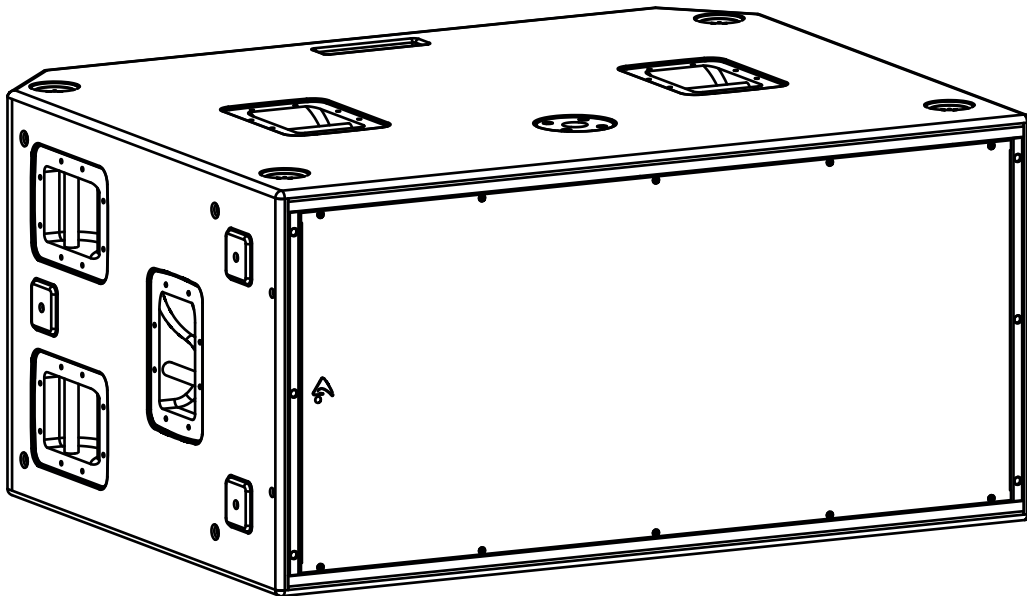




# SW218XP

passive subwoofer



## USER MANUAL

revision 2023-09-11



# IMPORTANT SAFETY INSTRUCTIONS

## Watch for these symbols:



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure, that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. 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.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. 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.
15. Warning: to reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
16. Do not expose this equipment to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the equipment.
17. To completely disconnect this apparatus from the ac mains, disconnect the power supply cord plug from the ac receptacle.
18. The mains plug of the power supply cord shall remain readily operable.
19. This apparatus contains potentially lethal voltages. To prevent electric shock or hazard, do not remove the chassis, input module or ac input covers. No user serviceable parts inside. Refer servicing to qualified service personnel.
20. The loudspeakers covered by this manual are not intended for high moisture outdoor environments. Moisture can damage the speaker cone and surround and cause corrosion of electrical contacts and metal parts. Avoid exposing the speakers to direct moisture.
21. Keep loudspeakers out of extended or intense direct sunlight. The driver suspension will prematurely dry out and finished surfaces may be degraded by long-term exposure to intense ultra-violet (UV) light.
22. The loudspeakers can generate considerable energy. When placed on a slippery surface such as polished wood or linoleum, the speaker may move due to its acoustical energy output.
23. Precautions should be taken to assure that the speaker does not fall off a stage or table on which it is placed.
24. The loudspeakers are easily capable of generating sound pressure levels (SPL) sufficient to cause permanent hearing damage to performers, production crew and audience members. Caution should be taken to avoid prolonged exposure to SPL in excess of 90 dB.



This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it responsibly to promote the sustainable reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take this item for environmentally safe recycling. Business users should contact their supplier and check the terms and conditions of the purchase contract. This product should not be mixed with other commercial wastes for disposal.



## DECLARATION OF CONFORMITY



The product is in compliance with:

RoHS Directive 2011/65/EU and 2015/863/EU, WEEE Directive 2012/19/EU.



The product is in compliance with:

S.I. 2012/3032 The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012

## LIMITED WARRANTY

Proel warrants all materials, workmanship and proper operation of this product for a period of two years from the original date of purchase. If any defects are found in the materials or workmanship or if the product fails to function properly during the applicable warranty period, the owner should inform about these defects the dealer or the distributor, providing receipt or invoice of date of purchase and defect detailed description. This warranty does not extend to damage resulting from improper installation, misuse, neglect or abuse. Proel S.p.A. will verify damage on returned units, and when the unit has been properly used and warranty is still valid, then the unit will be replaced or repaired. Proel S.p.A. is not responsible for any "direct damage" or "indirect damage" caused by product defectiveness.

