



PROFESSIONAL AUDIO SYSTEM

# SF15A-P



OPERATING MANUAL

Ver. SF15A-P-EN-1.1

**LSS Advanced Speaker Systems**

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## **NOTICE:**

LSS products are manufactured for use according to proper procedures by a qualified operator and only for the purposes described in this manual. The following conventions are used to indicate and classify precautions in this manual. Always heed the information provided with them. Failure to heed precautions can result in injury to people or damage to property.

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No patent liability is assumed with respect to the use of the information contained herein. Moreover, because LSS is constantly striving to improve its high-quality products, the information contained in this manual is subject to change without notice. Every precaution has been taken in the preparation of this manual. Nevertheless, LSS assumes no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained in this publication.

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## INTRODUCTION

Congratulation on the purchase of your new LSS loudspeaker.

Quality innovation and versatility, this is a summary of the new system developed by LSS for professional sound users.

LSS produces professional audio products – the result of exceptional engineering and meticulous craftsmanship.

This manual is intended for use with LSS loudspeaker. This includes: safety precautions; installation, set-up and operating instruction.

Please read this manual plus any accompanying manual and follow all relevant precautions and instructions. This should allow you to obtain the maximum performance from your new loudspeaker.

Where there are conflicts or overlaps, the information in any accompanying manual supersedes the information in this manual.

## SAFETY AND WARNING

### IMPORTANT! SAFETY WARNING!

In the interest of their own and others' safety and to prevent voiding the warranty, we recommend a careful reading of this section before using the product.

- This product was designed and manufactured to be used as a speaker system in the context of a typical sound reinforcement system.

The use for any purpose other than these is not provided by the manufacturer and is therefore under the direct responsibility of the user / installer.

- This device complies with class I (must be connected to the outlet with a protective earthing connection).



#### **WARNING**

**RISK OF ELECTRIC SHOCK  
DO NOT OPEN**

**TO REDUCE THE RISK OF ELECTRIC SHOCK  
DO NOT REMOVE COVER (OR BACK)  
NO USER SERVICEABLE PARTS INSIDE  
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL**

**TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK  
DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE**

### TO AVOID THE RISK OF FIRE AND / OR ELECTRIC SHOCK\*:

- Do not expose this system to rain or moisture. Do not expose the apparatus to dripping or splashing water. Do not place objects filled with liquids, such as drinks, on the apparatus.

- Before connecting the system, be sure the mains voltage corresponds to that stated on the product.

- Connect this appliance to a power outlet with earth contact, according to national security force, via a power cable of adequate section ends with a plug or connector that meets the applicable safety regulations.

- The unit is connected to the network even when the power switch is in position '0' (OFF). Before any maintenance, disconnect the power cable from the outlet.

\*Risk of electric shock only for self-powered system.

### IMPORTANT! SAFETY PRECAUTIONS!

Read This First.

Read and heed all warnings and safety instructions in this Manual before using the product.

Failure to follow all precautions can result in equipment damage and / or personal injury.

1. Read these instructions.
2. Keep these instructions
3. Heed all warnings and follow all instructions.
4. Use only attachments/accessories specified by the manufacturer.
5. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
6. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
7. LSS loudspeakers can produce sound levels capable of causing permanent hearing damage from prolonged exposure. The higher the sound level, the less exposure needed to cause such damage

CAUTION: This product is energized as long as it is connected to the AC.

