

# BS-Series

USER MANUAL

V.19.01



**Lynx Pro Audio S.L.**

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## INTRODUCTION

To facilitate the correct and reliable use of the BS cabinets we have designed this instruction manual, please read it before proceeding to install the cabinet.

Please observe the technical data carefully and do not ignore the instructions included within this manual.

The BS series has been designed to offer an affordable yet reliable series of cabinets which not only deliver high performance but have a sleek & attractive design and finish so that they not only sound great but also look impressive in any install.

The series comprises four full range cabinets, all designed for a wide range of applications from fixed installations, nightclubs & bars, houses of worship, corporate events, as front fill and as stage monitoring. This four two-way, passive full range cabinets include a single 8", 10", 12" and 15" with the series offering a tremendous sound and clarity over short/mid distances.

The series is complemented by two passive subwoofer cabinets in 12" and 18" designed to extend low frequency support to the four BS series full range units.

## Manufacturer



**LYNX Pro Audio S.L.**  
**Calle 1 - Pol. Ind. Picassent**  
**E-46220 Picassent (Valencia)**



**CE CERTIFICATION, EUROPEAN PRODUCT**

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## 1. SAFETY PRECAUTIONS

Please read the following information carefully and follow these safety precautions.



**- Heavy equipment.**

Apply back protection when using heavy cabinets. Avoid loading and unloading at heights.



**- Hearing damage risk.**

These systems can reproduce large quantities of sound pressure which can damage hearing. Take precautions if you are going to be near them for extended amounts of time and do not get too close.



**- Hanging – Flying.**

Do not hang the cabinets from the handles or any other part than the designated hanging point. When flying the cabinets never exceed the maximum safe working loads or ignore the instructions included within this manual. Rigging must be always carried out by professionals.



**- Delicate Material.**

Please ensure no foreign object or water enters the speaker. Only clean the unit with dry cloths. Do not use solvents.



**- Fire risk.**

Do not put naked flame, such as lighted candles, close or on top of the unit.



**- Electromagnetic and intereferente emissions.**

Avoid placing objects which through electromagnetic waves can damage the unit, such as mobile phones, lap tops, magnetic strip cards etc.

This system complies with normatives

EN 55103-1 (1)

EN 55103-2 (2)

(1) This device may not cause harmful interferences.

(2) This device may receive interference including interferences that may cause undesired working.

***-IMPORTANT NOTE.***

This Equipment must be used in accordance with these instructions and by trained professional personnel only. This equipment should not be used in places with extreme tropical climates. Don't expose this apparatus to extreme humidity and or temperature values.

## 2. CABINET CONNECTIONS

### 2.1 Normative

The BS cabinets meet the following standards:

EN 55032:2012	Electromagnetic compatibility of multimedia equipment. Emmision requeriments.
EN 55103-2:2009	Electromagnetic compatibility. Product family standard for audio, video, audiovisual and entertainment lighting control apparatus for professional use. Part 2: Immunity.
EN 60065:2014	Audio, video and similar electronic apparatus. Safety requirements.
EN 50581:2012	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

BS cabinets are in conformity with the following EC directives:

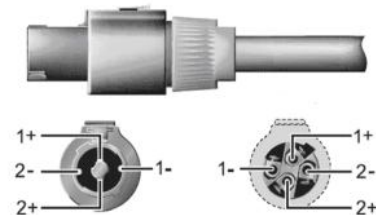
Low Voltage Directive	2014/35/UE
Electromagnetic Compatibility EMC	2014/30/UE
RoHS Directive	2011/65/UE
RAEE (WEEE)	2012/19/UE

### 2.2 Connectors

The BS cabinets have a connection panel at the rear of the cabinet. This consists of 2 internally bridged Neutrik NL4-MP connectors which apply no process to the signal.

Note: If pins +-2 are not used they will still be internally bridged.

