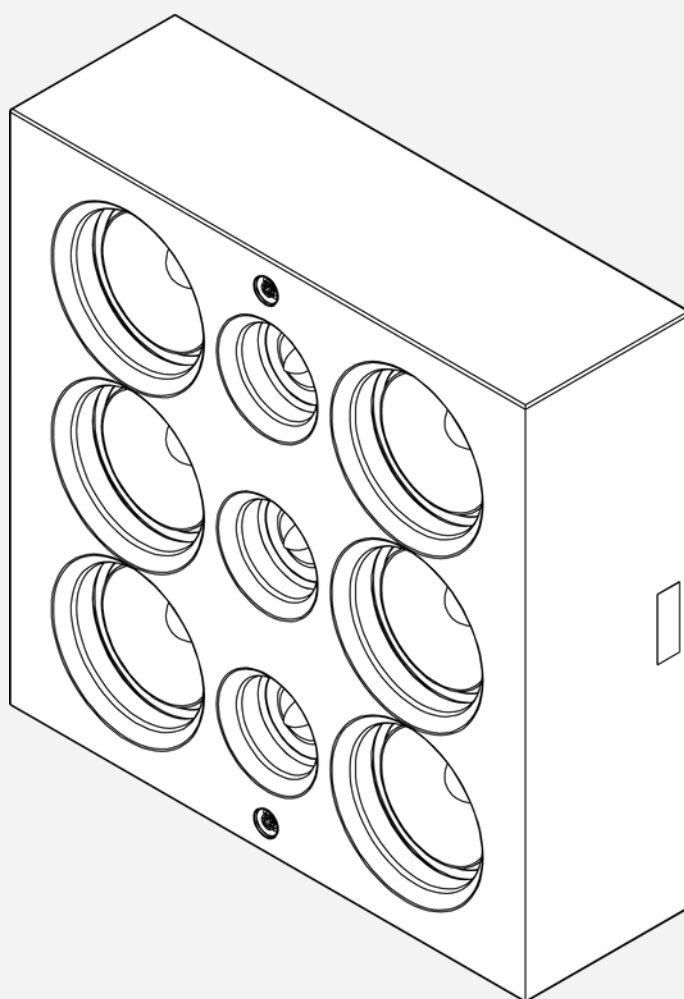


Artcoustic^{AC}

SPITFIRE SERIES

Owners manual



WELCOME TO THE WORLD OF ARTCOUSTIC

Congratulations with your purchase of the Artcoustic Spitfire Series.

The Spitfire Series is Artcoustic's dedicated cinema range of products. Its slimline profile, adjustable vertical and horizontal array, combined with a powerful and articulated performance, makes it the ideal choice for high-end cinema rooms and commercial installations, such as bars and clubs and in general high SPL, but discrete professional applications.

For an even more impressive performance, partner the Spitfire speakers with one of the powerful Artcoustic subwoofers - an ideal setup for small, medium and large size rooms.

The Spitfire Series has been engineered to produce exceptional sound pressure level, normally only associated with typical professional audio products. The Spitfire Series is a true all-rounder. Whether you are looking for high end sound from two speakers in a stereo music setup, or multiple speakers for cinemas and multi room audio, the Spitfire Series will fulfill all your audio needs.

Thank you for purchasing the Artcoustic Spitfire Series.

All the best,
The Artcoustic Team

FEATURES

At Artcoustic, our product development team are always looking for innovative and ground-breaking ways to improve our products. We continually invest a huge amount of time and effort to make sure that Artcoustic deliver products at the top of their class, with regards to technological excellence and refined Scandinavian design.

Introducing the latest edition of the Spitfire series – the Spitfire Series vertical array. A precise and well designed solution for dealing with high-frequency dispersion patterns. By carefully pointing each speaker element in a laser accurate position, the acoustically impossible is now possible.

The design has been optimized in a way that allows the product to achieve a near perfect response curve at any seat in room, all achieved without compromising on any of the existing high-end features including extreme sound pressure levels, sensitivity, extended frequency response, controlled directivity, exceptional speed and transient response. All arranged within a well-designed, slimline easy to fit cabinet.

ADJUSTABLE DISPERSION ADVANTAGES

EXTENDED FLAT FREQUENCY RESPONSE UP TO 20KHZ
over a wide horizontal and vertical angle

DETAILED AND TRANSPARENT SWEET SPOT
with an almost magical ability of making the actual speakers acoustically disappear.

A SOPHISTICATED AND MINIMAL CABINET DESIGN

HIGH SENSITIVITY AND EXCEPTIONAL SOUND PRESSURE LEVEL

LOW DISTORTION

BENCH MARK TRANSIENT RESPONSE

GUIDED DIRECTIVITY
with near perfect response curve +/- 3dB over long distances

PLUG AND PLAY EASY TO INSTALL APPROACH
eliminating installation mistakes and misunderstandings

MINIMUM LOSS OF ENERGY OVER DOUBLE DISTANCE -2DB

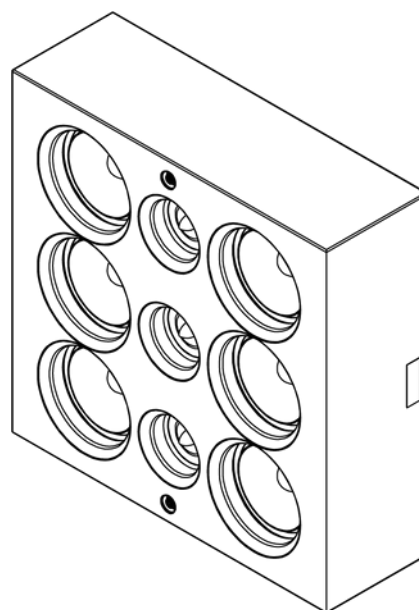
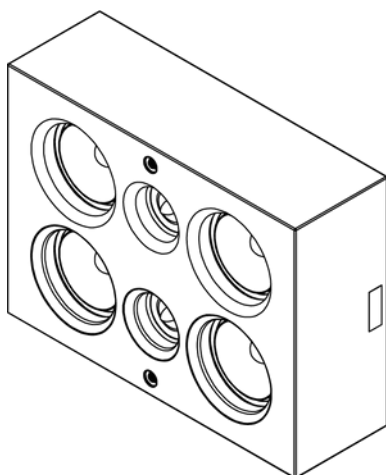
All in all, the adjustable array delivers incredible detail and airy sound which typical high end HIFI speakers only offer at short distances. The Artcoustic Spitfire Series delivers above and beyond providing a throw distance of well beyond 40 meters making this product a natural evolution within the Artcoustic portfolio of industry leading products.

FEATURES

COMPONENTS OVERVIEW

HIGH FREQUENCY DRIVER

Dual Ring Radiator diaphragm with highly linear suspension and low loss surrounds for high clarity and clean transient response. Copper caps for better HF extension and lower distortion and wave-guide center plug, copper-clad aluwire.



WOOFER

Extra long excursion and aluminium Short Circuiting Ring, 4-layer voice coil, anodised aluminium for improved heat dissipation, combined with Distortion Reduced Motor.

CROSSOVER

6 dB/octave low pass and 12 dB/octave high pass filler.

SPECIFICATIONS

SPITFIRE A4

TRANSDUCER

LF-MF 4 x 3 inch cone, Symmetric Phase Aligned
HF 2 x 1 inch Dual Ring Radiator, Symmetric Phase Aligned

CROSSOVER

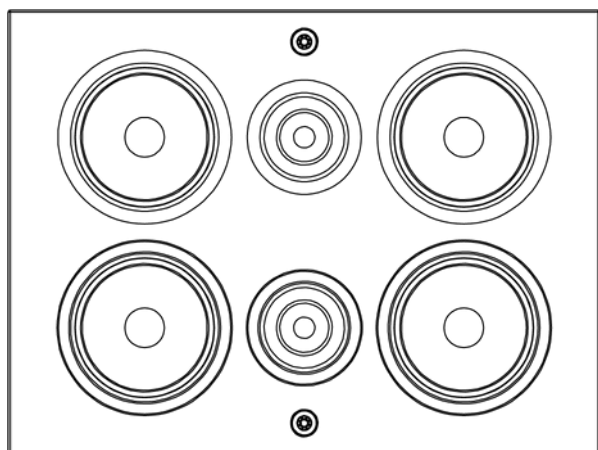
Low Pass Filter 6 dB/octave 1000 Hz
High Pass 12 dB/octave 4000Hz

