# Incubus System

## User Guide V1.1

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Version 1.1

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# Contents

# 1 Safety and regulations

## 1.1 Important safety instructions

The lightning flash with and 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 of the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

### Safety instructions - read this first

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 a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat source such as radiators, heat registers, stoves, or other such apparatus that produce heat.
9. Do not defeat the safety purpose of the grounding-type plug. A grounding type plug has two blades and a third grounding prong. The third prong is 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 power cords from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit the apparatus.
11. Only use attachments and accessories specified by Void Acoustics.
12. Only use 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 the 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 when the 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. Since the mains power supply cord attachment plug is used to disconnect the device, the plug should always be easily accessible.
16. Void 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. Avoid prolonged exposure to the high sound levels from the loudspeaker.

## 1.2 Limitations

This guide is provided to help familiarise the user with the loudspeaker system and its accessories. It is not intended to provide comprehensive electrical, fire, mechanical and noise training and is not a substitute for industry-approved training. Nor does this guide absolve the user of their obligation to comply with all relevant safety legislation and codes of practice.

While every care has been taken in creating this guide, safety is user-dependent and Void Acoustics Research Ltd cannot guarantee complete safety whenever the system is rigged and operated.

## 1.3 EC declaration of conformity

Manufacturer:
Void Acoustics Research Ltd,
Unit 15 Dawkins Road Ind Est,
Poole, Dorset,
BH15 4JY,
United Kingdom.

We declare the under our sole responsibility the following product models: Air Array, Hyperfold and Incubus Sub

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:

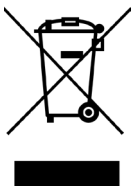
- BS EN 60065:2002
- BS EN 55103-1/-2

March 2016

Alex Skan
Technical Director

## 1.4 WEEE directive

If the time arises to throw away your product, please recycle all the components possible.



This symbol indicates that when the end-user wishes to discard this product, it must be sent to separate collection facilities for recovery and recycling. By separating this product from other household-type waste, the volume of waste sent to incinerators or land-fills will be reduced and natural resources will thus be conserved.

The Waste Electrical and Electronic Equipment Directive (WEEE Directive) aims to minimise the impact of electrical and electronic goods on the environment. Void Acoustics Research Ltd complies with the Directive 2002/96/EC and 2003/108/EC of the European Parliament on waste electrical finance the cost of treatment and recovery of electronic equipment (WEEE) in order to reduce the amount of WEEE that is being disposed of in land-fill sites. All of our products are marked with the WEEE symbol; this indicates that this product must NOT be disposed of with other waste. Instead it is the user's responsibility to dispose of their waste electrical and electronic equipment by handing it over to an approved reprocessor, or by returning it to Void Acoustics Research Ltd for reprocessing. For more information about where you can send your waste equipment for recycling, please contact Void Acoustics Research Ltd or one of your local distributors.

# 2 Limited warranty

## The warranty

For a period of three (3) years from the date of delivery to the original purchaser (as shown on the original invoice or sales receipt; a copy of this may be required as proof of warranty dates), Void Acoustics Research Ltd (hereinafter "Void") warrants to the Original Owner (person or company who originally purchased the product brand new from either Void or a Void Authorised Dealer/Distributor) of each new Incubus Series product (provided it was purchased at an Authorised Void Dealer) that it is free of defects in materials and workmanship and that each product will meet or exceed all factory published specifications for each respective model. Void agrees to repair or replace (at its discretion) all defective parts at no charge for labour or materials; subject to following provisions:

## Warranty violations

Void shall take no responsibility for repair or replacement as specified under this warranty, if the damaged product has been subject to misuse, accident, neglect or failure to comply with normal maintenance procedures; or if the serial number has been defaced, altered or removed. Nor will Void accept responsibility for, or resulting from, improper alterations or unauthorised parts or repairs. This warranty does not cover any damage to speakers or any other consequential damage resulting from breach of any written or implied warranty.

## Void warranty provisions

Void will remedy any defect, regardless of the reason for failure (except as excluded) by repair, or replacement. Void will remedy the defect and ship the product within a reasonable time after receipt of the defective product at a Void Authorised Service Centre.

## To obtain warranty service

If a Void product requires service, the Owner must contact Void or an Authorised Void Service Centre to receive an R.A.N. (Return Authorisation Number) and instructions on how to return the product to the Void Authorised Service Centre, or to Void.

Void (or its Authorised Service Centre) will initiate corrective repairs upon receipt of the returned product. Please save the original carton and all the packing materials in case shipping is required. All products being returned to the factory or service centre for repairs must be shipped prepaid.

