CLS Series **CATALOGUE**

Latest edition

Proudly designed, engineered and
manufactured in SPAIN

LYNX pro-audio

CULTURE OF SOUND

CLS Series

The CLS (Coaxial Line Source) Series is our newest scalable line array solution.

There are two full range cabinets available, CLS-212 & CLS-28 and three sub-bass options; CLS-121S, CLS-218S and CLS-118S all designed to offer incredible output in the most compact format possible.

Extreme care has been taken to select and customize the most advanced components on the market, including coaxial Mid/high drivers together with full electronic synergy through the coupling of the system amplification & integrated DSP technology.

Total system control is also achieved through our 3D prediction software (Rainbow 3D) working together with our remote system management platform (OCS). These cutting edge softwares together with the CLS technology provides the most optimum and precise listening experience to every ear in the audience.

The enclosures are made from premium grade birch plywood and finished with a polyurea coating for longer durability & weather protection.

CLS-28

- Extraordinary power-to-size ratio
- Unique 8” dual diaphragm planar wave driver
- Perfect acoustical coupling of individual units to create virtually continuous line source & excellent phase coherence
- Extended bandwith (65 Hz – 22 KHz)
- Integrated Digital processor (64 bit / 96 KHz) with FIR linear phase filtering
- Perfect Time Alignment avoiding Multi-Source Interference problems
- Ergonomic design in premium birch plywood & finished in polyurea
- 2.8” IPS display with multifunction joystick control

Extremely compact & powerful 3-way, self-powered, DSP integrated coaxial line array element.

It uses Dual high power 8” custom, neodymium transducers for the low frequencies and a unique 8” dual diaphragm coaxial planar wave driver for the mid/high frequencies.

Each cabinet is powered by a 2800W 2 channel class D amplifier with PFC and includes a 32 bit/96Khz integrated DSP

Manufactured from premium grade birch plywood and with a polyurea finish the system can be rigged & assembled in retracted position enabling a much easier set up without the need to lift each cabinet individually.

Applications: touring & fixed installations, sports stadiums, theatres, houses of worship, concert halls, auditoriums and club installations. Downfill for CLS-212.

Technical Data

	CLS-28
Components	LF: 2 x 8” (2.5” DUO double layer in/out copper voice coil), waterproof cone treated on both sides, neodymium magnet, 1000W (AES). HF: 8” dual diaphragm coaxial planar wave driver. - Mid: 3.5” (90 mm) voice coil, 150 W (AES) - High: 1.5” (44.4 mm) voice coil, 80 W (AES)
Frequency Range	65 Hz - 22 KHz (- 6 dB)
Horizontal coverage	100°
Vertical coverage	Single element 10°
Max. SPL*	135 dB / 141 dB
Power amplifier	2800W Class D with switching power supply & PFC LF amplifier: 1 x 1400W MF/ HF amplifier:1 x 1400W
DSP	Internal Lynx Processor DSPB-FL. 96 KHz / 64 bit double-precision, DSP with FIR filter linear phase. High performance 32 bit 96 KHz AD/DA converters 120dB
Crossover	Digital: FIR filter 550Hz / Passive: 6.3 KHz
Control	User control interface with 2.8” IPS display and multifunction joystick controller
Control connections	USB (DSP programming) Dual Ethernet port, Online Control System
Input	BAL/ UNBAL XLR connectors analog input AES/EBU digital input optional
Nominal voltage	100 - 240V AC @ 50-60 Hz
Operational voltage	85 - 264V AC
AC Connectors	16A Neutrik powerCON TRUE1 TOP with looping output
Finish	Polyurea coating high resistant paint
Material	15mm Premium birch plywood
Dimensions	254.5 x 600 x 480 mm (H x W x D) / with pins 613.5 mm (W)
Weight	27 Kg (59.5 lbs)
Intercabinet angle adjustment	0° to 10° in one degree increments

* Calculated based on power rating and measured sensitivity

CLS-118S

CLS Series

- Extraordinary high power output
- Integrated Digital processor (64 bit / 96 KHz)
- Front & rear audio and power connectors for cardioid applications
- Ergonomic design in premium birch plywood & finished in polyurea
- 2.8" IPS display with multifunction joystick control
- Stackable and flyable standard and/or cardioid configuration

High Output, extremely powerful sub-bass element designed to be used with the coaxial CLS-28 line array module.