CONNECTION

Single amped Gold Plated Push Terminals

PERFORMANCE

Operating Range 70 Hz (-6dB) to 20 kHz
Nominal Beamwidth Horizontal 60° Vertical 25°
Input Impedance Nominal 8 ohms
Sensitivity 1 Watt @ 8 ohm 91 dB Full Space, 94 dB Half Space
Long Term SPL 120 Watt 113 dB Full Space, 116 dB Half Space
Short Term (Damage) SPL 200 watt 116 dB Full Space, 119 dB Half Space
Recommended High Pass Filter - 100 Hz, 24 dB/octave



TRANSDUCER



LF-MF 4 x 3 inch cone
HF 2 x 1 inch Dual Ring
Radiator

OPERATING RANGE

70 Hz — 20 kHz

-6dB 70 Hz

NOMINAL BEAM WIDTH



Horizontal 60°
Vertical 25°

INPUT IMPEDANCE



8 ohm

FINISH



Cabinet: Black SL

DIMENSIONS



H: 210 W: 280 D: 99mm

WEIGHT



4kg

SPECIFICATIONS

SPITFIRE A6

TRANSDUCER

LF-MF 6 x 3 inch cone, Symmetric Phase Aligned
HF 3 x 1 inch Dual Ring Radiator, Symmetric Phase Aligned

CROSSOVER

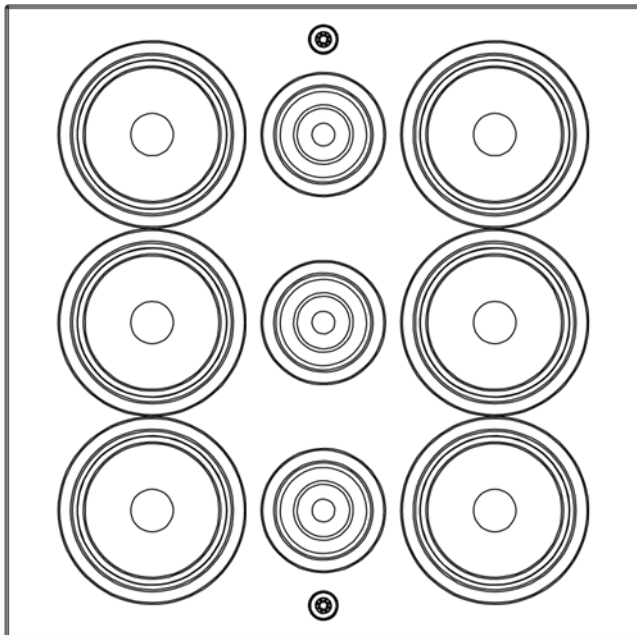
Low Pass Filter 6 dB/octave 1000 Hz
High Pass 12 dB/octave 4000Hz

CONNECTION

Single Amped Speakon and Binding Posts Terminals

PERFORMANCE

Operating Range 70 Hz (-6dB) to 20 kHz
Nominal Beamwidth Horizontal 60° Vertical 20°
Input Impedance Nominal 10 ohms
Sensitivity 1 Watt @ 11 ohm 95 dB Full Space, 98 dB Half Space
Long Term SPL 180 Watt 116 dB Full Space, 119 dB Half Space
Short Term (Damage) SPL 300 watt 119 dB Full Space, 122 dB Half Space
Recommended High Pass Filter -100 Hz, 24 dB/octave



TRANSDUCER



LF-MF 6 x 3 inch cone
HF 3 x 1 inch Dual Ring
Radiator

OPERATING RANGE

70 Hz — 20 kHz

-6dB 70 Hz

NOMINAL BEAM WIDTH



Horizontal 60°
Vertical 20°

INPUT IMPEDANCE



10 ohm

FINISH



Cabinet: Black SL

DIMENSIONS



H: 210 W: 280 D: 99mm

WEIGHT



5.5 kg

SPECIFICATIONS

SPITFIRE A10

TRANSDUCER

LF-MF 10 x 3 inch cone, Symmetric Phase Aligned
HF 5 x 1 inch Dual Ring Radiator, Symmetric Phase Aligned

CROSSOVER

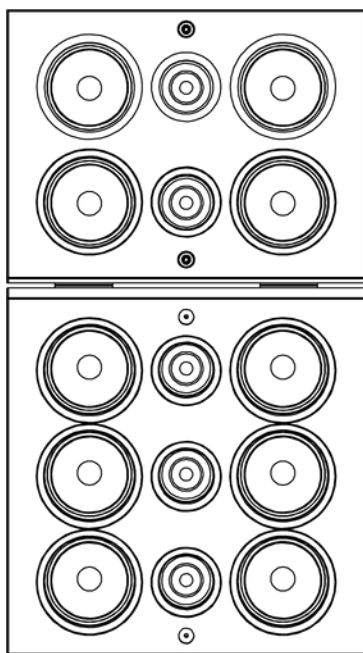
Low Pass Filter 6 dB/octave 1000 Hz
High Pass 12 dB/octave 4000Hz

CONNECTION

Single Amped Speakon and Binding Posts Terminals

PERFORMANCE

Operating Range 70 Hz (-6dB) to 20 kHz
Nominal Beamwidth Horizontal 60° Vertical 29.5°
Input Impedance Nominal 5 ohms
Sensitivity 1 Watt @ 5 ohm 97 dB Full Space, 100 dB Half Space
Long Term SPL 300 Watt 119 dB Full Space, 122 dB Half Space
Short Term (Damage) SPL 510 watt 122 dB Full Space, 125 dB Half Space
Recommended High Pass Filter -100 Hz, 24 dB/octave



TRANSDUCER



LF-MF 10 x 3 inch cone
HF 5 x 1 inch Dual Ring
Radiator

OPERATING RANGE

70 Hz — 20 kHz

-6dB 70 Hz

NOMINAL BEAM WIDTH



Horizontal 60°
Vertical 29.5°

INPUT IMPEDANCE



5 ohm

FINISH



Cabinet: Black SL

DIMENSIONS



According
to Array angle

WEIGHT



9,5 kg

SPECIFICATIONS

SPITFIRE A12

TRANSDUCER

LF-MF 12 x 3 inch cone, Symmetric Phase Aligned
HF 6 x 1 inch Dual Ring Radiator, Symmetric Phase Aligned

CROSSOVER

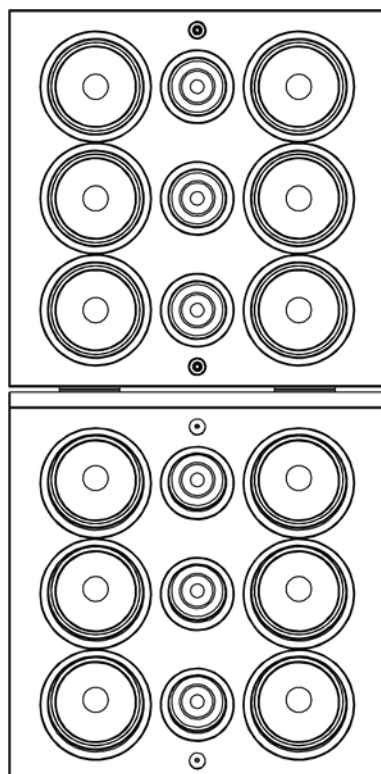
Low Pass Filter 6 dB/octave 1000 Hz
High Pass 12 dB/octave 4000Hz

CONNECTION

Single Amped Speakon and Binding Posts Terminals

PERFORMANCE

Operating Range 70 Hz (-6dB) to 20 kHz
Nominal Beamwidth Horizontal 60° Vertical 27°
Input Impedance Nominal 6 ohms
Sensitivity 1 Watt @ 6 ohm 100 dB Full Space, 103 dB Half Space
Long Term SPL 360 Watt 121 dB Full Space, 124 dB Half Space
Short Term (Damage) SPL 600 watt 124 dB Full Space, 127 dB Half Space
Recommended High Pass Filter -100 Hz, 24 dB/octave



TRANSDUCER



LF-MF 12 x 3 inch cone
HF 6 x 1 inch Dual Ring
Radiator

OPERATING RANGE

70 Hz — 20 kHz

-6dB 70 Hz

NOMINAL BEAM WIDTH



Horizontal 60°
Vertical 27°

INPUT IMPEDANCE



6 ohm

FINISH



Cabinet: Black SL

DIMENSIONS



According
to Array angle

WEIGHT



11 kg

SPECIFICATIONS

SPITFIRE A14

TRANSDUCER

LF-MF 14 x 3 inch cone, Symmetric Phase Aligned
HF 7 x 1 inch Dual Ring Radiator, Symmetric Phase Aligned