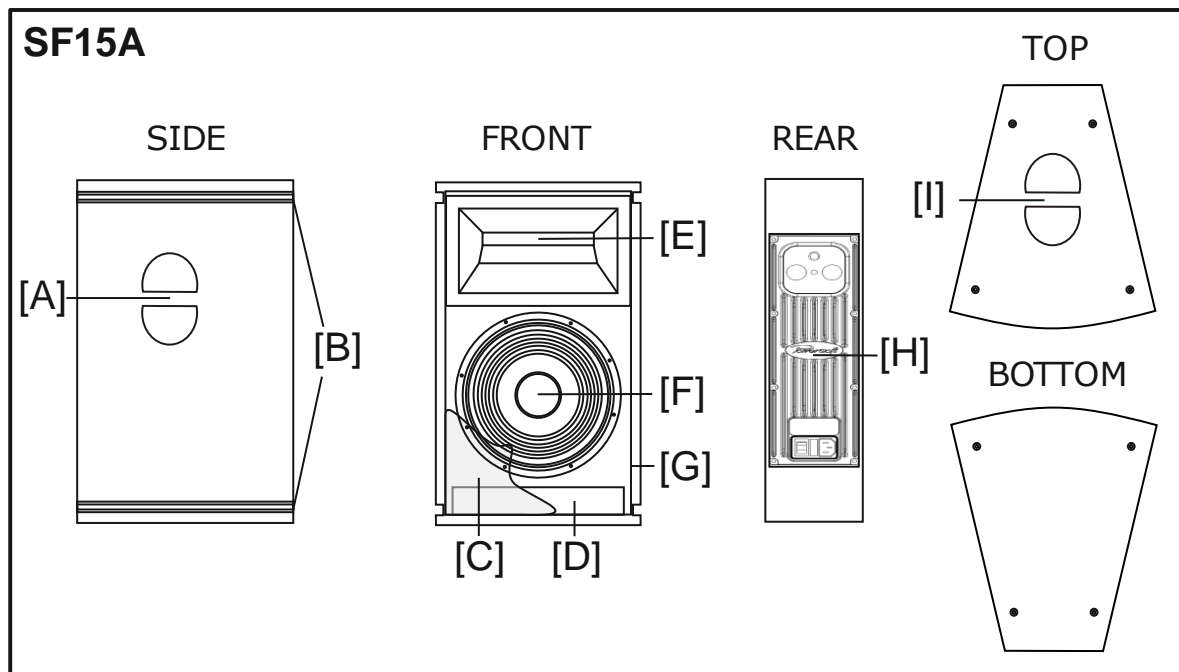
CAUTION: Allow at least six inches of free space all around the amplifier for sufficient ventilation.

## APPLICATION

LSS's SF15 is a full range 2-way loudspeaker specifically designed for curvilinear horizontal or vertical array system that provides high output, low distortion sound reinforcement for the entire range of pro audio applications. It is available in two versions, Active (SF15A) and Passive (SF15P). SF15 uses a 380 mm (15") low frequency cone with 75 mm (3") voice coil and Neodymium magnet and 75 mm (3") voice coil high frequency compression Titanium/Neodymium driver. SF15 is ideal for better performance in both touring and permanently installed applications. The SF15A digital amplifier with DSP controller allows the pilotage in BI-AMP mode 750W for LF woofer + 200W for HF driver.

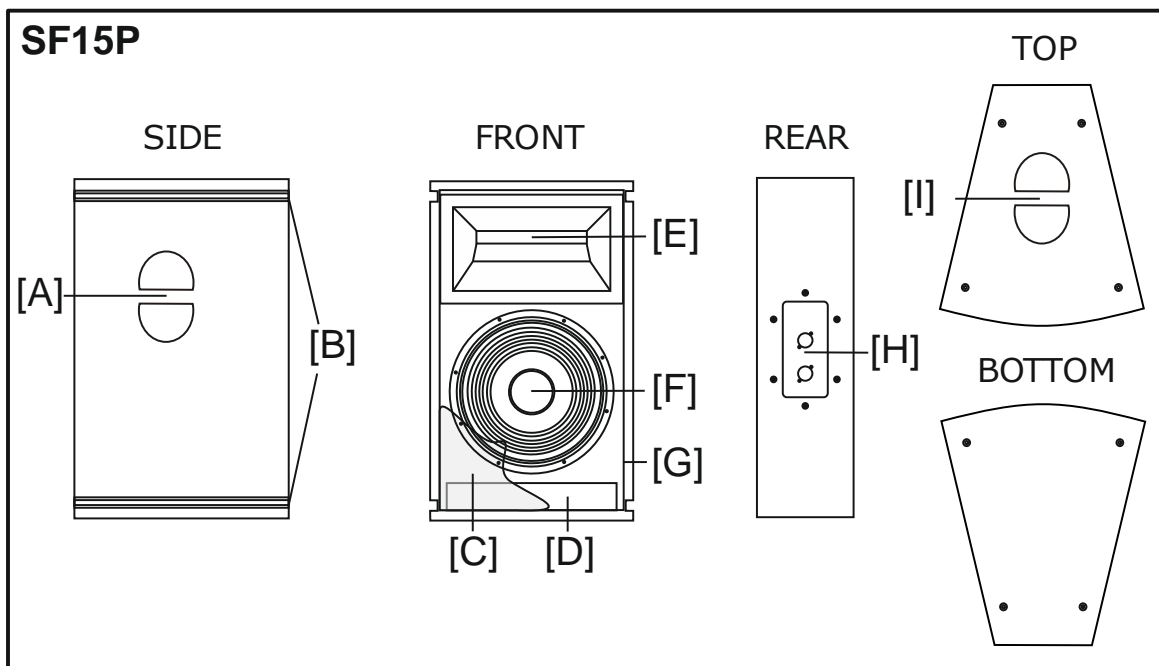
SF15 can be used for front-of-house (FOH) sound reinforcement in corporate, television or theatrical applications, for large-scale fixed installation, distributed sound reinforcement. SF15 is ideal too for touring applications, as a complementary 2-way fill enclosure or sidefill monitoring, stereo front fill, offstage fill or delay system applications.

