ENGINEERED BY

SPIRATECH ™ Series

# AR-208

Mid power and high directivity, 2 - way, Line array unit

## Description :

The AR-208 enclosure is part of a Series of systems, which allows the assembly of different Line Arrays.

As with all the other components in this Series, it has been conceived to offer very high sonic performance, outstanding presence and extreme clarity, while meeting each and every one of the parameters that define the Line Array Technology.

The various elements found in the enclosure make use of sophisticated loudspeaker coupling techniques in order to implement the appropriate shading, thus permitting total control of the horizontal dispersion and avoiding the cancellations inherent to conventional P.A. Systems.

Furthermore, the use of complex wave-guides, permits an absolute control over the vertical coverage, an utmost necessity when directing our sonic energy to specific areas. The end result is a clear message without bouncing or reflected specific frequencies.

The necessary Vertical Coverage is obtained via the system's enclosures separation and angle setting between the same.

The full Line Array system will produce a coherent wave front which provides the interesting peculiarity of only loosing 3dB every time we double the distance from the sound source. Conventional systems loose 6 dB in the same circumstances. This Line Array inherent advantage permits large SPL at long distances while offering bearable levels in the near field.

Another noticeable point is the easy set up procedure, thanks to our rugged and reliable flying assembly that permits a precise yet rapid installation.

## Applications :

This powerful and highly modular system offers great directivity and flexibility. Therefore it can be used to sound small events up from one thousand listeners to large concerts in open spaces. It meets the standards of the SLAS, (Scalable Line Array System), which adapts easily and can be used successfully in the most diverse tasks.

Although the system has been designed to cover short distances, (Short Throw), it can, just by adding medium to long distance units from the same series, (AR-210), become a full coverage P.A. for medium to large events.

The minimum configuration consists of six AR-208, the full advantage of a Line Array rig is reached with nine units.

The SpiraTech enclosures, conceived as fully operational Line Array devices, offer a series of specific characteristics:

-Continuous and coherent wave front
-Pattern Control
-Uniform SPL
-High resolution sound reproduction
-Configurable and predictable coverage
-Minimal signal process and settings

The recommended applications include:

-Auditoria
-Stadia
-Concert Halls
-Convention Centres
-Theatres
-Open-air concerts and general events
-Large Ballrooms

## Specifications and characteristics

| | |
|---|---|
| Frequency Response (Hz) | ±3 dB (1 x AR208) 125Hz - 18kHz<br>±3 dB (6 x AR208) 80Hz - 18kHz |
| Horizontal coverage angle (-6dB) | 110 deg. nominal (250Hz - 18kHz) |
| Vertical coverage angle (-6dB)<br>Typical with 6 cabinets (0º Splay) | Variable, configuration dependant<br>30 deg. nominal |
| Sensitivity 1 x AR208 (dB/2,83V@1m)<br>Sensitivity 6 x AR208 (dB/2,83V@1m) | 100 dB<br>116 dB |
| SPL Max / Peak (dB SPL@1m) | 1 x AR208 131 dB<br>6 x AR208 147 dB |
| Impedance | 16 Ohm |
| Recommended signal processor | RAM Audio LMS 244 Digital Processor |

### Constructive elements

| | |
|---|---|
| Mid frequency | 2 x 200 mm (8") transducers<br>with 50 mm (2") coil<br>300W AES(150W AES per unit) |
| High frequency | 1 x Compresion driver 50 mm, (2") coil,<br>25 mm (1") throat<br>100W AES |

### Enclosure & suspension Hardware

| | |
|---|---|
| Enclosure | Horizontal parallelepiped construction<br>15mm Baltic cross ply, tongue and groove assembly and outer frame. Bi-component epoxy finish |
| Protection grill | 1.5mm laminated steel with textured epoxy finish |
| Enclosure protections | Skids on all resting surfaces |
| Connectors | Two Neutrik NL8 connectors on steel back plate |
| Dimensions (H x W x D) | 504 x 240 x 409 mm (19.8 x 9.5 x 16.1 inches) |
| Net weight | 18.8 Kg (41 Pounds) including inserted rigging system |
| Rigging system | Self-contained, integrated Rigging system with no protruding or loose parts for ease of transport and assembly.<br>Designed to rig and fly up to 24 enclosures with a 1:5 design factor. |

