

SAFETY INSTRUCTIONS

Read this user manual and keep it with the product.

Always follow all safety instructions and local security regulations.

Never use accessories not manufactured or approved by Aura Audio with Aura Audio products.

Make sure no audience or crew member is too close to loudspeakers when operating with high sound pressure levels (SPL). Professional loudspeaker systems are capable of producing sound pressure levels high enough to cause permanent hearing damage even at exposure times less than couple of minutes.

Please check the Aura Audio website on a regular basis for latest downloads and updates.

In case of any questions please don't hesitate to contact us for more information via info@auraaudio.fi

We also welcome all comments and system pics from you!

TABLE OF CONTENTS

1.	Safety Instructions	1
2.	Introduction	2
3.	CAD drawings and Dimensions	3
4.	Creating Arrays with SIR and SIRA	3
5.	Fixed Installation with SIRi and SIRAi	5
6.	SYSTEM TUNING TIPS part 1	6
7.	SYSTEM TUNING TIPS part 2	7
8.	Specifications	8
9.	Declaration of Conformity	9

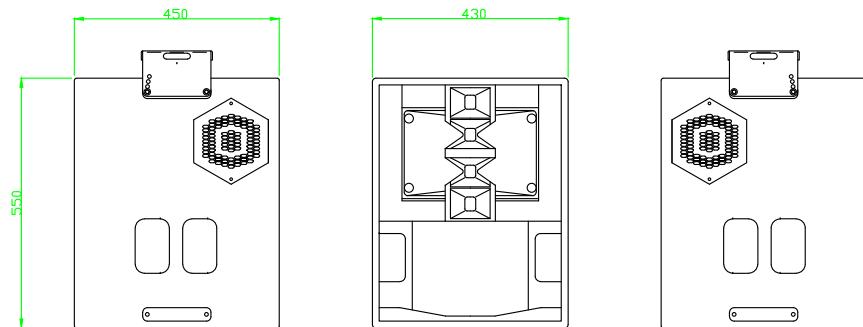


INTRODUCTION

SI is a compact passive 3.5-way speaker system. It consists of folded horn-loaded 10" neodymium magnet cone driver, two side-firing reflex tuned 6.5" cone drivers, 6.5" neodymium magnet cone driver loaded with a multi-path waveguide coaxially mounted with two 1" exit compression drivers loaded with dual exit waveguides.

Horn-loaded 10" driver and side-firing 6.5" drivers create cardioid polar pattern utilising patented Passive End Fire Technology. This is due to carefully matching the sound wave travel distances between side-firing drivers to the internal propagation delay of the horn sound paths. This arrangement of the two bands overlapping increases the sound pressure level at low frequencies.

SI features coaxially mounted HF section combined with the M6 waveguide with wide horizontal and narrow vertical beam width helps when creating arrays of multiple SI enclosures with very precise directivity character and high MF cut off frequency of 3kHz makes it possible to use small diaphragm lightweight compression drivers for high frequencies for increased sensitivity and HF resolution.