CROSSOVER

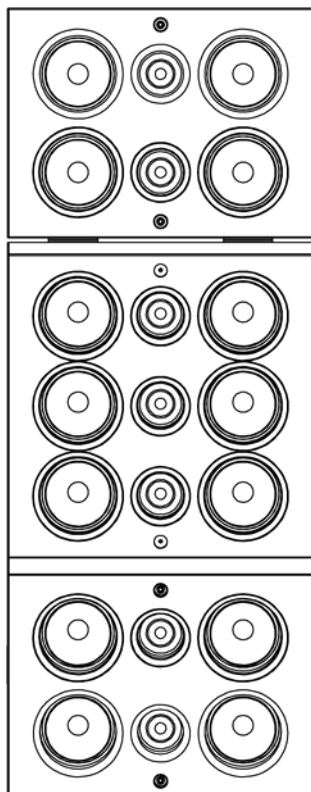
Low Pass Filter 6 dB/octave 1000 Hz
High Pass 12 dB/octave 4000Hz

CONNECTION

Single Amped Speakon and Binding Posts Terminals

PERFORMANCE

Operating Range 70 Hz (-6dB) to 20 kHz
Nominal Beamwidth Horizontal 60° Vertical 39°
Input Impedance Nominal 4 ohms
Sensitivity 1 Watt @ 4 ohm 101 dB Full Space, 104 dB Half Space
Long Term SPL 420 Watt 123 dB Full Space, 126 dB Half Space
Short Term (Damage) SPL 700 watt 126 dB Full Space, 129 dB Half Space
Recommended High Pass Filter -100 Hz, 24 dB/octave



TRANSDUCER



LF-MF 14 x 3 inch cone
HF 7 x 1 inch Dual Ring
Radiator

OPERATING RANGE

70 Hz — 20 kHz

-6dB 70 Hz

NOMINAL BEAM WIDTH



Horizontal 60°
Vertical 39°

INPUT IMPEDANCE



4 ohm

FINISH



Cabinet: Black SL

DIMENSIONS



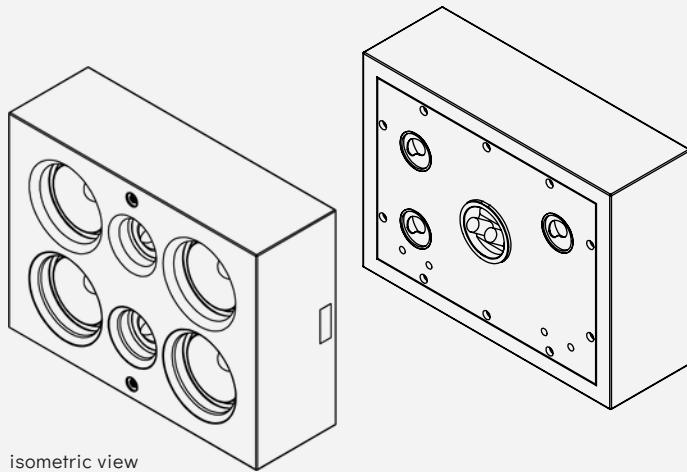
According
to Array angle

WEIGHT

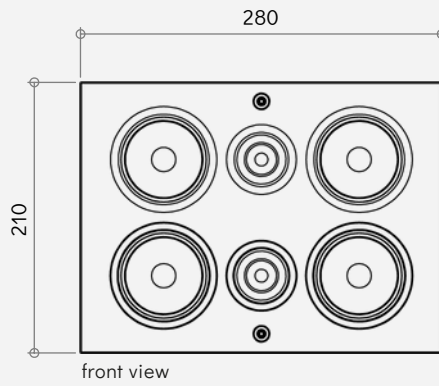


13,5 kg

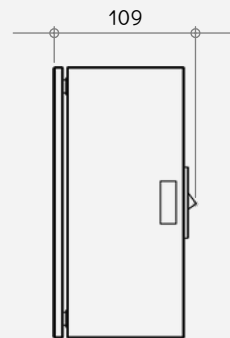
SCHEMATICS



isometric view



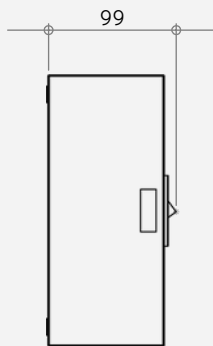
front view



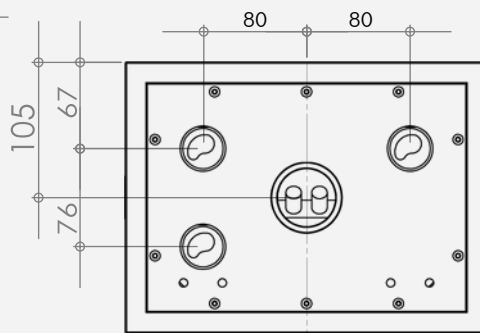
side view with screen



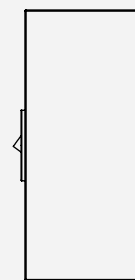
bottom view



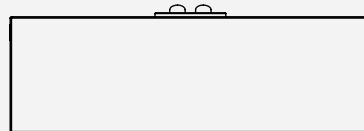
right view



rear view

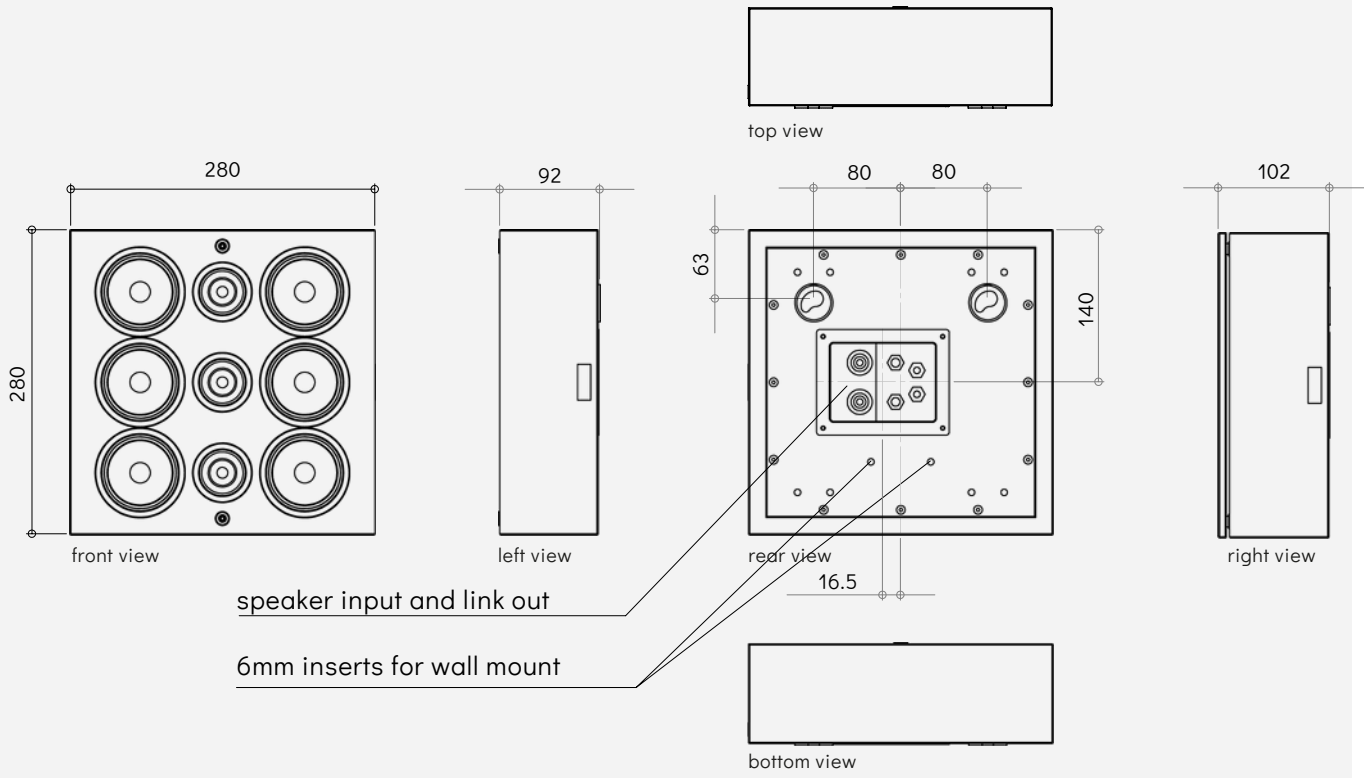
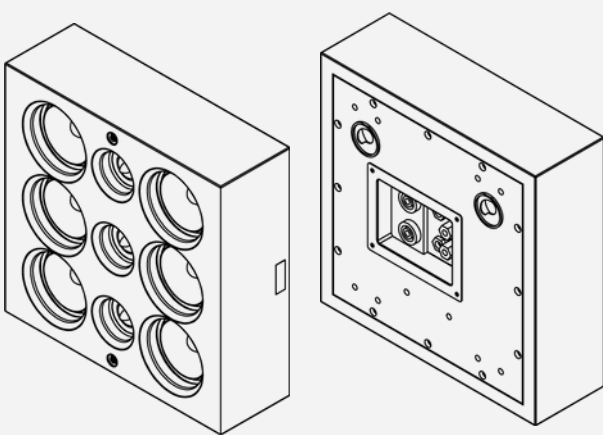