It uses one high power, low distortion 18" custom speaker and can be used as a standard sub-bass or configurable as a cardioid.

Each cabinet is powered by a 3000W class D amplifier with PFC and includes a 32 bit/96Khz integrated DSP

Manufactured from premium grade birch plywood and with a polyurea finish the system can be flown in a single array or together with the CLS-28.

Applications: touring & fixed installations, sports stadiums, houses of worship, concert halls and auditoriums. Low frequency complement for CLS-28.

Technical Data

	CLS-118S
Components	LF: 18" Neodymiun magnet transducer. 4.5" split winding copper voice coil, Waterproof cone with treatment for both sides. Aluminium demodulating ring for very low distortion. 1700 W (AES)
Frequency Range	30 Hz - 100 Hz (preset 100 Hz)
Coverage	Quasi omnidirectional
Max. SPL*	131 dB / 137 dB
Power amplifier	3000W Class D with switching power supply & PFC
DSP	Internal Lynx Processor DSPB-FL. 96 KHz / 64 bit double-precision High performance 32 bit 96 KHz AD/DA converters 120dB
Configuration	Bass-reflex direct radiation enclosure
Control	User control interface with 2.8" IPS display and multifunction joystick controller
Control connections	USB (DSP programming) Dual Ethernet port, Online Control System
Input	BAL/ UNBAL XLR connectors analog input AES/EBU digital input optional
Nominal voltage	100 - 240V AC @ 50-60 Hz
Operational voltage	85 - 264V AC
AC Connectors	16A Neutrik powerCON TRUE1 TOP with looping output
Finish	Polyurea coating high resistant paint
Material	15 mm / 18 mm Premium birch plywood
Dimensions	600 x 613 x 770 mm (H x W x D) / with pins 609 x 613 mm (H x W)
Weight	58 Kg (127.8 lbs)

* Calculated based on power rating and measured sensitivity

CLS-121S

- Extraordinary high power output
- Integrated Digital processor (64 bit / 96 KHz)
- Front & rear audio and power connectors for cardioid applications
- Ergonomic design in premium birch plywood & finished in polyurea
- 2.8" IPS display with multifunction joystick control
- Stackable and flyable standard and/or cardioid configuration

High Output, extremely powerful sub-bass element designed to be used with the coaxial CLS-212 line array module.

It uses one high power, low distortion 21" custom speaker and can be used as a standard sub-bass or configurable as a cardioid.

Each cabinet is powered by a 3000W class D amplifier with PFC and includes a 32 bit/96Khz integrated DSP.

Manufactured from premium grade birch plywood and with a polyurea finish the system can be flown in a single array or together with the CLS-212.

Technical Data

	CLS-121S
Components	LF: 21" Neodymiun magnet transducer. 4" quattro in/out copper voice coil, Waterproof cone treated on both sides. Malt Cross Technology cooling system. Aluminium demodulating ring for very low distortion. 1600 W (AES)
Frequency Range	30 Hz - 90 Hz (preset 90 Hz)
Coverage	Quasi omnidirectional
Max. SPL*	131 dB / 137 dB
Power amplifier	3000W Class D with switching power supply & PFC
DSP	Internal Lynx Processor DSPB-FL. 96 KHz / 64 bit double-precision High performance 32 bit 96 KHz AD/DA converters 120dB
Configuration	Bass-reflex direct radiation enclosure
Control	User control interface with 2.8" IPS display and multifunction joystick controller
Control connections	USB (DSP programming) Dual Ethernet port, Online Control System
Input	BAL/ UNBAL XLR connectors analog input AES/EBU digital input optional
Nominal voltage	100 - 240V AC @ 50-60 Hz
Operational voltage	85 - 264V AC
AC Connectors	16A Neutrik powerCON TRUE1 TOP with looping output
Finish	Polyurea coating high resistant paint
Material	15 mm / 18 mm Premium birch plywood
Dimensions	608 x 800 x 778 mm (H x W x D) / with pins 814.5 mm (W)
Weight	64 Kg (141 lbs)