- This unit package has been submitted to ISTA 1A integrity tests. We suggest you control the unit conditions immediately after unpacking it.
- If any damage is found, immediately advise the dealer. Keep all unit packaging parts to allow inspection.
- Proel is not responsible for any damage that occurs during shipment.
- Products are sold "delivered ex warehouse" and shipment is at charge and risk of the buyer.
- Possible damages to unit should be immediately notified to forwarder. Each complaint for package tampered with should be done within eight days from product receipt.

## CONDITIONS OF USE

Proel do not accept any liability for damage caused to third parties due to improper installation, use of non-original spare parts, lack of maintenance, tampering or improper use of this product, including disregard of acceptable and applicable safety standards. Proel strongly recommends that this loudspeaker cabinet be suspended taking into consideration all current National, Federal, State and Local regulations. The product must be installed by qualified personal. Please contact the manufacturer for further information.



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## INTRODUCTION

The SW218XP subwoofer is designed to deliver high quality low frequency reproduction where very high output is a key requirement, together with well defined deep bass response and fast transient response. Its compact size and light weight make it suitable for several different uses, ranging from touring applications to fixed installations and high-level dance clubs.

The SW218XP is a very high quality powered subwoofer system featuring some of the most advanced technologies for low frequency reproduction. Its unique and innovative design is based on a configuration that can be defined as Manifolded Transmission Line.

It uses manifolding of the front side of the cones to maximize the mutual coupling between the two drivers, while loading the back of the cone with a large-size transmission line that has the function to create a transmission path from the back of the transducers to the front. This innovative configuration does not use any large resonant cavity to load the speaker in order to get the lower octave and this reduces significantly pressure decay time inside the enclosure, with large advantages in terms of definition both at the lowest end and the upper bass. At the same time, it doesn't use very long transmission line paths as well. Its working principle is an hybrid combination between a short transmission line and an overdamped reflex load. Moreover, the maximization of the mutual coupling between the drivers increase the fastness of the transient response while maximizing the overall energy efficiency as well.

The SW218XP subwoofer system is equipped with two high power 18" (460mm) transducers capable of long excursion (up to 30mm peak-to-peak), and featuring a large displacement suspension system. These transducers use Tetracoil technology, where two different, axially separated magnetic gaps and two inside-outside 100mm (4" ) diameter voice coils are wound on the same former and suspended evenly in the two magnetic gaps. This creates an equivalent voice coil diameter greater than 6", resulting in a larger heat dissipation area for and increased power handling. Additional key advantages of the Tetracoil technology are also minimized distortion and a very symmetric and flat inductance curve.

Cones are made of very high-stiffness fiberglass reinforced paper, featuring also invisible water repellent treatment.

## TECHNICAL SPECIFICATION

<b>SYSTEM</b>	
System's Acoustic Principle	Manifolded Transmission Line
Frequency response ( $\pm 3$ dB)	30 Hz – 92 Hz (Processed)
Frequency response ( $\pm 10$ dB)	27 Hz – 300 Hz (Unprocessed)
Nominal Impedance	8 $\Omega$ + 8 $\Omega$
Minimum Impedance	5.7 $\Omega$ + 5.7 $\Omega$ @ 36 Hz
Sensitivity (1.41V @ 1m, 2Pi)	101 dB (averaged from 40 to 100 Hz)
Maximum Peak SPL @ 1m	143 dB

<b>TRANSDUCERS</b>	
Type	Two 18" (460 mm), 4" (100 mm) VC 8 $\Omega$
Cone	Water repellent, epoxy coated plates
Voice Coil Type	100mm (4in) Tetracoil dual voice coil, equivalent to a single coil diameter larger than 152mm (>6in)
Suspension	Ultra linear suspension behavior

<b>INPUT CONNECTIONS</b>	
Connector Type	Neutrik® Speakon® NL4 x 2
Input Wiring	LF1 = Pin 1+/1-; LF2 = Pin 2+/2-