left view

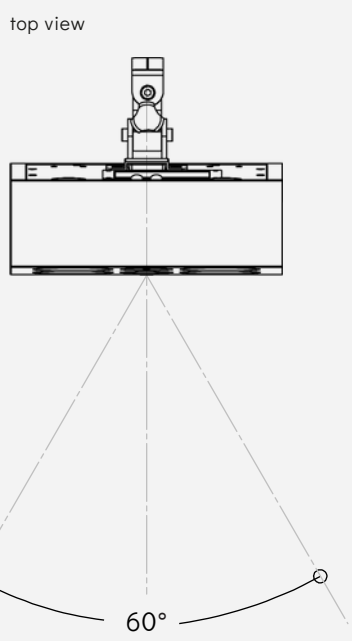
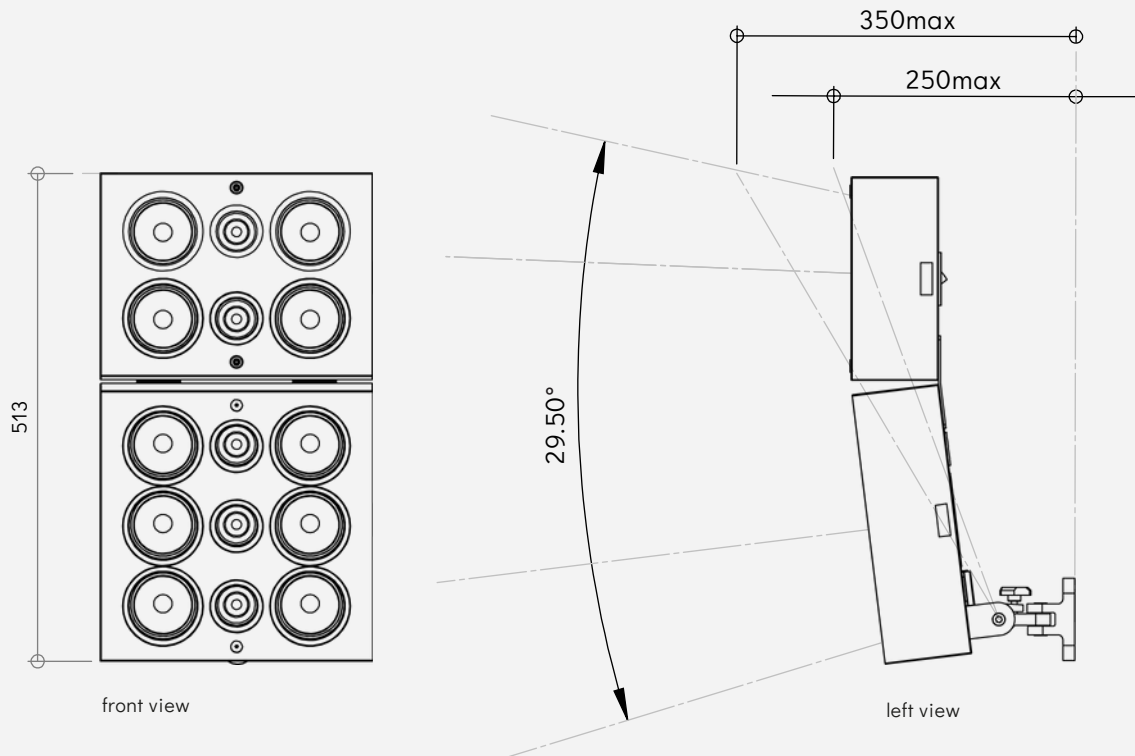


top view

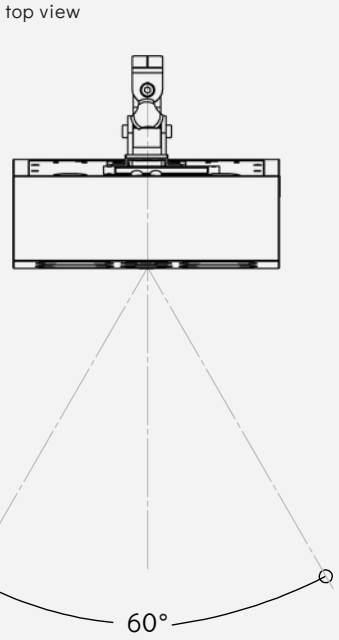
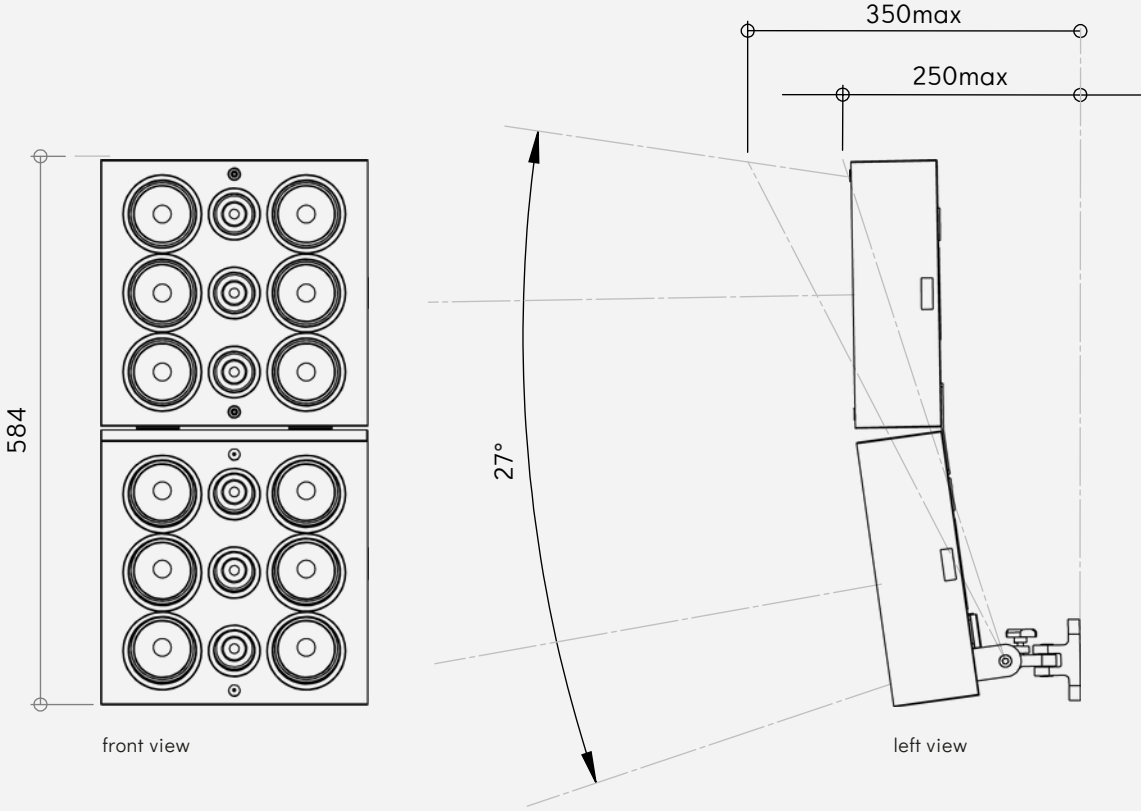
SCHEMATICS