* Calculated based on power rating and measured sensitivity

CLS-212

CLS Series

- Extraordinary power-to-size ratio
- Unique 6.5” dual diaphragm planar wave driver
- Perfect acoustical coupling of individual units to create virtually continuous line source & excellent phase coherence
- Extended bandwith (60 Hz - 22 KHz)
- Integrated Digital Processor (64 bit / 96 KHz) with FIR linear phase filtering
- Perfect Time Alignment avoiding Multi-Source Interference problems
- Ergonomic design in premium birch plywood & finished in polyurea
- 2.8” IPS display with multifunction joystick control

Extremely compact & extremely powerful 3-way, self-powered, DSP integrated coaxial line array element.

It uses Dual high power 12” custom, neodymium transducers for the low frequencies and two unique 6.5” dual diaphragm coaxial planar wave drivers for the mid/high frequencies.

Each cabinet is powered by a 6000W 2 channel class D amplifier with PFC and includes a 32 bit/96Khz integrated DSP

Manufactured from premium grade birch plywood and with a polyurea finish the system can be rigged & assembled in retracted position enabling a much easier set up without the need to lift each cabinet individually.

Applications: touring & fixed installations, sports stadiums, theatres, houses of worship, concert halls, auditoriums and club installations.

Technical Data

	CLS-212
Components	LF: 2 x 12”. 4” DUO double layer in/out copper voice coil, Waterproof cone treated on both sides, Neodymium magnet. 1400 W (AES) HF: 2 x 6.5” dual diaphragm coaxial planar wave driver. - Mid: 3.5” (90 mm) voice coil, 150 W (AES) - High: 1.5” (44.4 mm) voice coil, 80 W (AES)
Frequency Range	60 Hz - 22 KHz
Horizontal coverage	100°
Vertical coverage	Single element 10°
Max. SPL*	142 dB / 148 dB
Power amplifier	6000 W Class-D with switching power supply & PFC LF amplifier: 1 x 3000W MF/ HF amplifier: 1 x 3000W
DSP	Internal Lynx Processor DSPB-FL. 96 KHz / 64 bit double-precision, DSP with FIR filter linear phase. High performance 32 bit 96 KHz AD/DA converters 120dB
Crossover	Digital: FIR filter 500 Hz / Passive: 6.3 KHz
Control	User control interface with 2.8” IPS display and multifunction joystick controller
Control connections	USB (DSP programming) Dual Ethernet port, Online Control System
Input	BAL/ UNBAL XLR connectors analog input AES/EBU digital input optional
Nominal voltage	100 - 240V AC @ 50-60 Hz
Operational voltage	85 - 264V AC
AC Connectors	16A Neutrik powerCON TRUE1 TOP with looping output
Finish	Polyurea coating high resistant paint
Material	15 mm / 18 mm Premium birch plywood
Dimensions	384 x 800 x 480 mm (H x W x D) / with pins 815.5 mm (W)
Weight	47 Kg (103.6 lbs)
Intercabinet angle adjustment	0° to 10° in one dregree increments

* Calculated based on power rating and measured sensitivity

CLS-218S

Technical Data

- Extraordinary high power output
- Integrated Digital processor (64 bit / 96 KHz)
- Front & rear audio and power connectors for cardioid applications
- Ergonomic design in premium birch plywood & finished in polyurea
- 2.8" IPS display with multifunction joystick control
- Stackable and flyable standard and/or cardioid configuration

Compact and extremely powerful sub-bass element designed to be used with the coaxial CLS-212 or CLS-28 line array modules.