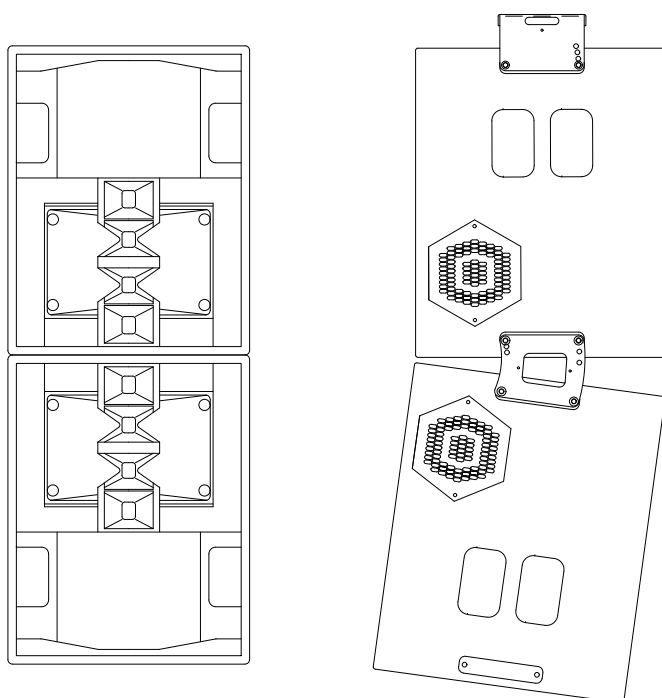


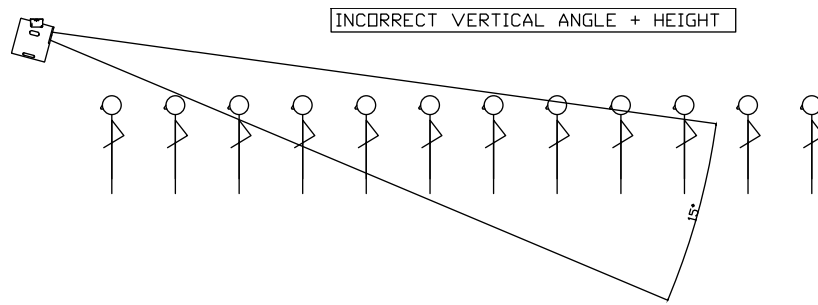
SI is powered by Aura Audio D80DSP powered controllers. Bespoke rigging and pole mount adapters enable easy and safe deployment from single unit on top of a subwoofer to a larger flown arrays.

CREATING ARRAYS WITH SIR AND SIRA

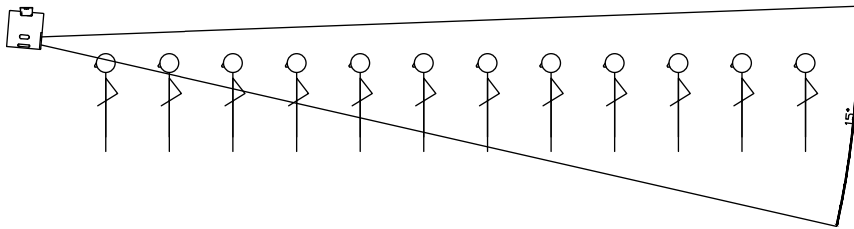
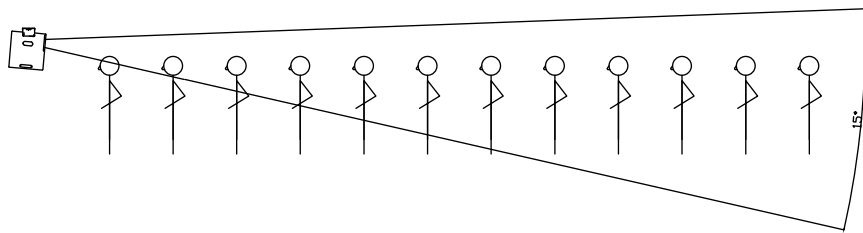
SI is designed to meet many different applications from simple stand mounting in compact touring to larger scale arrays up to three units per side. SIR is used in all applications except when SI is simply placed on top of a subwoofer or other platform for ground stacking. SIR is equipped with large number of fixing holes and can be used with pole mount adaptor such as K&M 24528, K&M 24521 and K&M 24281 Screw-on adapters.

When two or multiple SI units are used in flown or ground stacked arrays SIRA should be used. Placing two units as a mirror pair with HMF horns together the SI's work as one speaker creating continuous HMF column and one single line source.





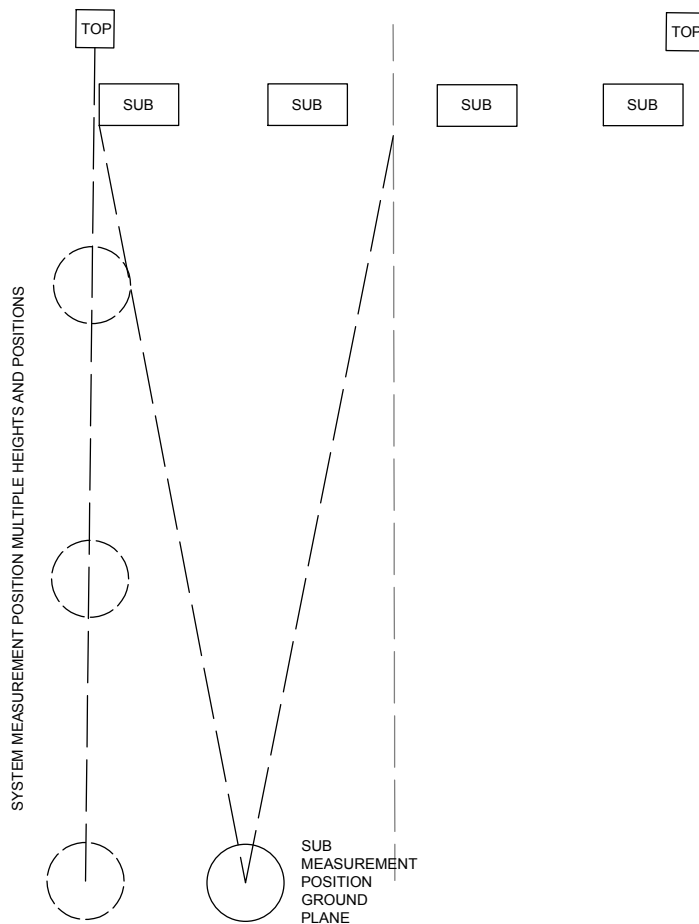
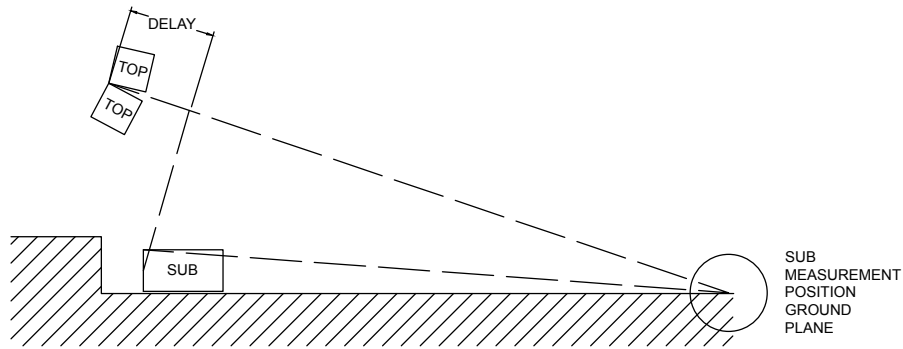
OK