## PHYSICAL DESCRIPTION



- [A] Handle
- [B] Mounting Hardware Guide
- [C] Steel Protection Grid
- [D] Reflex
- [E] HF Driver on Wave Guide

- [F] Woofer
- [G] Enclosure Cabinet
- [H] Connection Panel
- [I] Handle



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- [B] Mounting Hardware Guide
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- [F] Woofer
- [G] Enclosure Cabinet
- [H] Connection Panel
- [I] Handle

Materials and construction meet the highest professional standards to ensure maximum reliability.

## TECHNICAL SPECIFICATIONS

<b>PHYSICAL</b>	<b>Dimensions mm (±1 mm) [Inches]</b>		Height 810 [31.89"]
			Front Width 480 [18.89"]
			Rear Width 235 [9.25"]
			Depth 575 [22.64"]
			Trapezoidal Angles 13°
	<b>Weight Kilograms</b>	<b>Active</b>	Net Weight: 41
		<b>Passive</b>	Shipping Weight: 43
		Net Weight: 38	
		Shipping Weight: 41	
<b>SYSTEM PERFORMANCE</b>	<b>Frequency Response</b>		±5 dB 50 Hz ~ 18 KHz
			-10 dB 40 Hz
	<b>Sensitivity (1 Watt @ 1 m)</b>	<b>Active</b>	Full Range 99 dB
			LF 98 dB
			HF 106 dB
		<b>Passive</b>	Full Range Passive 99 dB
			LF 98 dB
			HF 106 dB
	<b>Max SPL Calculated (Power AES) [PEAK]</b>	<b>Active</b>	LF 127 dB [131 dB]
		<b>Passive</b>	HF 129 dB [133 dB]
			LF 125 dB [130 dB]
			HF 123 dB [126 dB]
	<b>Nominal Input Impedance (Ω)</b>	<b>Active</b>	LF 4 Ω
			HF 16 Ω
		<b>Passive</b>	LF 8 Ω
HF 16 Ω			
<b>Power Handling SF15A (Watt EIAJ)</b>		Bi-Amp 750+200 W	
		LF 750 W	
		HF 200 W	
<b>Power Handling SF15P (Watt cont. AES)</b>		LF 500 W	
		HF 110 W	
<b>Peak Power SF15P (W)</b>		LF 1600 W	
		HF 220 W	
<b>Nominal Dispersion (@ -6 dB)</b>		Horizontal 26°	
		Vertical 60°	
<b>MECHANICAL</b>	<b>Enclosure material</b>		Birch Plywood of 18 mm [0.71 inches]
	<b>Finish</b>		Texture poliuretanic black paint
	<b>Suspension</b>		Hardware Mounting Suspension
	<b>Grille</b>		Powder coated perforated steel with anti-dust foam
	<b>Connectors</b>	<b>Active</b>	Neutrik Powercon + XLR
		<b>Passive</b>	Neutrik Speakon NL4
	<b>Optional Accessories</b>		Fly Clip with Ring, Flight Case, Bumper, Hardware Array



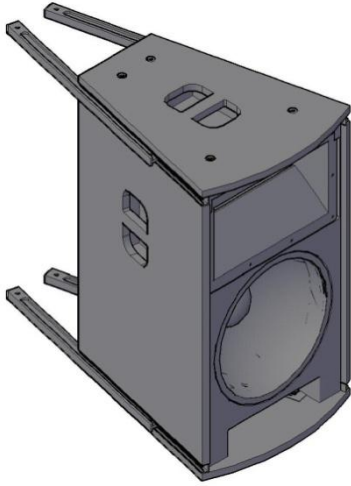
## INSTALLATION AND WIRING

SF15 speaker can be mounted on the floor or suspended through the dedicated hardware.