It uses two high power, low distortion 18" custom speaker and can be used as a standard sub-bass or configurable as a cardioid.

Each cabinet is powered by a 6000W class D amplifier with PFC and includes a 32 bit/96Khz integrated DSP

Manufactured from premium grade birch plywood and with a polyurea finish the system also has a number of dedicated accessories available.

Applications: touring & fixed installations, sports stadiums, theatres, houses of worship, concert halls, auditoriums and club installations. Low frequency complement for CLS-28 and CLS-212.

	CLS-218S
Components	LF: Dual 18" Neodymium magnet transducer. 4.5" split winding copper voice coil. Waterproof cone treated on both sides. Aluminium demodulating ring for very low distortion. 1700 W (AES)
Frequency Range	30 Hz - 100 Hz (Preset 100 Hz)
Coverage	Quasi omnidirectional
Max. SPL*	136 dB / 142 dB
Power amplifier	3000 W Class D with switching power supply & PFC
DSP	Internal Lynx Processor DSPB-FL. 96 KHz / 64 bit double-precision High performance 32 bit 96 KHz AD/DA converters 120dB
Configuration	Bass-reflex direct radiation enclosure
Control	User control interface with 2.8" IPS display and multifunction joystick controller
Control connections	USB (DSP programming) Dual Ethernet port, Online Control System
Input	BAL/ UNBAL XLR connectors analog input AES/EBU digital input optional
Nominal voltage	100 - 240V AC @ 50-60 Hz
Operational voltage	85 - 264V AC
AC Connectors	16A Neutrik powerCON TRUE1 TOP with looping output
Finish	Polyurea coating high resistant paint
Material	18 mm Premium birch plywood
Dimensions	600 x 1200 x 770 mm (H x W x D)
Weight	81 Kg (178.5 lbs)

* Calculated based on power rating and measured sensitivity

CLS Series

Software

Prediction, control, DSP updates, management system...all our softwares are designed in-house and are a fundamental part of the Lynx Pro Audio technology. They are designed by and for sound technicians, with a very intuitive interface easy to use.

Masters of DSP technology and one of the few companies in the world that develops its own digital processing systems. This allows us to control all internal processing, from gain to crossover, dynamics, etc.

Online Control System (OCS)

Control and monitoring software for multiple devices (loudspeakers, amplifiers and processors). Allows control via Ethernet / USB for Lynx Pro Audio systems with integrated DSP.

It controls the powered cabinets in real time and obtain detailed information of cabinet behavior.

Cabinet Updater

Connect the cabinet by USB to your PC. The Cabinet Updater software will automatically detects your cabinet hardware and updates the presets to the latest and optimum configuration available.

ARK Software

The ARK software works via USB or Ethernet (cable or wireless) and is the interface to configure all the parameters of the range of processors ARK-70 and ARK-20 series.

The ARK software has been completely designed at the Lynx Pro Audio laboratory by our own engineers. It allows you to configure every one of the parameters in the processor, being in "Real Time" or "Offline", storing them in the processor via the USB interface or ETHERNET.

Rainbow 3D

Rainbow 3D is an electro-acoustical prediction software for loudspeaker systems, boasting comprehensive high-speed simulation in a three-dimensional environment. With a sophisticated design, Rainbow 3D stands out for its speed, being able to do a simulation in a few seconds.

