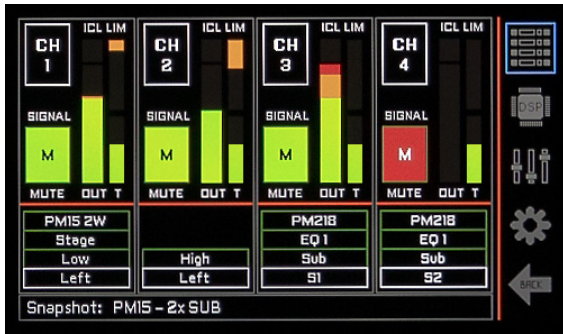
Via Ethernet (cable or wireless). Once installed, the O.C.S. software automatically detects all the cabinets connected to the network and displays them in the O.C.S. window on the users PC.

### • What does it show?

As well as displaying the cabinet model and IP address the O.C.S will be monitoring in real time and the user will be able to view RMS levels, Input clip, power module temperature, compression levels, air absorption compensation and cabinet angulation.

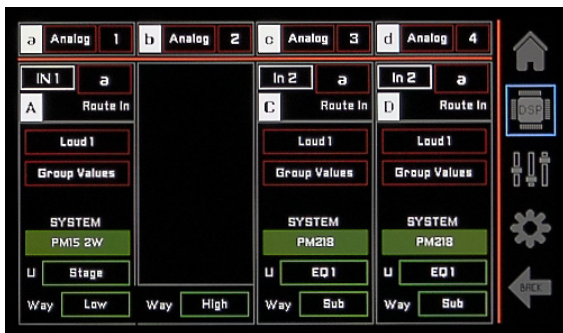


### Home screen



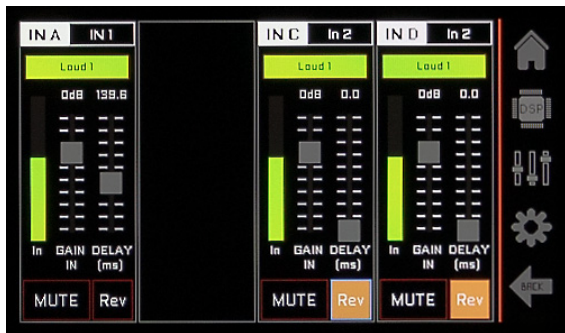
- **Output signal per channel:** lights up green with signal presence
- **Mute button:** silences the amplifier channel output
- Channel output level
- **ICL indicator:** lights up when the clip limiter system is active
- **LIM:** shows the compression level of the RMS and Peak limiters
- **T:** shows the channel temperature (as a percentage)
- System Preset/Mode/Channel/User ID names in the current process
- **Snapshot:** shows the name of the current Snapshot (if any is loaded)
- **Default Screen Icon:** button to access the default screen

### DSP Edit screen



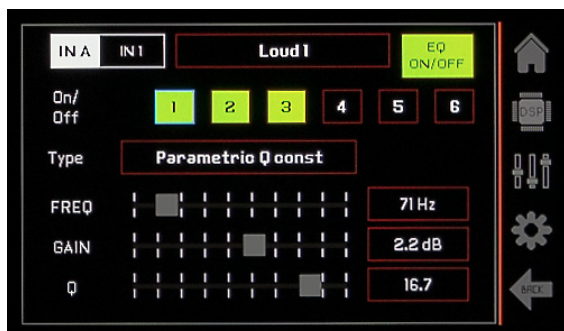
- **Input source:** to select the analogue/digital input source
- **System input:** to select the input for each system
- **User ID input label:** shows the user-assigned name
- **User equalisation:** to select the user memory for input equalisation
- **Group Values:** shows control group values (in green if present)
- **JOIN (optional):** to link different outputs to one input
- System Preset selection
- **M:** to select the Mode equalisation
- **Way:** to optionally select the output channel

### User input settings screen



- **User ID input label:** shows the user-assigned name
- User Equalisation Access Button
- **In:** input level VU meter
- **GAIN IN:** to adjust the input gain
- **DELAY:** to adjust the input delay (ms)
- **MUTE:** to mute the input
- **Rev:** to change the input polarity