For suspended installation, mounting hardware is necessary , it is the same both for SF15A and SF15P and is composed from:

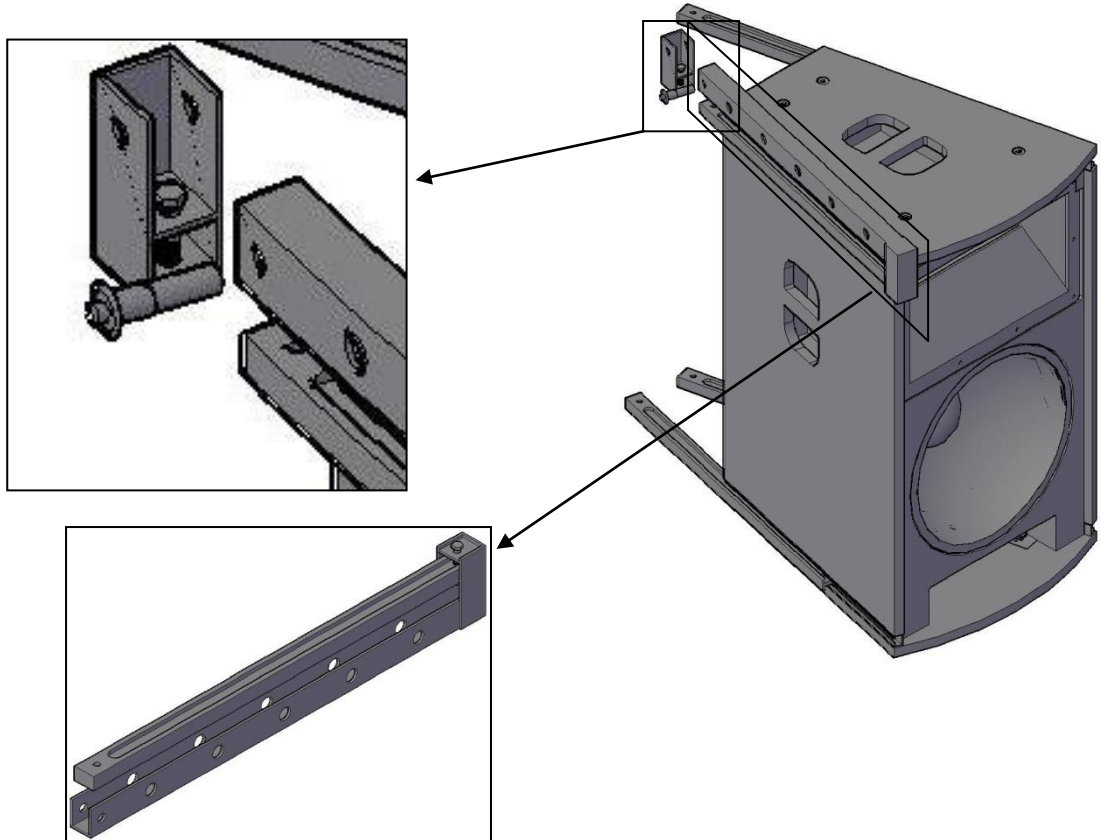
Name	Component
BUMPER SF15	
LIFTBAR SF15	
ALUBAR SF15	
GRILLO16 SF15	
JOINT SF15	
BOLT M8 X 40	

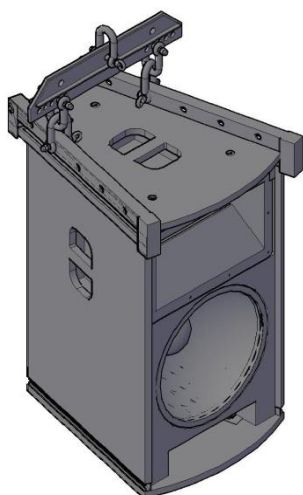
To use the mounting hardware, follow the procedure below:



Insert ALUBAR SF15 in the guide slots on the sides of the cabinet. If one speaker must be mounted, insert only the ALUBAR in the upper side.

Install the LIFTBAR SF15 on the ALUBAR, then lock them with a M8 BOLT.

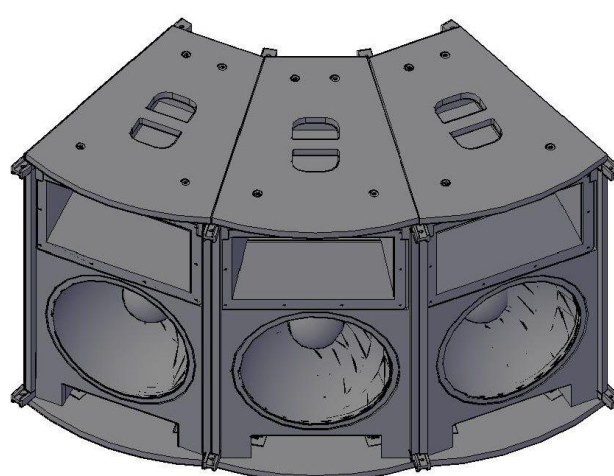
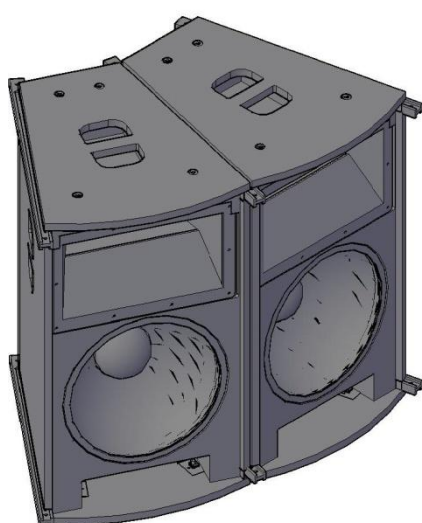