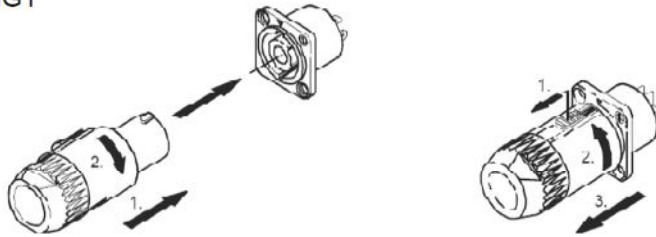
The following table indicates which pins are used for all the models, with passive and bi-amplified modes.



Cabinet	Connector	Speakon connections	per box	Impedance	Rated Power	Program Power
BS-8	NL4	± 1 input / link	2	8 ohms	300 W AES	600 W
BS-10	NL4	± 1 input / link	2	8 ohms	300 W AES	600 W
BS-12	NL4	± 1 input / link	2	8 ohms	400 W AES	800 W
BS-15	NL4	± 1 input / link	2	8 ohms	400 W AES	800 W
BS-112	NL4	± 1 input / link	2	8 ohms	500 W AES	1000 W
BS-118	NL4	± 1 input / link	2	8 ohms	600 W AES	1200 W

To connect the speakon follow the instructions in fig. 1

FIG1



Insert the male speakon in its corresponding hole and turn right until it clicks. This fixes it safely and strongly and helps stop it being pulled out by mistake. At the other end of the cable connect in the same way to the amplifier channel.

### 2.3 Recommendations

Always ensure cables are in good condition. Know the recommended cable length and thickness according to the cabinet and quantity you are installing. An incorrect connection can affect the functioning of the system or even damage it. Cable thickness will vary according to cabinet impedance, quantity and distance. This is especially important when connecting Subwoofers.

As a guide, please see the following table which outlines the thickness depending on the power and length of cable.

Maximum recommended cable length for low impedance systems.						
Wire section	AWG number	Cable resistance in 100 meters	Maximum recommended length (in meters)			
			2Ω	4Ω	8Ω	16Ω
13.3 mm <sup>2</sup>	6	0.25 ohm	24	57	122	253
6.63 mm <sup>2</sup>	8	0.49 ohm	12	28	61	126
5.26 mm <sup>2</sup>	10	0.62 ohm	10	23	48	100
3.31 mm <sup>2</sup>	12	0.99 ohm	6	14	30	63
2.08 mm <sup>2</sup>	14	1.57 ohm	4	9	19	40
1.31 mm <sup>2</sup>	16	2.49 ohm	2	6	12	25
0.82 mm <sup>2</sup>	18	3.98 ohm	2	4	8	16
0.52 mm <sup>2</sup>	20	6.28 ohm	1	2	5	10
0.33 mm <sup>2</sup>	22	9.89 ohm	1	1	3	6

Bear in mind Ohm ratings on the amplifiers used to power the cabinets. For example, 2 ohm amplifier configurations are not recommended due to the excessive power from the amp output.

Never connect more cabinets than recommended in parallel. With parallel connections, the total impedance can be calculated by dividing the impedance of 1 cabinet by the number connected.

### 3. CABINET INSTALLATION

#### 3.1 Mounting advices

The BS cabinets are designed to be used in all kind of fixed installations.

Cabinets must be installed and suspended by professional installers.

Never place the safety of personnel at risk. Always check the accessories, slings etc are in good condition and the suspension point is secure and free of excess weight, vibration, etc. Be careful where the cabinets are suspended from.

All responsibility lies with the installation company.

#### 3.2 Coverage change with the rotatable Horn

All the BS full range cabinets enable the horn to be rotated offering further coverage options. The rotatable horn feature enables the installer to also set the cabinet up horizontally whilst maintaining the horn features such as horizontal and vertical coverage. This is helpful in installs with low ceilings or where esthetically the cabinet looks better horizontally.

The following BS cabinets have rotatable horns:

BS-8 (90° x 60°)

BS-10 (90° x 60°)

BS-12 (90° x 60°)

BS-15 (90° x 60°)

To turn the horn the user must first remove the cabinet grill, unscrew the horn, rotate it 90° and screw it back in. Just be sure to maintain the connection and put the grill back on.