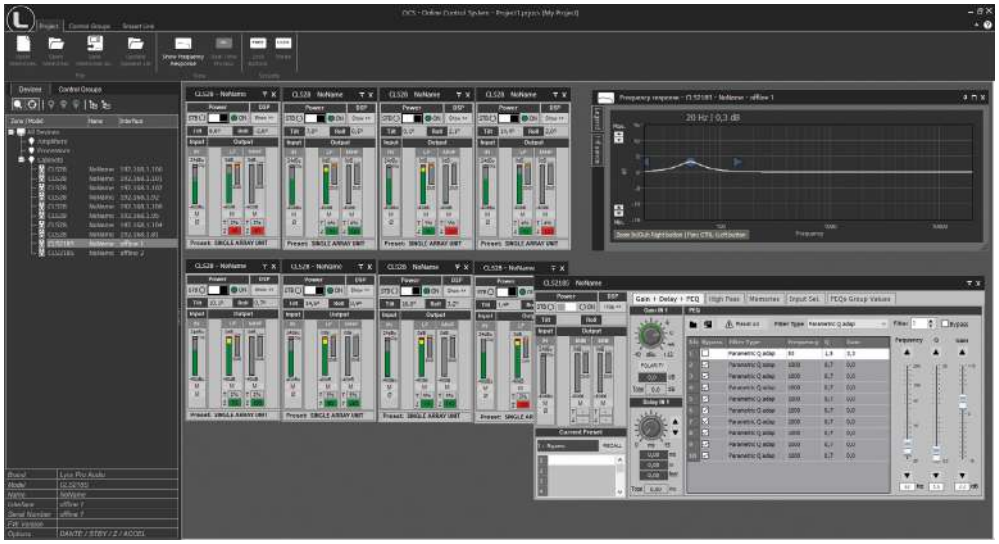
Thanks to this software you will be able to "virtually" determine the acoustical response of one or various cabinets at the same time.

Online Control System (OCS)

OCS is our control software, **working in real time for all our digital processing systems.** It is a user interface enabling the set-up of all digital devices in an installation.

With OCS you can configure / monitor all the parameters of a self-powered Lynx Pro Audio system (input levels, cabinet angles, module temperature, compression levels....), all parameters available in our processors and all settings for our HPX amplifiers, **from the input sensitivity to the digital process for each channel independently.** You can change the preset,gain, mute and polarity, activate the weather compensation and the SOLO mode.

OCS enables configuration from one single software system for all devices connected to an Ethernet network and incorporates direct communication with Smaart(R) measurement system. T**hrough our Smaart Link we can connect to any of Smaart(R) session connected to the local network**. This allows us to see, in real time, the captured measurement directly in our process window.



Control and monitoring software for multiple devices (loudspeakers, amplifiers and processors). Allows control via Ethernet / USB for Lynx Pro Audio systems with integrated DSP.

• Who is it for?

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

• What is it for?

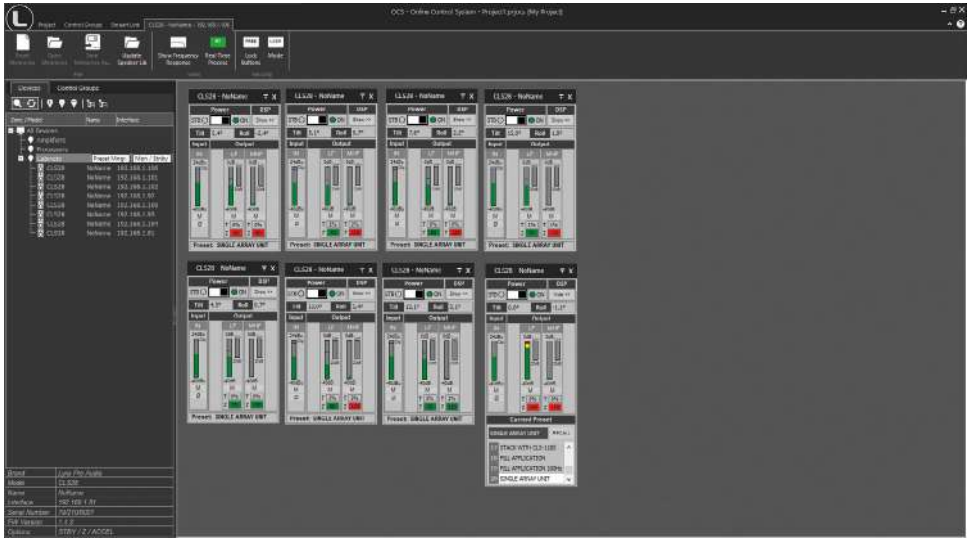
Obtain detailed information of cabinet behaviour and monitor the cabinet/s in real time through the users PC so you can control online a single cabinet or a complete cabinet system from the OCS window. You can apply a Parametric EQ with 6 filters totally configurable, insert a delay up to 90 ms, change the preset, gain, mute, polarity and phase of every cabinet connected. 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 OCS software automatically detects all the cabinets connected to the network and displays them in the OCS window on the users PC.