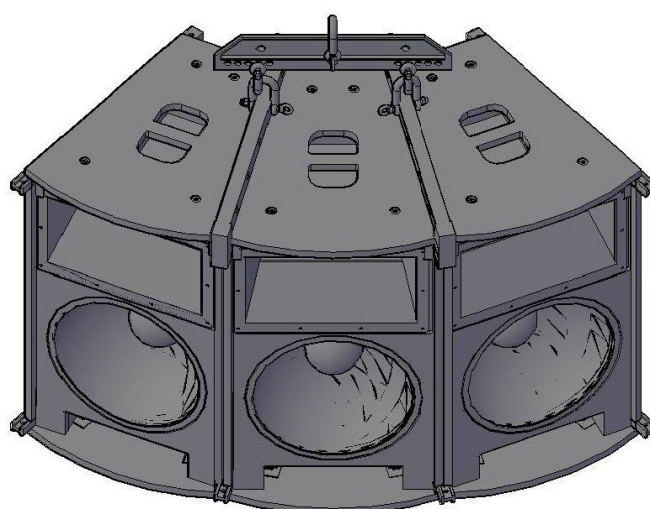
Install BUMPER SF15 and connect it with the LIFTBARs using four GRILLO16. Another GRILLO16 can be used to hook the BUMPER.

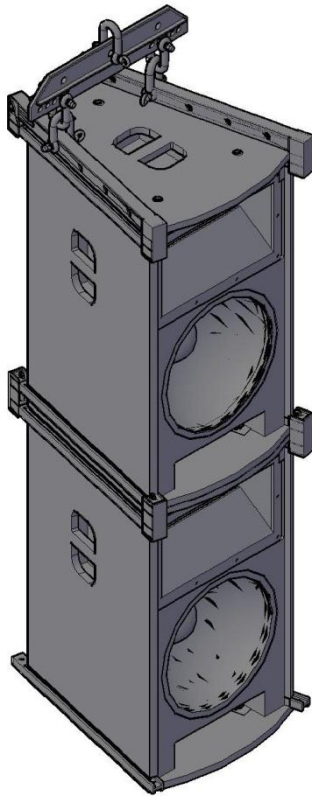
Choosing different holes in the LIFTBAR, allow to have different degrees of inclination. Inclination depends too from the way and the number of speakers installed.

To install more SF15 speaker suspended in horizontal configuration, mount ALUBAR SF15 in the upper and lower guide slots on the sides of two adjacent cases.

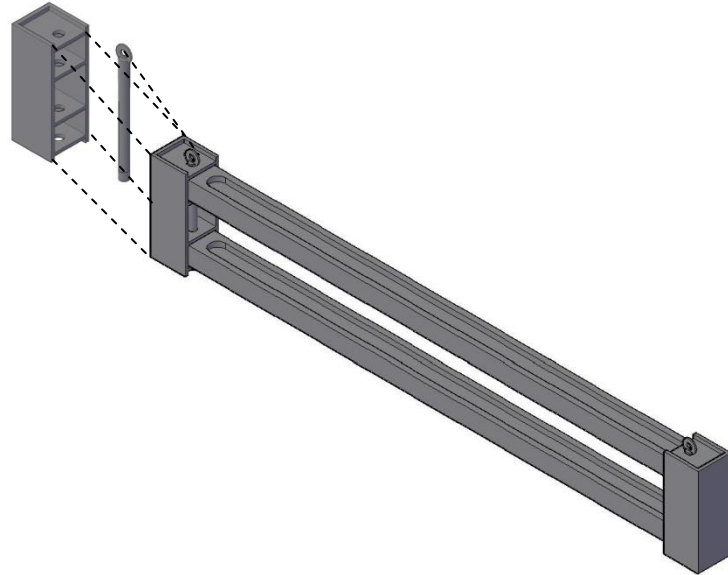


Install BUMPER SF15 as previously explained and connect it with the LIFTBARs using four GRILLO16. Another GRILLO16 can be used to hook the BUMPER





For suspended installation in vertical configuration, mount the ALUBAR in the cases of speakers.  
To connect a case with the lower one use the JOINT SF15, then lock them with the locking pin.