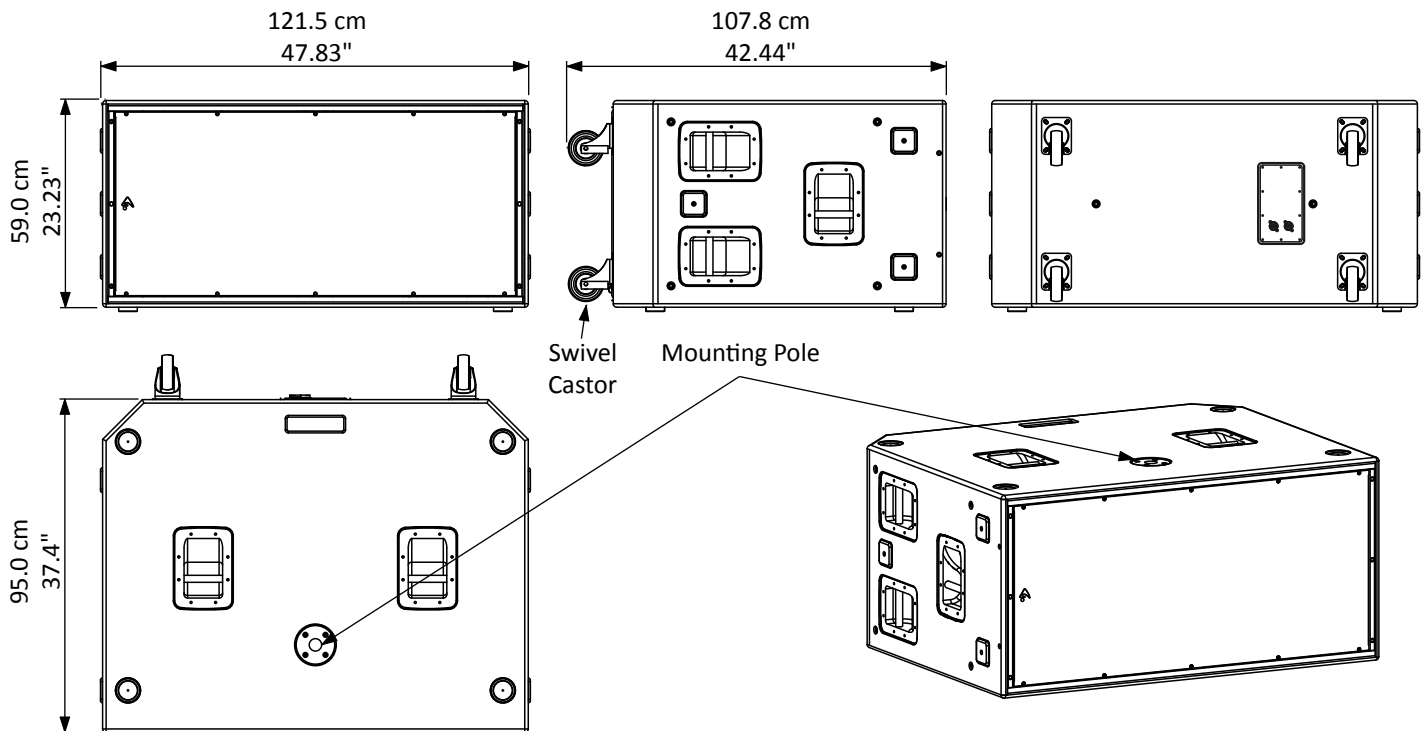
\* AES Pink Noise Continuous Power

<b>POWER HANDLING</b>	
Power Handling Continuous*	1800 W + 1800 W
Power Handling Program	3600 W + 3600 W
Power Handling Peak	7000 W + 7000 W
Power Compression	@ -10dB Power (180W + 180W) = 0.6 dB @ -3dB Power (900W + 900W) = 2.0 dB @ 0dB Power (1800W + 1800W) = 3.4 dB

<b>ENCLOSURE &amp; CONSTRUCTION</b>	
Width	1215 mm (47.87")
Height	590 mm (23.24")
Depth	950 mm (37.43")
Depth with Wheels	1078 mm (42.44")
Enclosure material	15 mm, reinforced Phenolic Birch
Paint	High resistance, water based paint
Wheels	4 heavy-load 100 mm $\phi$
Transport	10 handles
Net Weight	114 Kg (251.3 lbs.)



## MECHANICAL DRAWING



## OPTIONAL ACCESSORIES

<b>NL4FX</b>	Neutrik Speakon® PLUG
<b>PC260</b>	2 in 6 out digital loudspeaker processor
<b>USB2CANDV2</b>	PRONET network converter
<b>DHSS10M20</b>	Sub-Speaker ø35mm Pole with M20 screw

see <http://www.axiomproaudio.com/> for detailed description and other available accessories.