• What does it show?

As well as displaying the cabinet model and IP address the OCS will be monitoring in real time and the user will be able to view RMS levels, compression and output levels per way, delay, EQ, power module temperature, air absorption compensation and cabinet angulation.



Rainbow 3D Electroacoustical prediction software

Rainbow 3D is an **electro-acoustical prediction software for loudspeaker systems,** boasting comprehensive **high-speed simulation in a three-dimensional environment.** With a sophisticated design, Rainbow 3D stands out for its speed, being able to do a simulation in a few seconds.

Being a technology that has been developed in-house by our engineers, we are able to adapt to the needs of our clients, make improvements when necessary and develop new tools. Rainbow 3D is an ongoing project that will be constantly adding new features.

- **Designed from scratch by professionals**

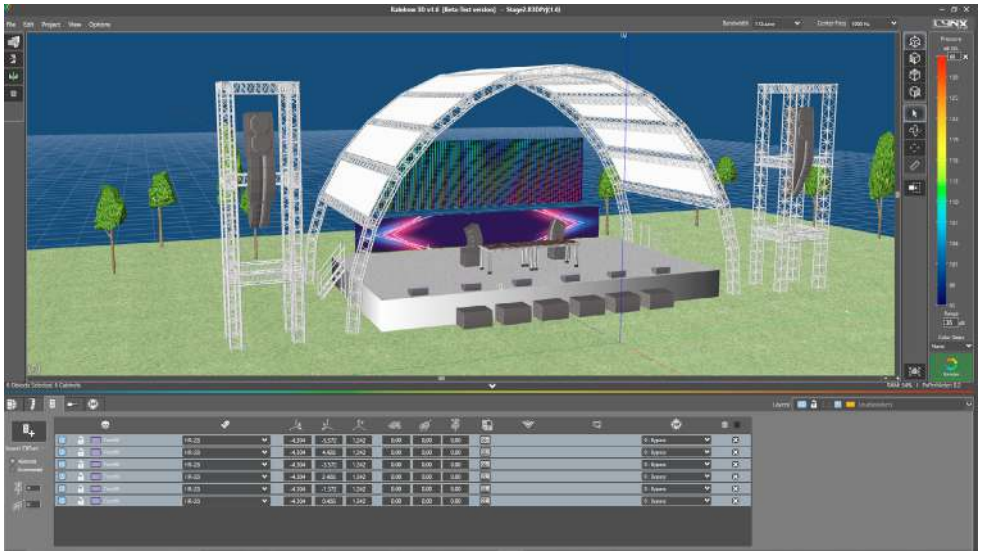
Despite the existence of the previous Rainbow 2D, this new software has been coded from scratch by our engineers in order to achieve an ultra-fast simulation and to create a visually rich 3D environment. The simulation takes advantage of all cores in the computer using multi-threading techniques for optimised calculation speed.

The program can simulate all Lynx Pro Audio's acoustic enclosures located in a 3D space. New spherical measurements of the loudspeakers have been performed, with up to one degree of accuracy, in the recently built anechoic chamber.