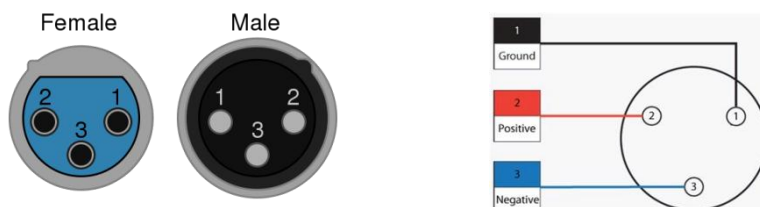
It is possible to install a maximum of three speaker in horizontal configuration and three in vertical configuration.  
Use plugs suitable to support the weight of the entire apparatus.

## SF15A WIRING

Choose a safe mounting location, so as to prevent the cables can be stepped on or create tripping hazards.

Before making connections between mixer and speakers, make sure the mixer volume is turned down.

Connection are made via 3-pin XLR connector.



Before making connection between mixer and active speaker, make sure all the switches of the speakers are turned off and the mixer volume is turned down. To avoid a sudden signal, making connection, then turn on the mixer first and then the speakers. Turn on the amplifier by the power switch to position 1 (on).

When the system will start turn on 3 LEDs, after a few seconds will stay on only two or three if the input signal is present, when the amplifier turn on, start with the preset the previously loaded.

You can now use the system.

If necessary, adjust the volume by adjusting the potentiometer.

If you want to change the preset, follow the instruction below.

### LOADING A PRESET

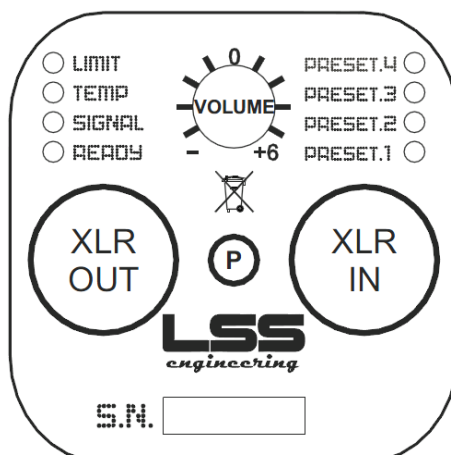
The active preset is indicated by the corresponding LED. It is possible to change presets by pressing the center pushbutton **P**.

**P1** – preset 1 (green): indicates the factory presets **SMOOTH**

**P2** – preset 2 (green): indicates the factory presets **VOCAL**

**P3** – preset 3 (green): indicates the factory presets **LOUD**

**P4** – preset 4 (green): indicates the factory presets **FLAT**



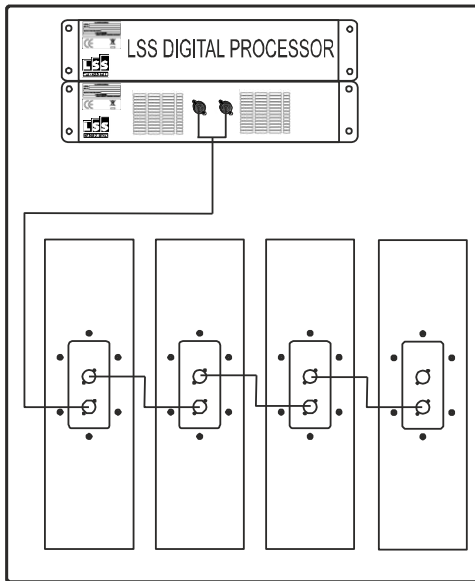
## SF15P WIRING

Choose a safe mounting location, so as to prevent the cables can be stepped on or create tripping hazards.

In the connection panel there are two Speakon NL4 connectors referred as 'IN' and 'OUT': IN is the input connector and must be connected to the amplifier, 'OUT' is a LINK OUT and can be connected to other systems.

For a correct operation, use a 4-poles cable. Two different channels are necessary to make speakers works. One channel for LF and another one for HF. Internal connection are made as follow:

Speakon Pinout	1+	1-	2+	2-
Transducer connector	LF+	LF-	HF+	HF-



SF15P system operating mode is only Bi-Amp (LF 1- 1+; HF 2- 2+) and needs an external digital processor to work properly. If your amplifier can manage a 2 Ohms Load and has sufficient power, it is possible to connect a maximum of 4 speaker in parallel (total impedance will be 2 Ohms).