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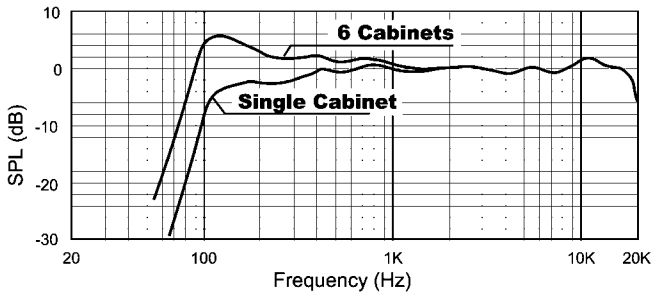
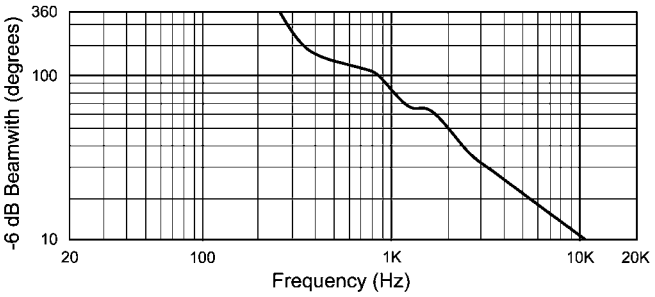
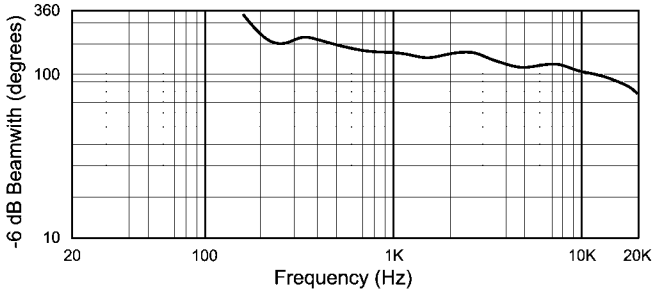


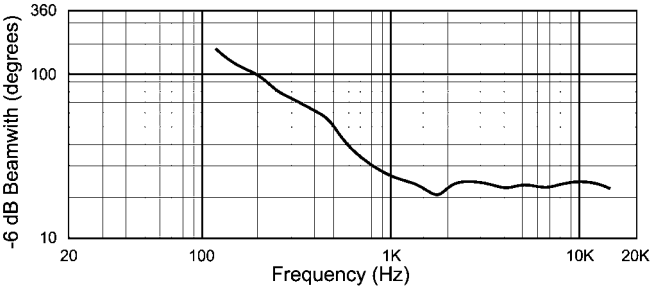

**Global normalized response (Single cabinet)**




**Vertical coverage (Single cabinet)**




**Horizontal coverage (Typical array)**




**Vertical coverage (Two cabinets @ 10º)**

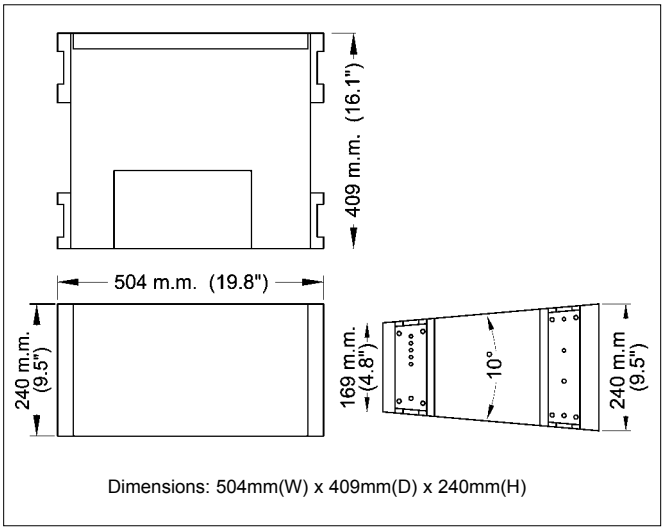
## Acoustic response measuring system

The Acoustic Measures of this Line Array Unit have been made taking into account its use context, this is as an individual cabinet to be part of a Line Array Assembly.

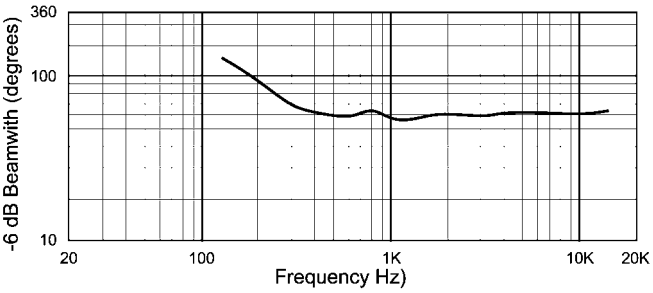
The measure of Frequency Response is that of a single AR-208 enclosure with our recommended, and in the case of our RAM Audio LMS 244, preset, controller settings for crossover, levels and EQ as defined in our accompanying software.