- **Complex-shaped surfaces**

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

You can create complex-shaped surfaces as listening zones (venues): trapezoidal forms, semicircles, circles, rectangles and other asymmetrical forms. Each corner in a 4-vertex surface is independently definable as straight or round.



- **Blueprints, textures and ornaments**

Blueprints can be loaded and used as a reference point or template on which reproduce the venue more closely to reality.

Furthermore, you can add textures and ornaments (decorative 3D objects) that you will find in the library to make the project more realistic and visually appealing.

- **Create projects with endless zones**

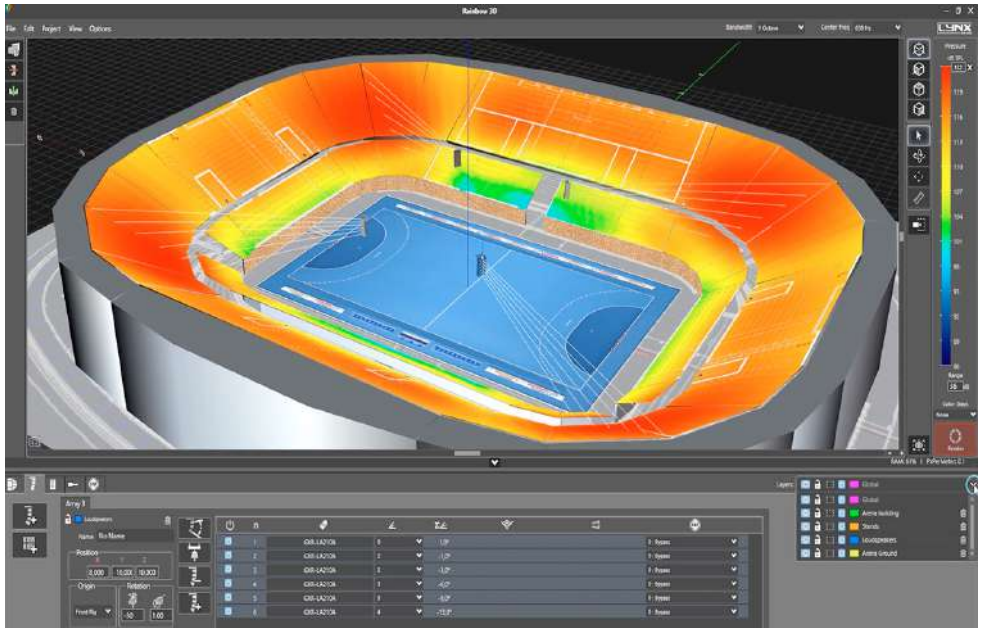
You can create customized designs using multiple edition and productivity tools: create surfaces, duplicate, apply symmetry on X and Y, show/hide surfaces, change dimensions, change position, change rotation, take screenshots, etc.

• 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 cabinets) as you desire or you can create your own group of customized sound systems.

Line arrays can be placed in stack or flown configuration. Also, you can create clusters from any individual cabinet available in the library.



• Create your own “Sound Systems”

You can select different models of cabinets from the library, create a group with the desired configuration and save them as a sound system. In this way, you can create a group of customized sound systems with your own configurations and reuse them in other projects, saving time.

To make this possible, you will need to create a “.system” file. This can be integrated upon other projects with the “Load sound system from file” option or you can import it directly into the library to get access whenever you need it with the “Insert sound system” option.