## WEEE DIRECTIVE

### WEEE Directive

#### Warning!

The product is marked with this symbol which indicates not to discard electrical and electronic equipment via the normal procedure for disposal of household waste. For these products there is a diverse collection system in accordance with legislation that requires proper treatment, recovery and recycling of used products. For more information please contact the appropriate local authority.

The black bar underneath indicates that the product was placed on the market after 13 August 2005.

### INFORMATION FOR PROPER DISPOSAL

#### For home users

##### In the European Union

Warning: To dispose of this equipment, do not use the ordinary dust bin!

The electrical and electronic equipment must be treated separately and in accordance with legislation that requires proper treatment, recovery and recycling of used products. Following the implementation by member states, private households within the EU can give free electrical and electronic equipment to designated collection facilities\*.

In some countries (\*), your local retailer may withdraw the old product for free if you purchase a new one of similar type.

\* For more information please contact the appropriate local authority.

**In countries outside the EU:** please contact your local authorities and ask for the correct method of disposal.

**In Switzerland:** Used electrical or electronic equipment can be returned free of charge to the dealer, even if you do not purchase a new product.

Further collection facilities are listed on the homepage or [www.swico.ch](http://www.swico.ch).  
[www.sens.ch](http://www.sens.ch).

#### For professional users

##### In the European Union

Warning: If the product is used for business purposes, the following steps to delete it:

contact your LSS dealer for information about the product recall.

Might be charged for the costs of collection and recycling. Small products (and amounts) might be taken back by your local collection facilities.