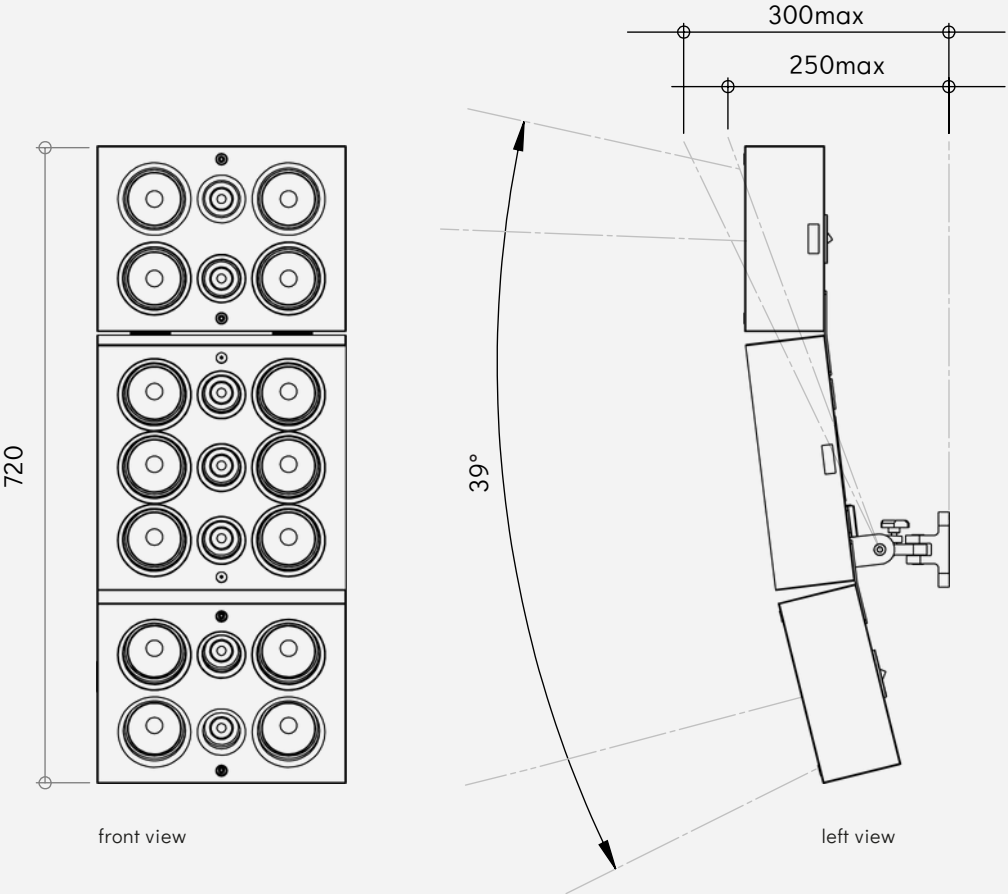
SCHEMATICS



SCHEMATICS



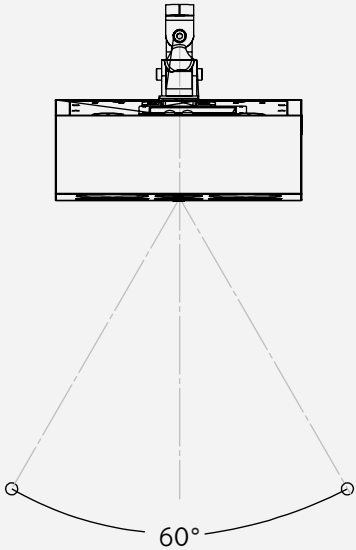
SCHEMATICS



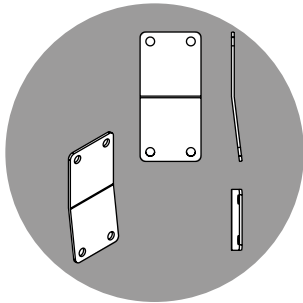
front view

left view

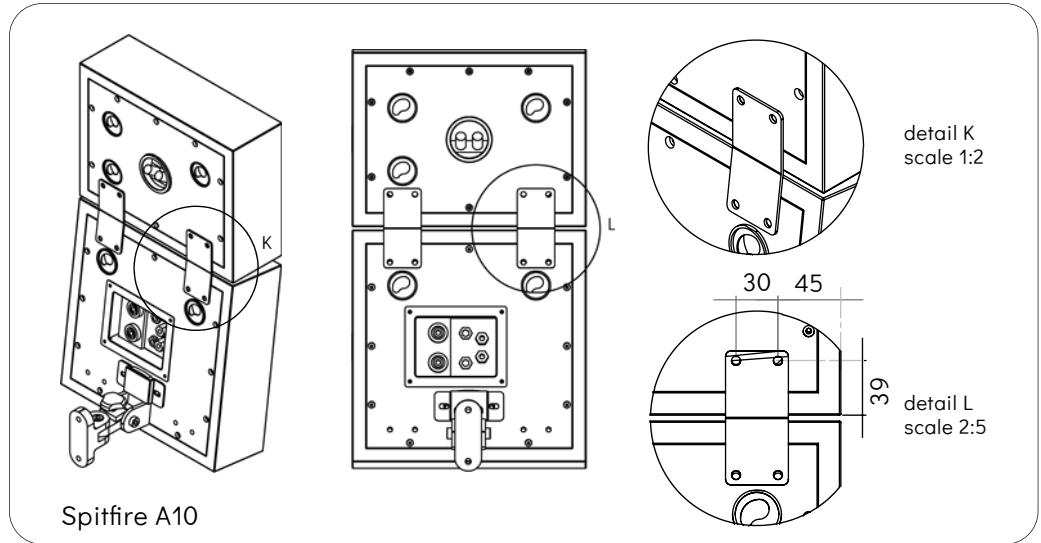
top view



MOUNTING INSTRUCTION



2mm sheet metal
painted black



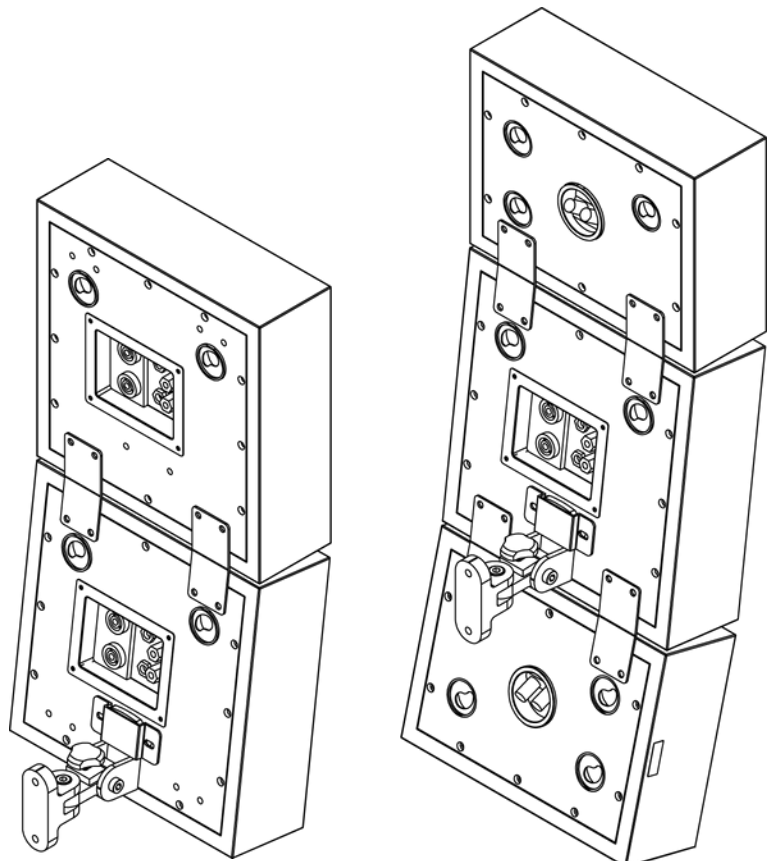
ARTCOUSTIC NARROW DISPERSION ARRAY

With the Artcoustic Narrow Dispersion Array, we have managed to solve a number of typical problems associated with angled arrays. This has been achieved by placing identical high frequency transducers in a precise, mathematically calculated angled position.

We achieve near perfect frequency response, minimized phase overlap and comb filtering, coupled with exceptional high sound pressure level and reduced acoustic loss over double listening distance.