### 3.3 Installation accessories

The BS cabinets are designed to be used in installations and the full range cabinets come with rigging points so that they can be easily installed. To fix the cabinets to a wall or to hold them from the ceiling is very easy using some simple accessories:



UBR-BS8 UBR-BS10 UBR-BS12 UBR-BS15  
Different horizontal brackets for BS full range cabinets.



WB-20  
Install bracket for all BS full range cabinets.



AGR-6  
Eye bolt for all the full range BS cabinets



TU-C02  
M20 pole support for satellite mounting between subwoofer and full range cabinets.



### 3.4 Acoustical Prediction software: Rainbow

To be able to view and design system set-ups Lynx Pro Audio offer Rainbow, a prediction software which can be downloaded free of charge from the Lynx Pro Audio website.

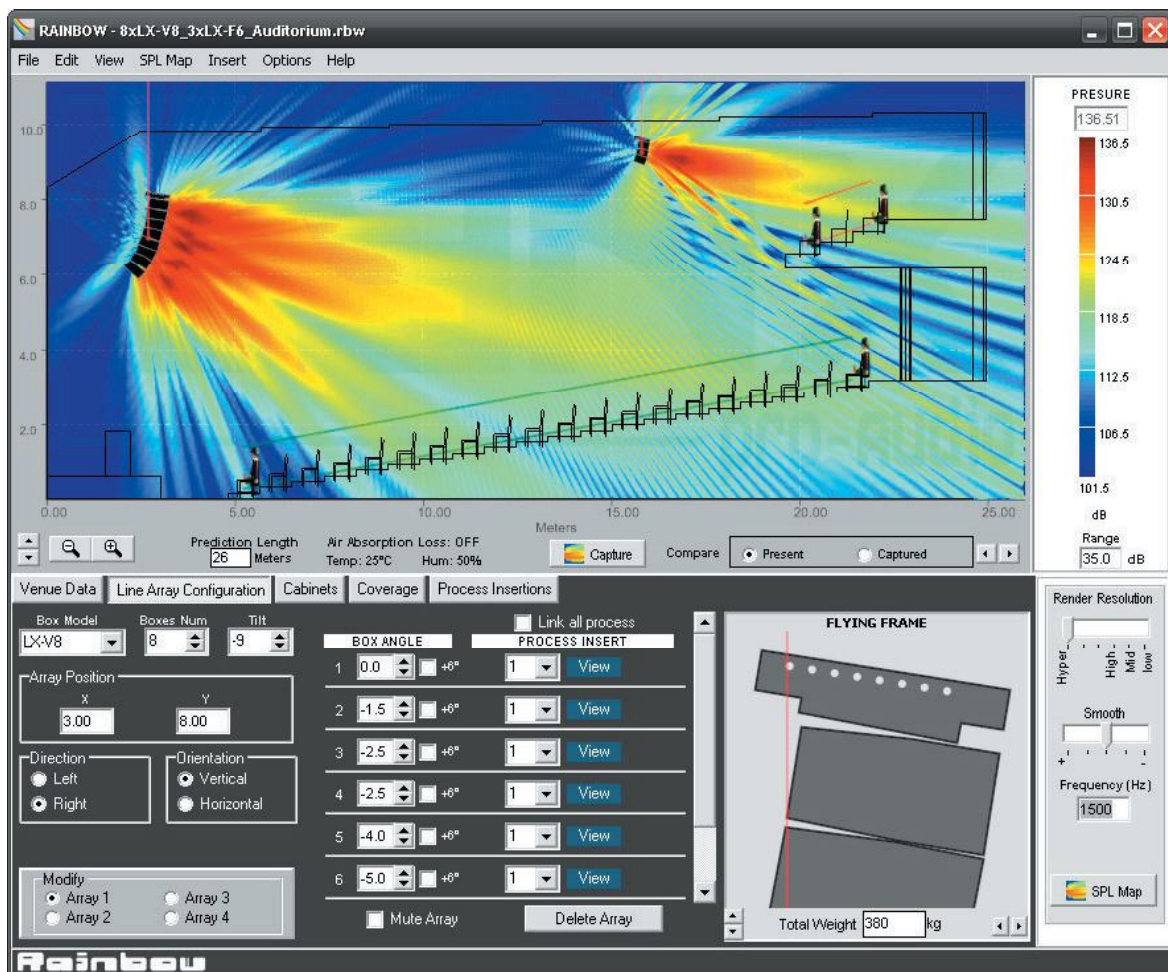
Just go to the support section and click on software: [www.lynxproaudio.com/home/support/software](http://www.lynxproaudio.com/home/support/software)