**In Spain:** contact the established collection system or the local authority for collection of used products.

**In countries outside the EU:** please contact your local authorities and ask for the correct method of disposal.

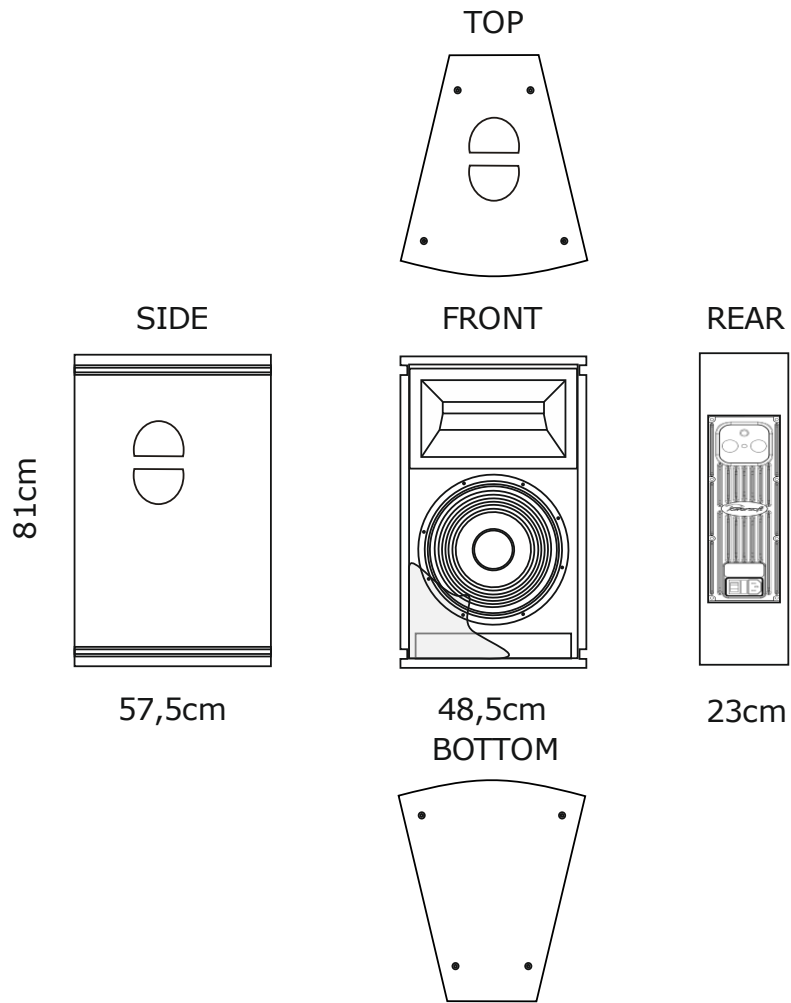




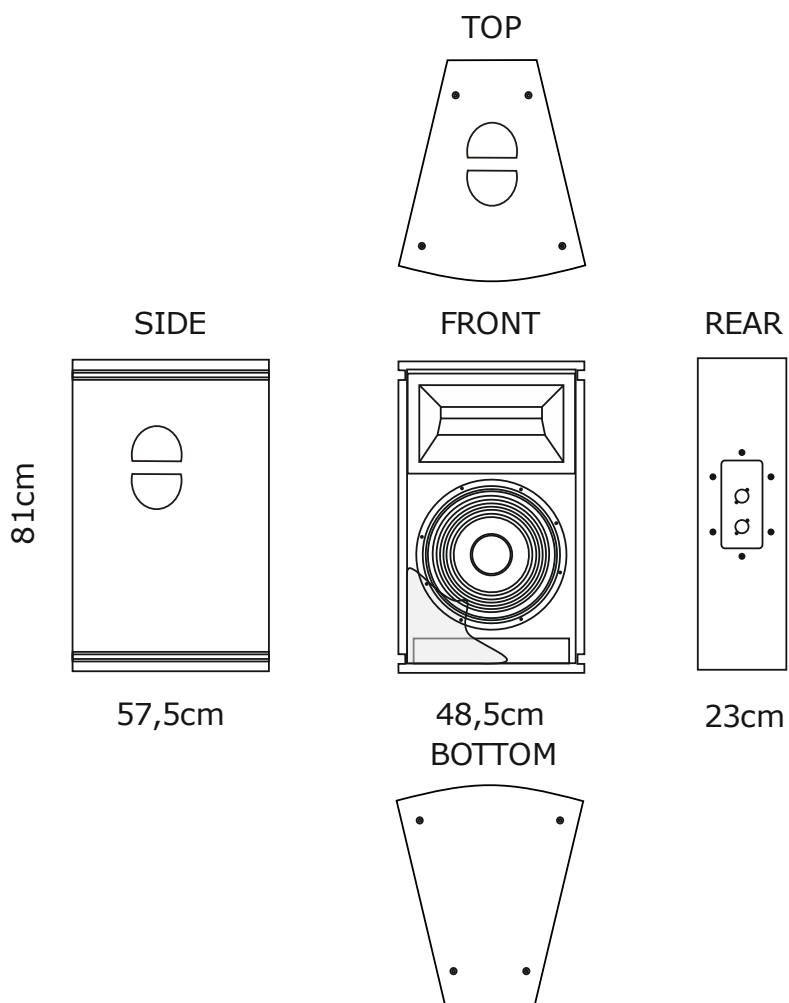
## TROUBLESHOOTING

Problem	Possible cause (s)	Action
1. No Sound	Amplifier	Connect a known working test speaker to the amplifier outputs. If there is no sound, check that all the electronics are on, the signal routing is correct, the source is active, the volume is turned up, and so on. Correct/repair/replace as necessary. If there is sound, the problem is in the wiring.
	Wiring	Verify that you have connected the correct wire pairs to the amplifier. Play something at low level through the amplifier (for example, from a CD player or tuner). Connect the test speaker in parallel with the malfunctioning line. If the sound level has gone or is very weak, the line has a short in it (possibly a severe scrape, pinch, or staple puncture). If the sound level is normal, the wire is open (possibly a cut wire or a missed connection). Using the test speaker, move down the line and test each connection/junction until you find the problem and correct it. Observe proper polarity.
2. Poor Low Frequency Response	Speakers wired out-of-polarity	When two speakers are connected out of polarity, the low frequencies will cancel each other acoustically. Carefully observe the wire markings or tracers on your speaker wires. Verify that the amplifier (+) terminal is connected to pin 1+ of the NL4 connector and the amplifier (-) terminal is connected to pin 1- of the NL4 connector.
3. Intermittent output such as crackling or distortion	Faulty Connection	Check all connections at amplifier and speakers to ensure they are all clean and tight. If the problem persists, it may be in the amplifier or wiring. See Problem 1 above.
4. Constant noise such as buzzing, hissing, humming	Defective amplifier or other electronic Devices	If the noise is present but no program material is playing, the likely cause is the signal chain in the electronics. Evaluate each component as necessary to isolate the problem.
	Poor system grounding or ground loop	Check and correct the system grounding, as required.
If these suggestions do not solve your problem, contact your nearest LSS dealer or LSS distributor.		

## DIMENSIONS SF15A



## DIMENSIONS SF15P



## **NOTES**



**CONTACT INFORMATION:**

**LSS Advanced Speaker Systems**

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