We have also managed to control the energy output on the vertical axis, reducing floor and ceiling reflections, resulting in a constant and highly predictable performance.

So basically with the Artcoustic Spitfire array speakers, every room will sound the same without the use of extensive acoustic room correction material.

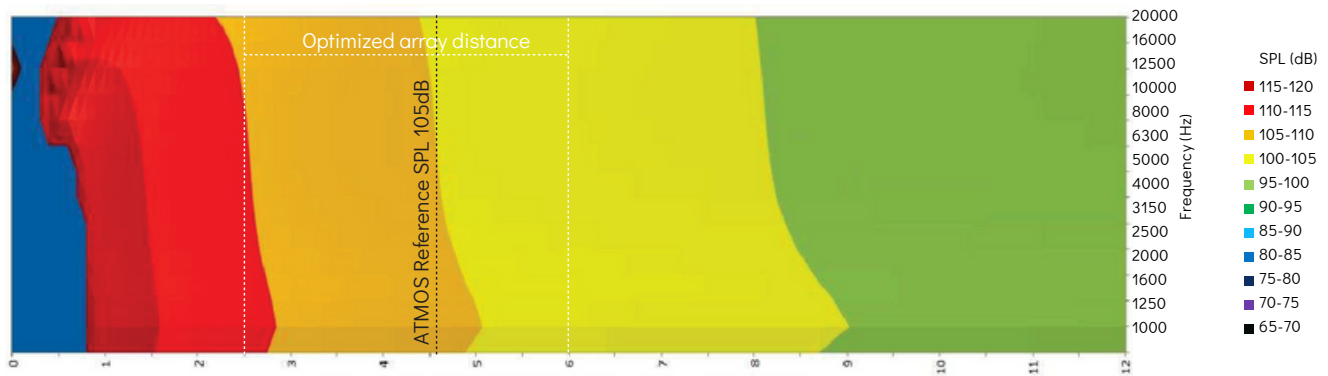
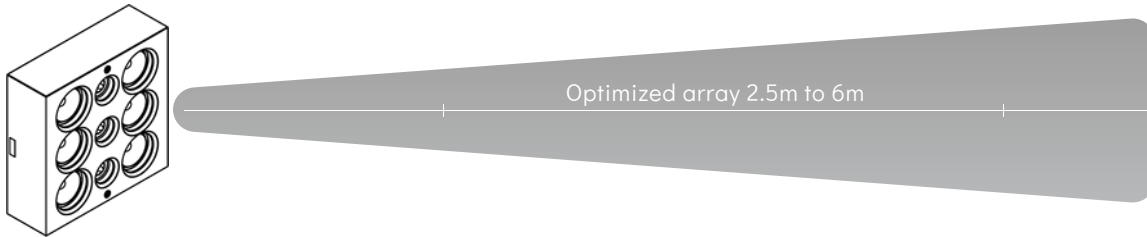


Spitfire A12

Spitfire A14

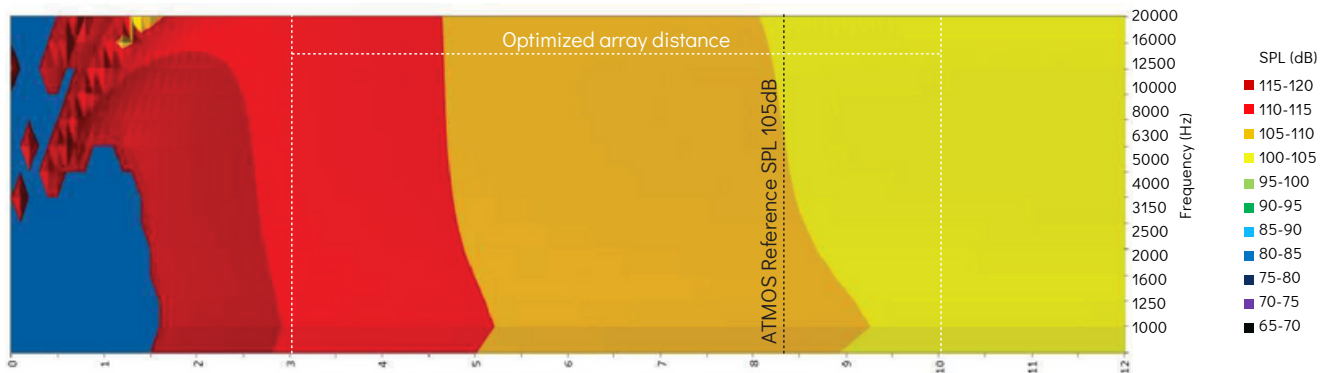
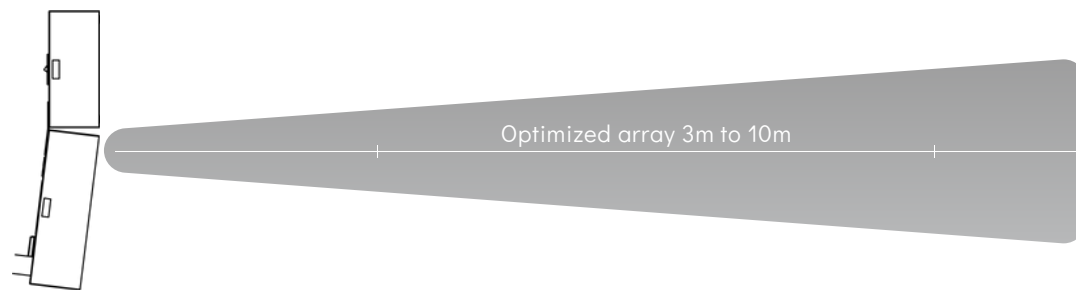
VERTICAL ARRAY AND ACOUSTIC ENERGY LOSS OVER DISTANCE

SPITFIRE A6 ARRAY



Distance from the array along the central axis (between the two central tweeters) (m).
on-axis SPL of the array at distances 0 - 12m

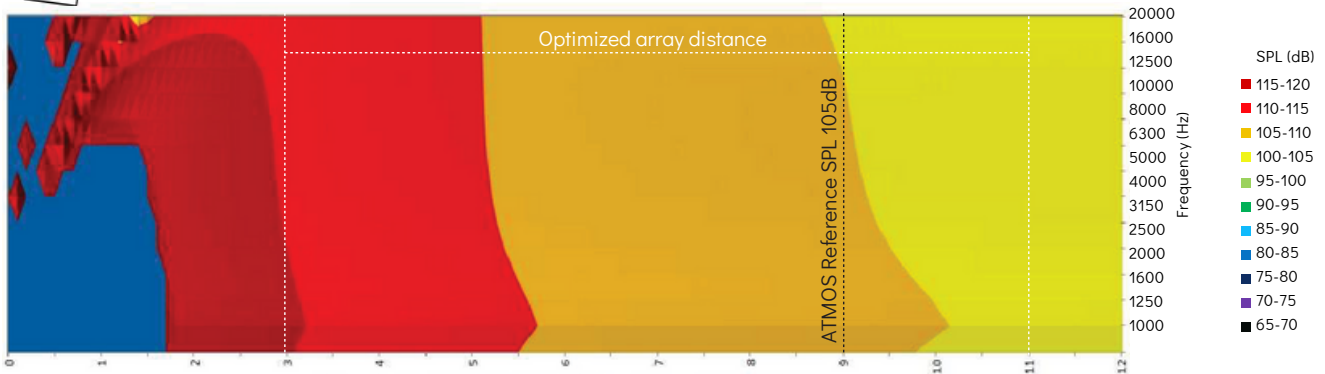
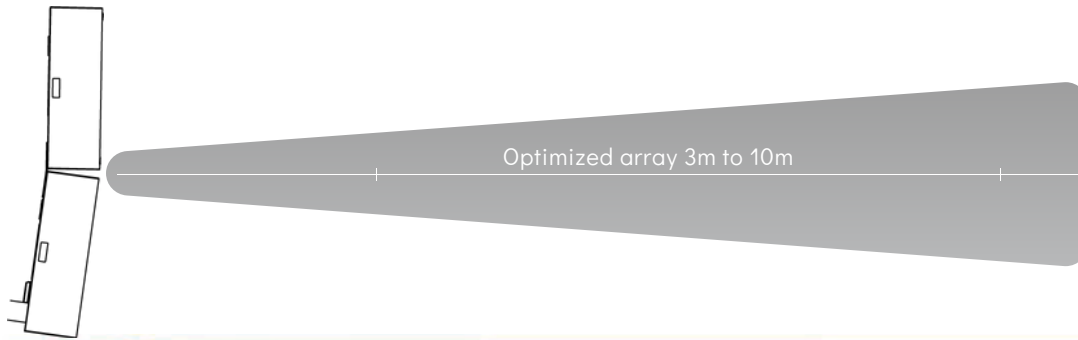
SPITFIRE A10 ARRAY