### User equalisation screen



- Equalisation Memory Name
- **EQ ON/OFF:** to enable/disable User Equalisation
- **On/Off HP 1-6:** to access a specific filter and enable/disable it
- **Type:** to assign the filter type to the selected equalisation
- **FREQ:** to assign the frequency to the selected equalisation
- **GAIN:** to assign the gain to the selected equalisation
- **Q:** to assign the Q to the selected equalisation

### 3. TECHNICAL SPECIFICATIONS

	GTX-5K	GTX-10K	GTX-14K	GTX-20K
Number of channels	4	4	4	4
Total output power	5000 W	10000 W	14000 W	20000 W
Output power				
@ 2 Ohms	4 x 1250W / 1 x 1250W	4 x 2500W / 1 x 2500W	4 x 3500W / 1 x 3500W	4 x 5000 W / 1 x 5000W
@ 4 Ohms	4 x 1250W / 1 x 2500W	4 x 2500W / 1 x 2500W	4 x 3500W / 1 x 3750W	4 x 5000 W / 1 x 6000W
@ 8 Ohms	4 x 1250W / 1 x 1250W	4 x 1250W / 1 x 1300W	4 x 1800W / 1 x 1900W	4 x 2500 W / 1 x 3000W
@4 Ohms Bridged	2 x 2500 W	2 x 5000 W	2 x 7000 W	2 x 10000 W
@8 Ohms Bridged	2 x 2500 W	2 x 5000 W	2 x 7000 W	2 x 10000 W
Hi-Z 100V	4 x 1250 / 1 x 1250 W	4 x 2500 / 1 x 2500 W	4 x 3500 / 1 x 4200 W	4 x 5000 / 1 x 5000 W
Hi-Z 70V	4 x 1250 / 1 x 1800 W	4 x 2500 / 1 x 2500 W	4 x 2950 / 1 x 2950 W	4 x 3500 / 1 x 3500 W
Max output voltage	150 V peak	150 V peak	189 V peak	235 V peak
Max output current	36 A peak	50 A peak	59 A peak	71 A peak
Total Harmonic Distortion	<0.05%	<0.05%	<0.05%	<0.05%
Crosstalk /20Khz-1KHz), typical	>70 dB	>70 dB	>70 dB	>70 dB
Voltage Gain	26 dB to 44 dB	26 dB to 44 dB	26 dB to 44 dB	26 dB to 44 dB
SNR	111 dBA	111 dBA	113 dBA	115 dBA
Required AC Mains				
Operating Voltage (50Hz-60Hz)	90V-140V AC	90V-140V AC	90V-140V AC	90V-140V AC
1/8 Rated Power (@ 4 ohms)	3.7 A	7.3 A	10 A	14 A
Dimensions W x H x D (mm)	483 x 89 x 355	483 x 89 x 355	483 x 89 x 355	483 x 89 x 355
Weight Net (kg - lbs)	7 - 15.4	7 - 15.4	7.5 - 16.5	7.5 - 16.5
Protections	Soft-start, Turn-on Turn-off transients, Over-heating, DC, RF, Short-circuit, Open or mismatched loads, Overloaded power supply, ICL™, PMS™ and SSP™			

\* IEC filtered pink noise signal (40Hz-5kHz, 12 dB crest factor). 230V AC mains.

## 4. TROUBLESHOOTING

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We aim to resolve possible issues by providing solutions in this section:

### **1 - The amplifier does not start up**

Check the power supply cord. If it is correctly connected and the red led on the front panel does not light on, check the fuse situated in the input of the power cord.

### **2 - The amplifier starts up but there is no sound**

Check that the amplifier is being provided with a signal in the correct input, A, B, C or D. If the signal does reach the amplifier, the green signal LED will light.

### **3 - The resulting sound is “strange”**

Check that the outputs and their corresponding cabinets are correctly linked. Always be careful in increasing little by little the cabinets volume channel by channel in order to check the correct connection and not to damage the transducers.

### **4 - One of the cabinets (with the same signal) sounds less than the others**

Check that the joining cable from the amplifier to the cabinet is well balanced otherwise the output signal will fall 6 dB.



## DECLARATION OF CONFORMITY

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

Low Voltage Directive	2006/95/EC
Electromagnetic Compatibility EMC	2004/108/EC
RoHS Directive	2002/95/EC

In accordance with Harmonized European Norms:

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 55103-2:1996	Electromagnetic compatibility. Product family standard for audio, video, audiovisual and entertainment lighting control apparatus for professional use. Part 2: Immunity.