The Vertical Coverage shown in the graphs, from one to eight AR-208, corresponds to a given system with a Splay angle of 10 degrees between adjacent enclosures, except for the one specified at 0 degree which corresponds to a Vertical Line Array with 0 degree Splay angle.

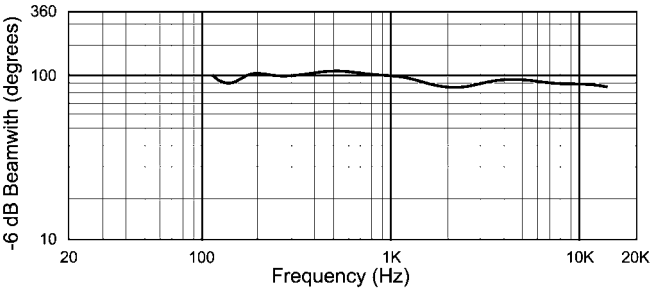
All measures have been taken according to the Gathered Technique with a calibrated microphone centred on the enclosure or Array axis. The polar pattern data are taken symmetrically with respect to the reference axis, at 5 degree intervals, from 0 to 355º, using an LMS digital measuring system.



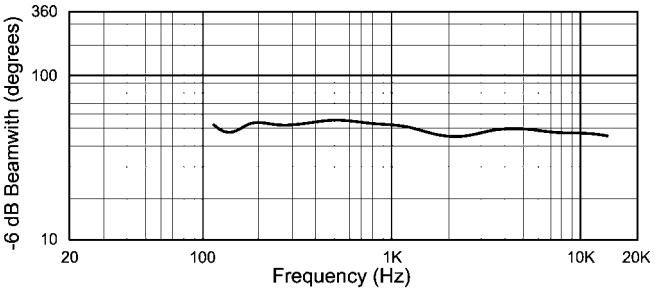

Dimensions: 504mm(W) x 409mm(D) x 240mm(H)




**Vertical coverage (Four cabinets @ 10º)**




**Vertical coverage (Six cabinets @ 10º)**




**Vertical coverage (Six cabinets @ 0º)**

# AR-208

Mid power and high directivity, 2-way, line array unit

## SPIRATECH™ ARRAYS

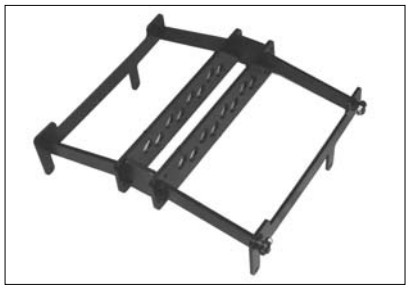
The configurable Arrays obtained with the AR-208 are scalable systems, (SLAS), easily and rapidly adapted to any particular need. They follow the theory of the spiral Line Arrays. The enclosures have to be flown vertically and oriented according to the coverage required and always as a multi-enclosure system.

The 110º Horizontal coverage is constantly maintained, regardless of the Splay between the units and their amount, directly proportional to the Vertical Coverage required.

The Vertical Coverage needed, as well as the SPL, are obtained through preset Splay angulations, while the array is assembled on the ground and depend on the number of AR-208 enclosures used.

Our very user friendly flying fixtures permit choosing the Splay angles between 0 and 10 degrees according to the simulation program and avoids the disagreeable chore of having to do so simultaneously to lifting the cabinets.

Up to twenty AR-208 can be flown from the supporting frame TF-208.The Interface Frame IF-208 permits as well to fly under the main system AR-210 smaller Line Array units, (AR-208), much more efficient and predictable than any ground stacked front-fill. These enclosures have a greater Horizontal Coverage of 110º to achieve a perfect near field presence.



### TF-208 Assembly Top Frame

Designed to support up to twenty AR-208, the frame is made of laser cut steel, with an epoxy finish. It lifts the suspended Line Array from one or two anchoring points.

### IF-208 Assembly Interface Frame

Built from laser cut steel, this frame serves the purpose of assembling the Mid size high directivity 3-way AR-210 to build a medium-large Spiratech Line Array with the AR-210 for long throw and the AR-208 for short throw.

### FC-208 Transport Flight-case

This convenient flight-case safely transport six cabinets interconnected with their corresponding rigging pins. It serves as well as rigging platform, one the covers removed, the whole assembly rolling towards the liftings support .

### FC-Tf208 Assembly Frames, Transport Flight-case

This rigid, ergonomic and practical transport flight-case accepts two double sets of top frames.It has also a compartment for cabling. All inner surfaces are lined with high-density polyurethane foam and divided so that every element is individually protected.

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