FIXED INSTALLATION WITH SIRi AND SIRAi

Both SIR and SIRA are also available as SIRi and SIRAi. These models are intended to be used in fixed installations and feature more economical M8 bolt connection replacing quick release pins found in standard touring models. Note that when used with “I” models SI must also be ordered as SIi or modified M8 thread

S-SERIES SYSTEM TUNING TIPS part I: Delay



As rule of thumb, all S-series single speakers and array configurations can be quickly (delay) tuned by measuring the distance from rear wall of the top speaker(s) and rear wall of the subwoofer(s) and use delay adjustment to digitally move the one that is in front of the other to the same distance from audience (average) and front of house mix position.

S-SERIES SYSTEM TUNING TIPS part 2: Measurement

Ground plane measurement is recommended for subwoofer and top speaker time alignment measurements to prevent ground reflections to interfere with the measurement results. For system tuning, a full range measurement, an ear height (120cm – 170cm) is recommended and mixture of multiple heights and multiple distances along the top speaker on-axis line. For a good approximation make measurements at least in a couple of different positions including back and front of the audience area, still keeping the measurement mic at on-axis position.

Warning! Under no circumstances must both Left & Right arrays (or single tops) be ON when measuring! This would cause unpredicted summing and cancelations that will cause most harm to phase measurements and measurement coherency resulting in non-usable and misleading information.

Same applies to front fills, delay lines or side fills. Keep them muted unless you are measuring the sum and delay compensation of the two lines of course, matching front fill to the main array, for example.

Always verify the results by listening to some familiar music!

SI - SPECIFICATIONS

Frequency Response (+3 dB): 85–20000 Hz

Horizontal Coverage (-6 dB): 80 degrees

Vertical Coverage (-6 dB): 10 degrees

Max peak SPL : 138 dB (free space)

Sensitivity LF, 1w/1m: 107 dB (free space)

Impedance: 6 Ohms

Crossover: 250Hz, 400Hz, 3.2kHz passive

Power handling LF: 300 W rms, 1200 W pk

Recommended HP-filter: 90 Hz, 12dB/oct

DRIVERS

LF: (1) x 10" neodymium magnet cone driver, horn-loaded

LF-Side: (2) x 6.5" cone driver, reflex loaded

MF: (1) x 6.5" neodymium magnet cone driver, horn-loaded

HF: (2) x 1" exit compression driver in dual exit waveguide

ENCLOSURE

Enclosure material: Finnish birch plywood,

textured black paint finish

Grille: Cold rolled steel grille, textured black paint finish

Connectors: (2) x NL4, +/-1: INPUT, +/-2: N.C. linked thru

Dimensions: 550 mm x 430 mm x 450 mm

Weight: 32 kg

EC declaration of conformity Manufacturer:

Aura Audio Oy
Pääskykalliontie 3
21420 Lieto
Finland

We declare the under our sole responsibility the following product models:

A-Series,
C-series,
F-Series,
XD-series,
XQ-series,
i-series and

S-series products are intended to be used as loudspeakers and are in conformity with the following EC Directives, including all amendments, and with national legislation implementing these directives:

BS EN 60065:2002

BS EN 55103-1/-2

March 2024

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke extending to the right.

Mika Isotalo
Managing Director