Distance from the array along the central axis (between the two central tweeters) (m).
on-axis SPL of the array at distances 0 - 12m

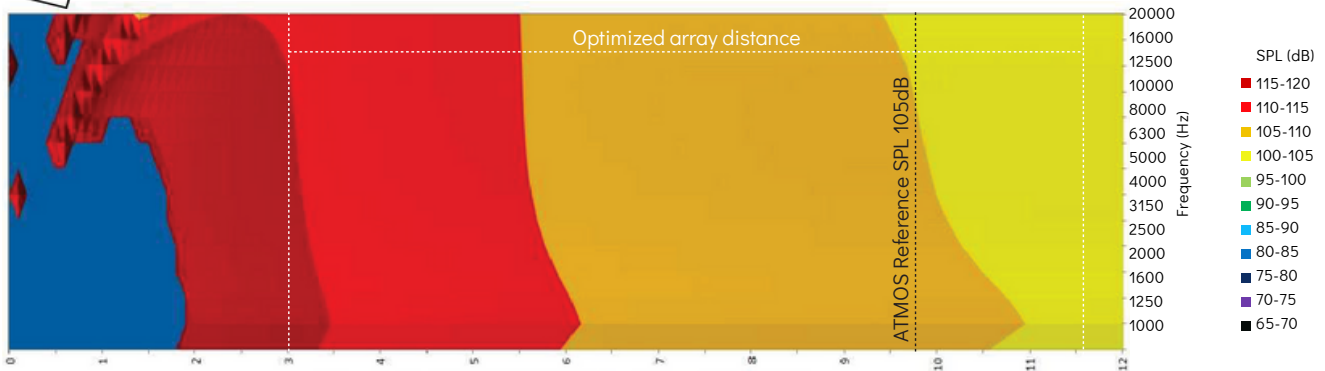
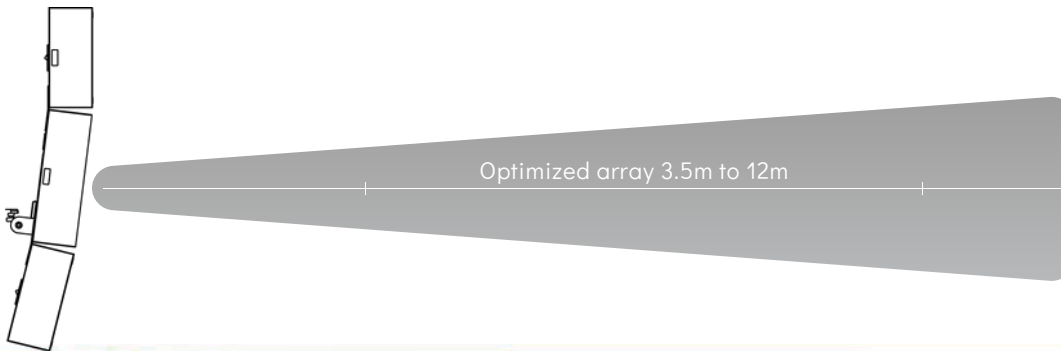
VERTICAL ARRAY AND ACOUSTIC ENERGY LOSS OVER DISTANCE

SPITFIRE A12 ARRAY



Distance from the array along the central axis (between the two central tweeters) (m).
on-axis SPL of the array at distances 0 - 12m

SPITFIRE A14 ARRAY



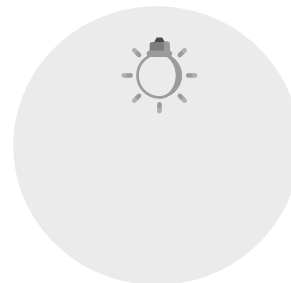
Distance from the array along the central axis (between the two central tweeters) (m).
on-axis SPL of the array at distances 0 - 12m

ARTCOUSTIC LINE ARRAY EXPLAINED

As sound is invisible to the human eye, it can for many people come across being a bit abstract and difficult to understand, where on the other hand light is visible to the human eye and therefore easier to explain. However, sound and light actually has many things in common. It is an energy which reflects and absorbs, according to its surroundings, shape boundaries and boundary materials.

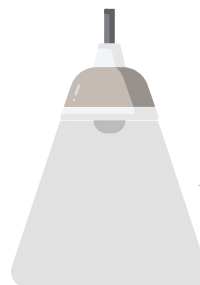
In the diagrams we show the fundamental differences between the typical omni-directional light bulb, which in many ways is similar to the typical HI-FI dome tweeter, the more controlled light source, with guided directivity from a lamp shade, illustrating the more professional audio oriented horn loaded design, and finally the use of multiple light sources, placed in a straight vertical line, illustrating the different types of line array designs used by Artcoustic.

illustration with a 30W light bulb



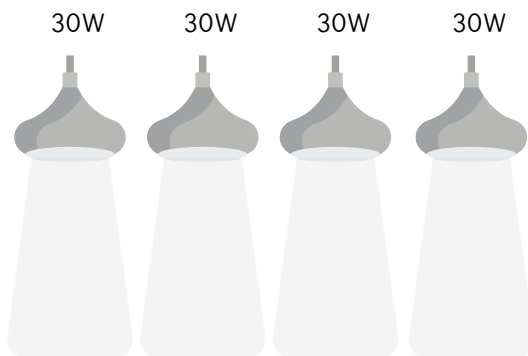
30W wide dispersion typical HI-FI design

illustration with a ceiling lamp



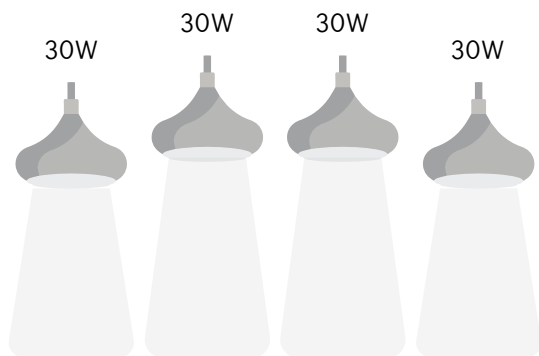
Controlled dispersion typical horn design

illustration of a 120W straight line array



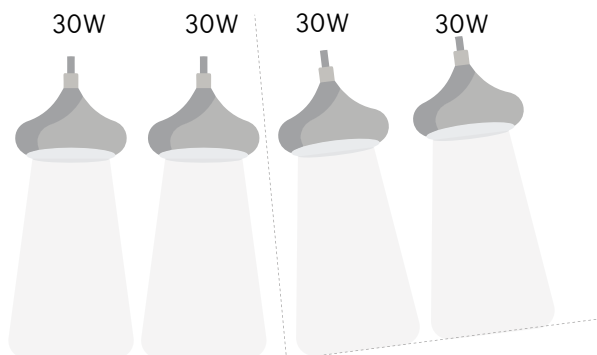
*using Spitfire A6/A4 and smaller Evolve speakers