Thanks to the RAINBOW software, you will be able to “virtually” determine the acoustical response of one or various cabinets at the same time.

Based on polar response measurements, taken meticulously with a 360° coverage both in vertical and horizontal, the Rainbow software is able to calculate the SPL response including the interaction between them taking into account the magnitude and phase response, in order to enable the user to correct cancellations and even to create them if the acoustical design so requires.

Rainbow is very easy to use and offers a very intuitive design, multitool interface and on-line updatable data base. The Rainbow software has been designed by and for sound technicians. Its aim is to help installers and users of LYNX products.

This software is able to import WMF Vector Files with technical drawings and insert them directly into the prediction window and thus enabling real measurement predictions. This also helps to determine dead zones and obtain the maximum performance from each of the cabinets installed.



## 4. TECHNICAL DATA

In the following pages you can see the technical specifications of all the BS cabinets, model per model.

### BS-8

Components	LF: 8" speaker, 2" ( 50 mm) copper wire voice coil, Waterproof cone with treatment for both sides HF: 1" exit throat, (25 mm) voice coil, PETP dome compression driver
Frequency Range	70 Hz – 18 KHz (± 3dB)
Sensitivity	93 dB
Max SPL / Peak*	118 dB / 124 dB
Rated Power (AES)	300W AES (600W program, 1200W peak)
Dispersion	90° x 60° rotatable
Nominal Impedance	8 Ω
Connectors	2 x NEUTRIK Speakon NL4 Pin connections: +1 / -1 input +1 / -1 link
Finish	Polyurea coating
Material	15 mm premium birch plywood
Dimensions	456 x 255 x 259 mm (H x W x D)
Weight	12 Kg (26.4 lbs)
Fittings	5 x M8, single pole-mount, ergonomic handle on the back position
Accessories	U bracket horizontal & vertical, M8 eyebolts, wall bracket
Enclosure type	Multi angle enclosure

### BS-10

Components	LF: 10" speaker, 2" ( 50 mm) copper wire voice coil, Waterproof cone with treatment for both sides. HF: 1" exit throat, (25 mm) voice coil, PETP dome compression driver
Frequency Range	65 Hz – 18 KHz (± 3dB)
Sensitivity	94 dB
Max SPL / Peak*	119dB / 125 dB
Rated Power (AES)	300W AES (600W program, 1200W peak)
Dispersion	90° x 60° rotatable
Nominal Impedance	8 Ω
Connectors	2 x NEUTRIK Speakon NL4 Pin connections: +1 / -1 input +1 / -1 link
Finish	Polyurea coating
Material	15 mm premium birch plywood
Dimensions	505 x 300 x 301 (H x W x D)
Weight	14 Kg (30.8 lbs)
Fittings	5 x M8, single pole-mount, ergonomic handle on the back position
Accessories	U bracket horizontal & vertical, M8 eyebolts, wall bracket
Enclosure type	Multi angle enclosure

**BS-12**

Components	LF: 12" speaker, 3" ( 75 mm) copper wire voice coil, Waterproof cone with treatment for both sides HF: 1" exit throat, (25,4 mm) voice coil, annular diaphragm driver
Frequency Range	60 Hz – 20 KHz ( $\pm$ 3dB)
Sensitivity	96 dB
Max SPL / Peak*	122 dB / 128 dB
Rated Power (AES)	400W AES (800W program, 1600W peak)
Dispersion	90° x 60° rotatable
Nominal Impedance	8 $\Omega$
Connectors	2 x NEUTRIK Speakon NL4 Pin connections: +1 / -1 input +1 / -1 link
Finish	Polyurea coating
Material	15 mm premium birch plywood
Dimensions	589 x 350 x 348 mm (H x W x D)
Weight	19 Kg (41.8 lbs)
Fittings	5 x M8, double pole-mount with 10° angle, ergonomic handle on the back position
Accessories	U bracket horizontal & vertical, M8 eyebolts, wall bracket
Enclosure type	Multi angle enclosure