## SPARE PARTS

<b>AC103GS</b>	100 mm Swivel castor without brake
<b>98AXM218TLW8</b>	18" woofer - 4" Tetracoil® dual voice coil - 8 ohm
<b>NL4MP</b>	Neutrik Speakon® panel socket

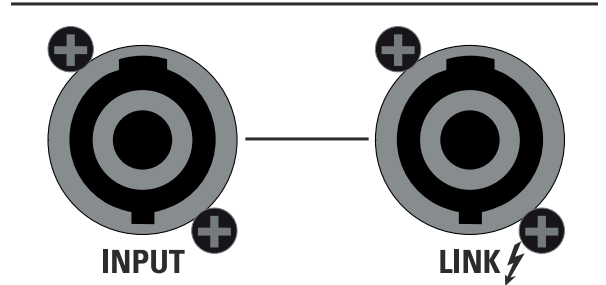


## INPUT

Power input for the external amplifier. The SW218XP does not include a passive crossover for filtering the signal. The connections are the following:

INPUT - LINK	
NL4 pin number	internal connection
1+	LF1+
1-	LF1-
2+	LF2+
2-	LF2-

**⚠ WARNING**  
To avoid damage, during use  
both loudspeakers must be connected



**⚠ WARNING!**  
To avoid speaker damage during use both loudspeaker must be always connected and driven with same input signal and equal amplified power.

## LINK

Power output in parallel with the INPUT socket for connecting the unit to another speaker. The number of SW218P cabinets that can be connected in parallel depends on the amplifier load capacity.

**⚠ WARNING! CAREFULLY READ THE FOLLOWING INSTRUCTIONS AND CONDITION OF USE:**

- This loudspeaker is designed exclusively for Professional audio applications. The product must be installed by qualified personal only.
- Proel do not accept any liability for damage caused to third parties due to improper installation, lack of maintenance, tampering or improper use of this product, including disregard of acceptable and applicable safety standards.



### PREDICTION SOFTWARE: EASE FOCUS 3

To aim correctly a complete system we suggest to use always the Aiming Software - EASE Focus 3:

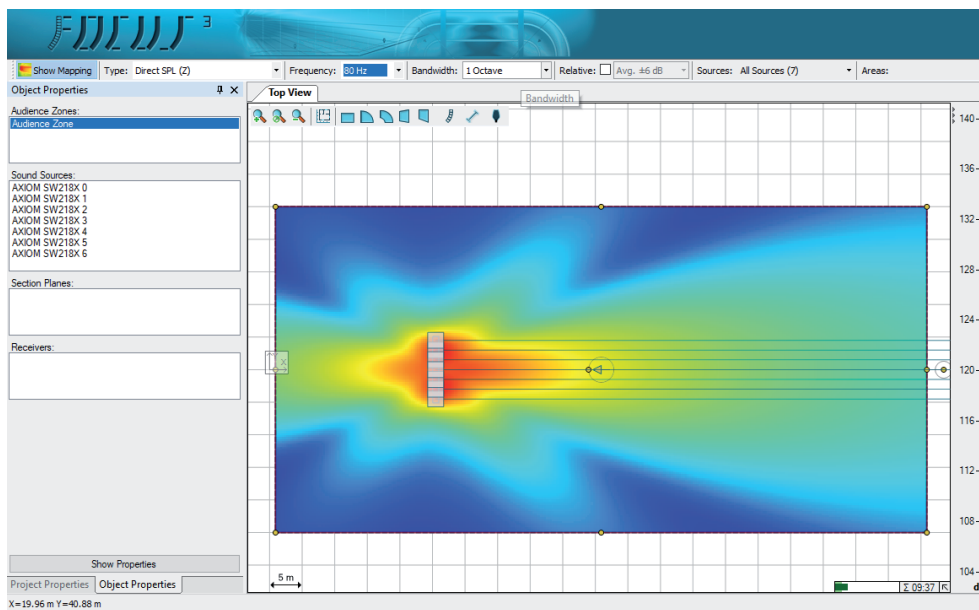
The EASE Focus 3 Aiming Software is a 3D Acoustic Modelling Software that serves for the configuration and modelling of Line Arrays and conventional speakers close to reality. It only considers the direct field, created by the complex addition of the sound contributions of the individual loudspeakers or array components.

The design of EASE Focus is targeted at the end user. It allows the easy and quick prediction of the array performance in a given venue. The scientific base of EASE Focus stems from EASE, the professional electro- and room acoustic simulation software developed by AFMG Technologies GmbH. It is based on the EASE GLL loudspeaker data file required for its use. The GLL file contains the data that defines the Line Array with regard to its possible configurations as well as to its geometrical and acoustical properties.

 **Download the EASE Focus 3 app from the AXIOM website at <https://www.axiomproaudio.com/> clicking on downloads section of the product.**

Use the menu option **Edit / Import System Definition File** to import the **GLL** file, the detailed instructions to use the program are located in the menu option **Help / User's Guide**.

Note: Some windows system can require the .NET Framework 4 that can be download from website at <https://focus.afmg.eu/>.



*NOTE: in this figure is shown the result of an front line array with 7 box at 80Hz octave.*

*NOTE: With SW218XP (passive version) use only the "Standard Preset" input configuration for all boxes in the array to obtain a correct EASE 3 prediction.*



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