illustration of a 120W time aligned line array



*using larger Evolve speakers

illustration of a 120W angled line array

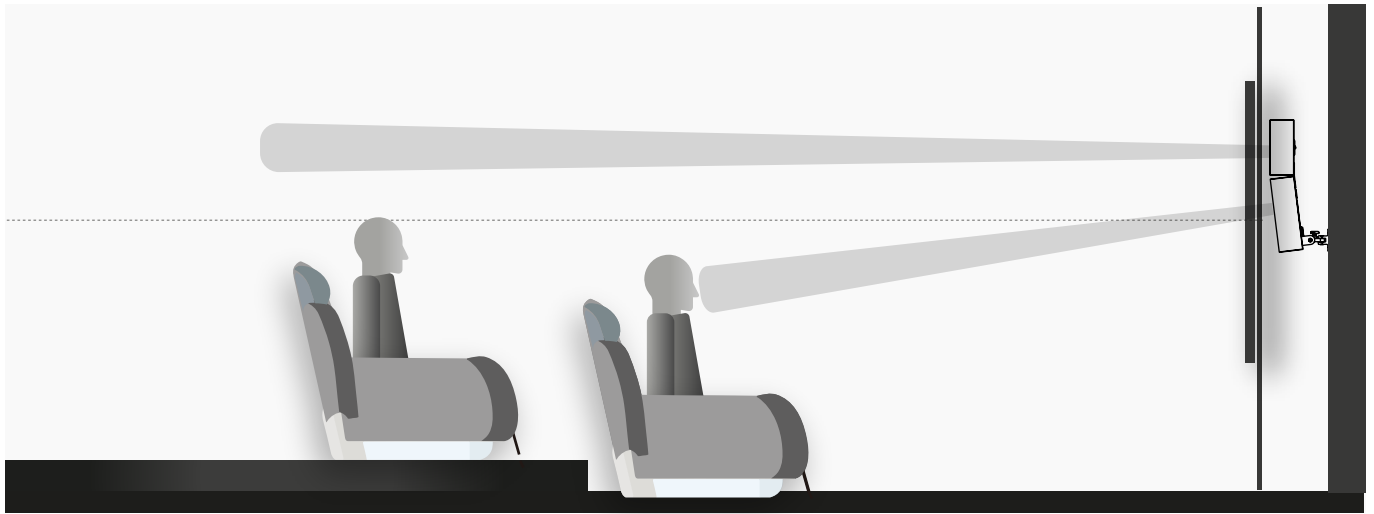


*using Spitfire array speakers

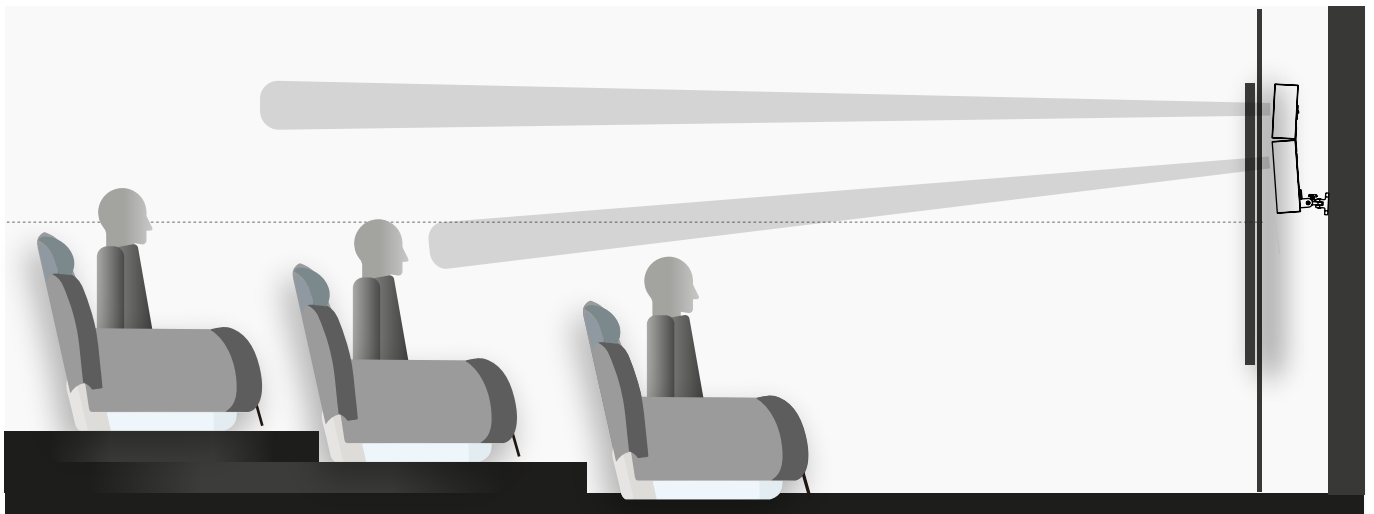
HOME CINEMA ARRAY EXAMPLE

SPITFIRE A10 ARRAY

Array example: 2 seats elevated. Place Spitfire A6 center screen, aiming at front seat listening height.



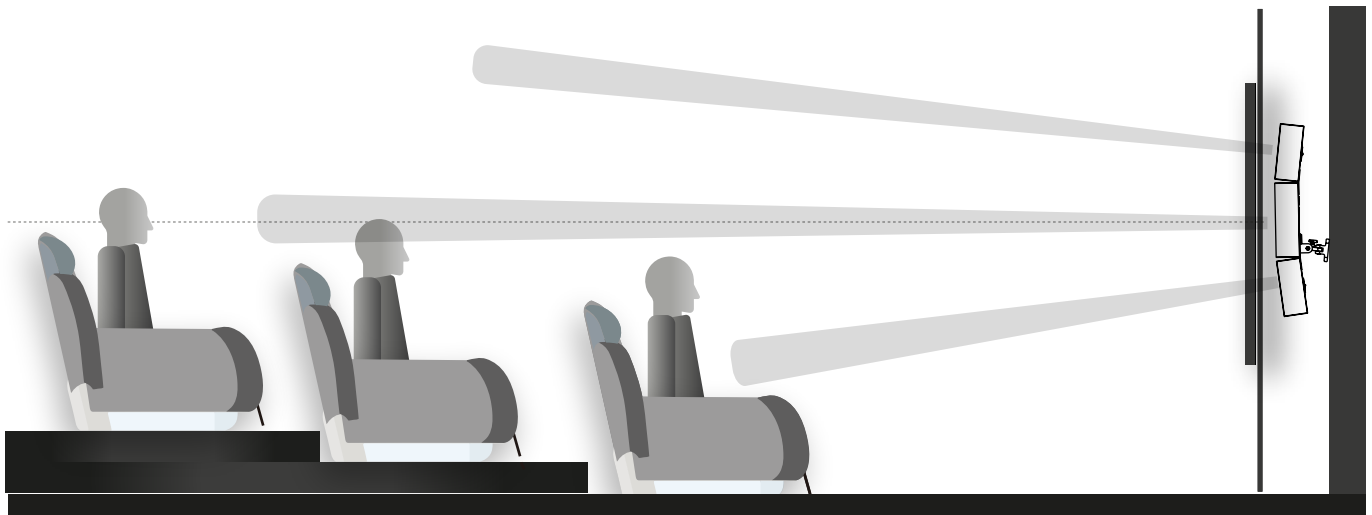
Array example: 3 seats elevated. place Spitfire A6 center screen, aiming at center seat 2nd row listening height.



HOME CINEMA ARRAY EXAMPLE

SPITFIRE A14 ARRAY

Array example: multiple seats elevated. Place Spitfire A6 center screen, aiming at center seat. Example 6 rows: aim at 3rd row listening height. Example 8 rows: aim at 4th row.



SAFETY INSTRUCTIONS

SAFETY



Do not use this product near water



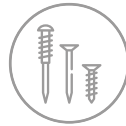
Clean rear panel with dry cloth only



Do not block any ventilation opening



Do not install near any heat sources



If wall mounted, ensure the use of matching screws and rawl plugs

WARNING

This product complies with Part 15 of the FCC Rules. Its operation is subject to the following two conditions:

This product may not cause harmful interference.

This product must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

To reduce the risk of fire and electric shock do not expose this product to rain or moisture.



Do not place product filled with liquids such as vases on the product .



Do not open product. There are no user-serviceable parts inside.



Always use the power supply shipped with this product, using a power supply with wrong voltage or polarity, can damage the electronics.



WARRANTY

IS APPLICABLE



Is valid only for products purchased from an authorised Artcoustic retailer or dealer.



Is valid from the date of purchase for a period of 3-years for passive loudspeakers, and 2-years for powered loudspeakers and electronics.



Is limited to the repair of the equipment (which could be a repair or replacement at our discretion, neither of which affects your original warranty).



Neither transportation, nor any other costs, nor any risk for removal, transportation and installation of products is covered by this warranty.

IS NOT APPLICABLE

Will not be applicable in cases other than defects in materials and/or workmanship at the time of purchase and will not be applicable:

- For deterioration of component parts, the nature of which is to become worn or depleted with use, such as batteries.
- For damages caused by incorrect installation, connection or packing.
- For damages caused by accidents, lightning, water, fire heat, war, public disturbances or any other cause beyond the reasonable control of Artcoustic and its appointed distributors.
- For damages caused by any use other than correct use described in the user manual, negligence, modifications, or use of parts that are not made or authorized by Artcoustic.

If it is found necessary to return the product for repair, you will be given a form to fill out and return. You should not return the product without previous acceptance. To validate your warranty, you will need to produce the original sales invoice or other proof of ownership and date of purchase.

The Artcoustic Team