**BS-15**

Components	LF: 15" speaker, 3" ( 75 mm) copper wire voice coil, Waterproof cone with treatment for both sides HF: 1" exit throat, (25,4 mm) voice coil, annular diaphragm driver
Frequency Range	55 Hz – 20 KHz ( $\pm$ 3dB)
Sensitivity	98 dB
Max SPL / Peak*	124 dB / 130 dB
Rated Power (AES)	400W AES (800W program, 1600W peak)
Dispersion	90° x 60° rotatable
Nominal Impedance	8 $\Omega$
Connectors	2 x NEUTRIK Speakon NL4 Pin connections: +1 / -1 input +1 / -1 link
Finish	Polyurea coating
Material	15 mm premium birch plywood
Dimensions	664 x 425 x 420 mm (H x W x D)
Weight	24 Kg (52.9 lbs)
Fittings	5 x M8, double pole-mount with 10° angle, ergonomic handle on the back position
Accessories	U bracket horizontal & vertical, M8 eyebolts, wall bracket
Enclosure type	Multi angle enclosure

### BS-112

Components	LF: 12" speaker, 3" ( 75 mm) copper wire voice coil, Waterproof cone with treatment for both sides
Frequency Range	40 Hz – 90 Hz with preset
Sensitivity	93 dB
Max SPL / Peak*	120 dB / 126 dB
Rated Power (AES)	500W AES (1000W program, 2000 peak)
Dispersion	Quasiomnidirectional
Nominal Impedance	8 Ω
Connectors	2 x NEUTRIK Speakon NL4 Pin connections: +1 / -1 input +1 / -1 link
Finish	Polyurea coating
Material	15 mm premium birch plywood
Dimensions	406 x 655 x 400 mm (H x W x D)
Weight	29 Kg (63.9 lbs)
Fittings	2 integrated ergonomic handles, 4 rubber feets right side for vertical install, M10 fly point
Accessories	M-20 connector pole, M-10 eyebolt
Enclosure type	Band pass subwoofer

### BS-118

Components	LF: 18" speaker, 3" ( 75 mm) copper wire voice coil, Waterproof cone with treatment for both sides
Frequency Range	38 Hz – 100 Hz with preset
Sensitivity	98 dB
Max SPL / Peak*	126 dB / 132 dB
Rated Power (AES)	600W AES (1200W program, 2400 peak)
Dispersion	Omnidirectional
Nominal Impedance	8 Ω
Connectors	2 x NEUTRIK Speakon NL4 Pin connections: +1 / -1 input +1 / -1 link
Finish	Polyurea coating
Material	15 mm premium birch plywood
Dimensions	533 x 660 x 570 mm (H x W x D)
Weight	33 Kg (72.7 lbs)
Fittings	2 integrated ergonomic handles, 4 rubber feets right side for vertical install, M-10 flying point
Accessories	M-20 connector pole, M-10 eyebolt
Enclosure type	Bass reflex direct radiation subwoofer

\* Calculated maximum SPL based on rated peak power and measured sensitivity

**DECLARATION OF CONFORMITY**

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Lynx Pro Audio S.L. declares that BS 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 55032:2012	Electromagnetic compatibility of multimedia equipment. Emission requirements.
EN 55103-2:2009	Electromagnetic compatibility. Product family standard for audio, video, audiovisual and entertainment lighting control apparatus for professional use. Part 2: Immunity.
EN 50581:2012	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

BS models: **BS-8 BS-10 BS-12 BS-15 BS-112 BS-118**

## 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 y a non-authorized person during the life of this guarantee.

All our products undergo rigorous tests 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.

**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.