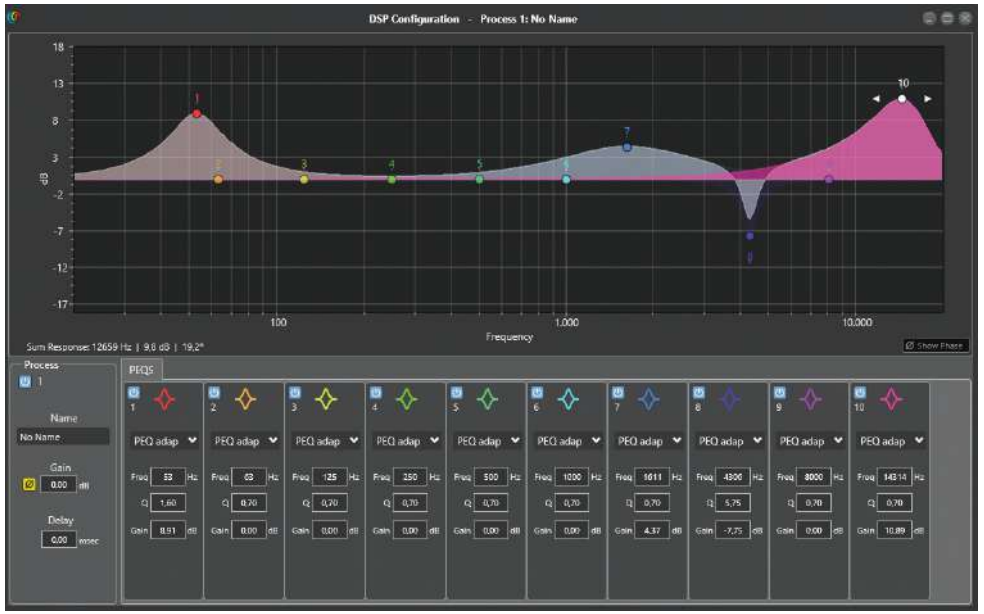
When you create a Sound System, you can add a name, a description and you have the chance to upload a picture.

• Organisation by layers

To work in a more organized way you can create multiple layers, with different names and colors to distinguish them. All elements within a layer can be selected and/or moved among them. You can also lock a layer, delete it or disable the speakers for simulation.

• DSP process over sound sources

Adding DSP process to sound sources to make corrections and optimize sound, using EQ filters, delay, gain and polarity inversion. In the near future, direct communication with Lynx Pro Audio’s cabinets will be available.



• Multiple measures and tools

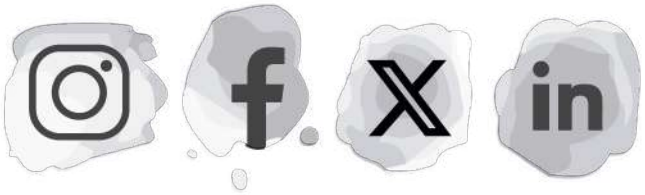
Likewise, the R&D department is developing multiple measurements and analysis tools for the calculated data. For example, adding virtual microphones that show the frequency response in the points of location indicated.

Among other tools you will find a wizard to set up different line array arragements, a tool for line array autosplay and a ruler to take measurements (meters) in the 3D scene.

A PDF report can be generated with extensive information that includes 3D views of the project as well as a list of surfaces and loudspeakers with set-up data and EQ.

Rainbow 3D v0.8
File Edit Project View Options
Pressure
dB SPL
127
124
121
118
115
112
109
106
103
100
97
Range
30
dB
Color Steps
None
Venue Design
Line Array
Cabinets
Freq. Response
DSP Process
Array 12
Name
No Name
Position
Rotation
Mounting
Flown
GXR-LA10A
14,0°
7,0°
-3,0°
-13,0°
-23,0°
-33,0°
-43,0°
1: Internal DSP
0 : Bypass
1 Octave
1000 Hz
Render

Follow us on



or visit our website
www.lynxproaudio.com

Lynx Pro Audio S.L

Calle 1. Pol. Ind. Picassent
Picassent, Valencia
46220 SPAIN

Tel: +34 961 109 601
Mail: info@lynxproaudio.com
Web: www.lynxproaudio.com

LYNX pro-audio
CULTURE OF SOUND