## **LYNX PRO AUDIO GUARANTEE**

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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.

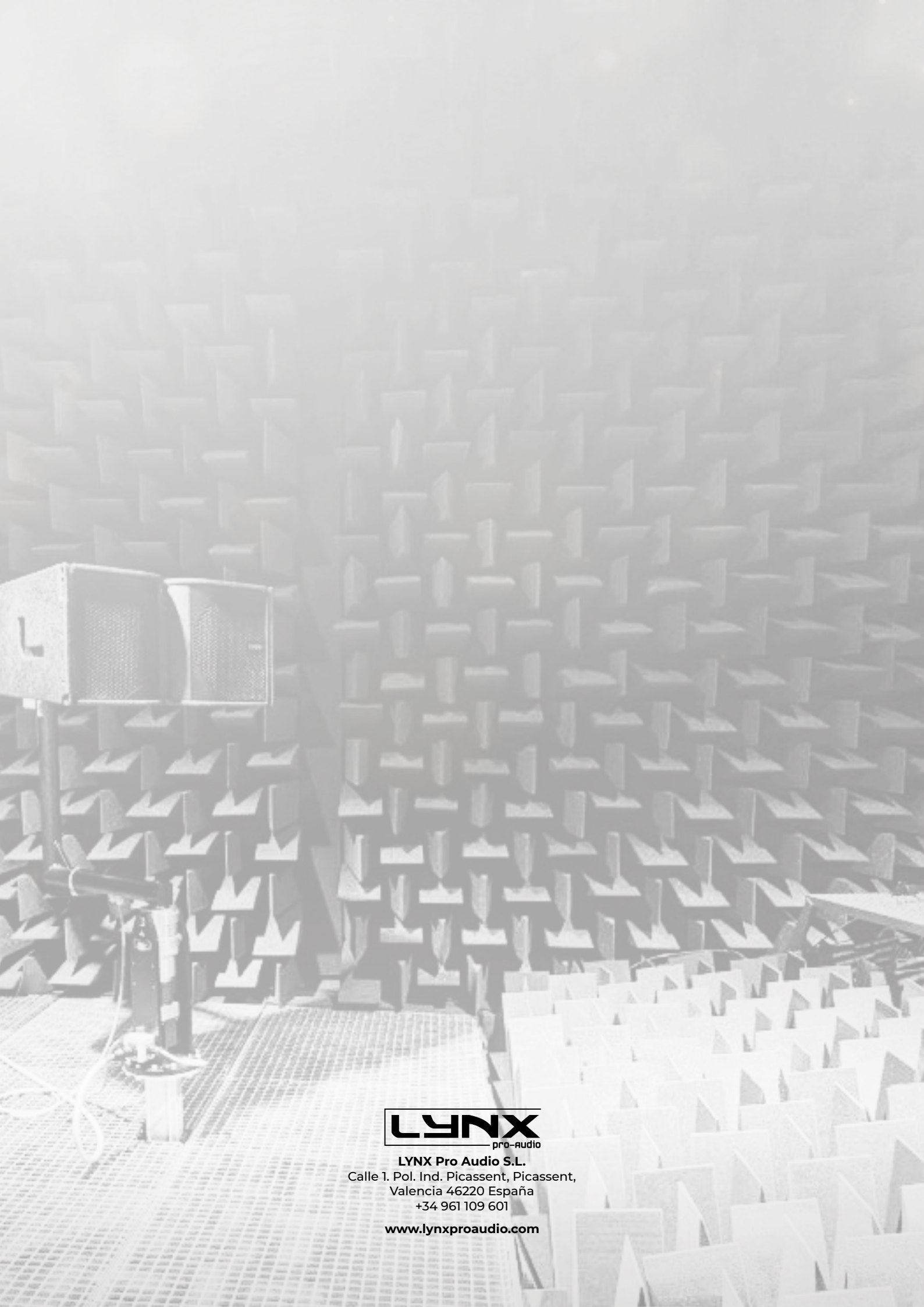
Lynx Pro Audio S.L. is not responsible for any damage or defect caused during the transport or caused by an undue or improper handling by a non-authorized person during the life of this guarantee.

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.



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pro-audio

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