If the repairs made by Void or the Void Authorised Service Centre are not satisfactory, the Owner is instructed to give written notice to Void. If the defect or malfunction remains after a reasonable number of attempts by Void to remedy the defect or malfunction, the Original Owner shall then have the option to elect either a refund or replacement of said Void product free of charge. The refund shall be an amount equal to but not greater than the actual purchase price, not including any taxes, interest, insurance, closing costs and other finance charges (minus reasonable depreciation on the product). If a refund is necessary, the Original Owner must make the defective or malfunctioning product available to Void free and clear of all liens or other restrictions.

## Equipment modifications

Technical and design specifications are subject to change without notice.

Void reserves the right to modify or change equipment (in whole or part) at any time prior to delivery thereof, in order to include therein electrical or mechanical improvements deemed appropriate by Void, but without incurring any liability to modify or change any equipment previously delivered, or to supply new equipment in accordance with any earlier specifications.

## Disclaimer of consequential and incidental damages

You, the Original Owner, are not entitled to recover from Void any incidental damages resulting from any defect in the Void product.

This includes any damage to another product or products resulting from such a defect.

## Warranty alterations

No person has the authority to enlarge, amend, or modify this Warranty. This Warranty is not extended by the length of time which the Original Owner is deprived of the use of product. Repairs and replacement parts provided pursuant to the Warranty shall carry only the non-expired portion of the Warranty.

**This Statement of Warranty supersedes all others contained in this user guide.**

# 3 Unpacking and checking

All Void Acoustics products are carefully manufactured and thoroughly tested before being despatched. Your dealer will ensure that your Void products are in pristine condition before being forwarded to you but mistakes and accidents can happen.

Before signing for your delivery:

- Inspect your shipment for any signs of contamination, abuse or transit damage as soon as you receive it
- Check your Void Acoustics delivery fully against your order
- If your shipment is incomplete or any of its contents are found to be damaged; inform the shipping company and inform your dealer.

Air Array loudspeakers are heavy (144.8 kg/319 lbs including stand) and require a minimum two people to lift.

- Undo the four butterfly catches on the transport case then remove the lid making sure the lid is clear before moving sideways
- If you need to place the Air Array on a flat surface ensure you use a lint free product to protect the finish
- When removing the Air Array take care not to damage the lower tray of the transport case.

Keep the original packaging in case you need to return a product for service later.

See section 2 for warranty conditions and see section 10 if your product needs servicing.

# 4 About

## 4.1 Welcome

Many thanks for purchasing this Void Acoustics Incubus Series loudspeaker. We truly appreciate your support. At Void, we design, manufacture and distribute advanced professional audio systems for the installed and live sound market sectors. Like all Void products, our highly skilled and experienced engineers have successfully combined pioneering technologies with ground-breaking design aesthetics, to bring you superior sound quality and visual innovation. In buying this product, you are now part of the Void family and we hope using it brings you years of satisfaction. This guide will help you both use this product safely and ensure it performs to its full capability.

## 4.2 Incubus series overview

Providing levels of control thought impossible and perfect sound quality, the Incubus is the number one choice for club dance systems, owing to its striking physical signature and performance. Hearing the highest quality of unadulterated sound through an Incubus makes it possible to feel as though you are inside music, in a fully immersive aural experience.

# 5 Specifications and dimensions

## 5.1 Air Array

### 5.1.1 Key features

- Visually striking appearance for style-led environments
- Fibreglass composite construction
- 14 discrete proprietary drive units
- Integrated flying and mounting system
- Ground stack on ow frequency enclosures
- Optional floor stand or flying bracket
- Standard red finish, optional custom colours

### 5.1.2 Air Array specifications

| | |
|---|---|
| Frequency response | 90 Hz - 26 kHz ±3 dB |
| Efficiency[1] | LF: 111 dB 1W/1m, MF: 114 dB 1W/1m, HF: 116 dB 1W/1m |
| Crossover point | Preset via dedicated processor |
| Nominal impedance | LF: 2 x 4 Ω, MF: 2 x 4 Ω, HF: 2 x 5.33 Ω |
| Power handling[2] | LF: 3600 W AES, MF: 800 W AES, HF: 320 W AES |
| Maximum output[3] | 143 dB cont, 146 dB peak |
| Driver configuration | 4 x 12" LF, 4 x 3" MF compression driver,<br>6 x 1" HF compression driver |
| Dispersion | 90°H x 45°V |
| Connectors | 2 x 8-pole speakON™ NL8 |
| Height | 1240 mm (48.8") |
| Width | 944 mm (37.2") |
| Depth | 813 mm (32") |
| Weight | 144.8 kg (319.2 lbs) including stand |
| Enclosure | Fibreglass composite |
| Rigging | Stack mounted or proprietary flying system |
| Finish | Smooth cellulose |

[1] Measured in half space [2] AES2 - 1984 compliant [3] Calculated

# 5 Specifications and dimensions

## 5.1.3 Air Array dimensions

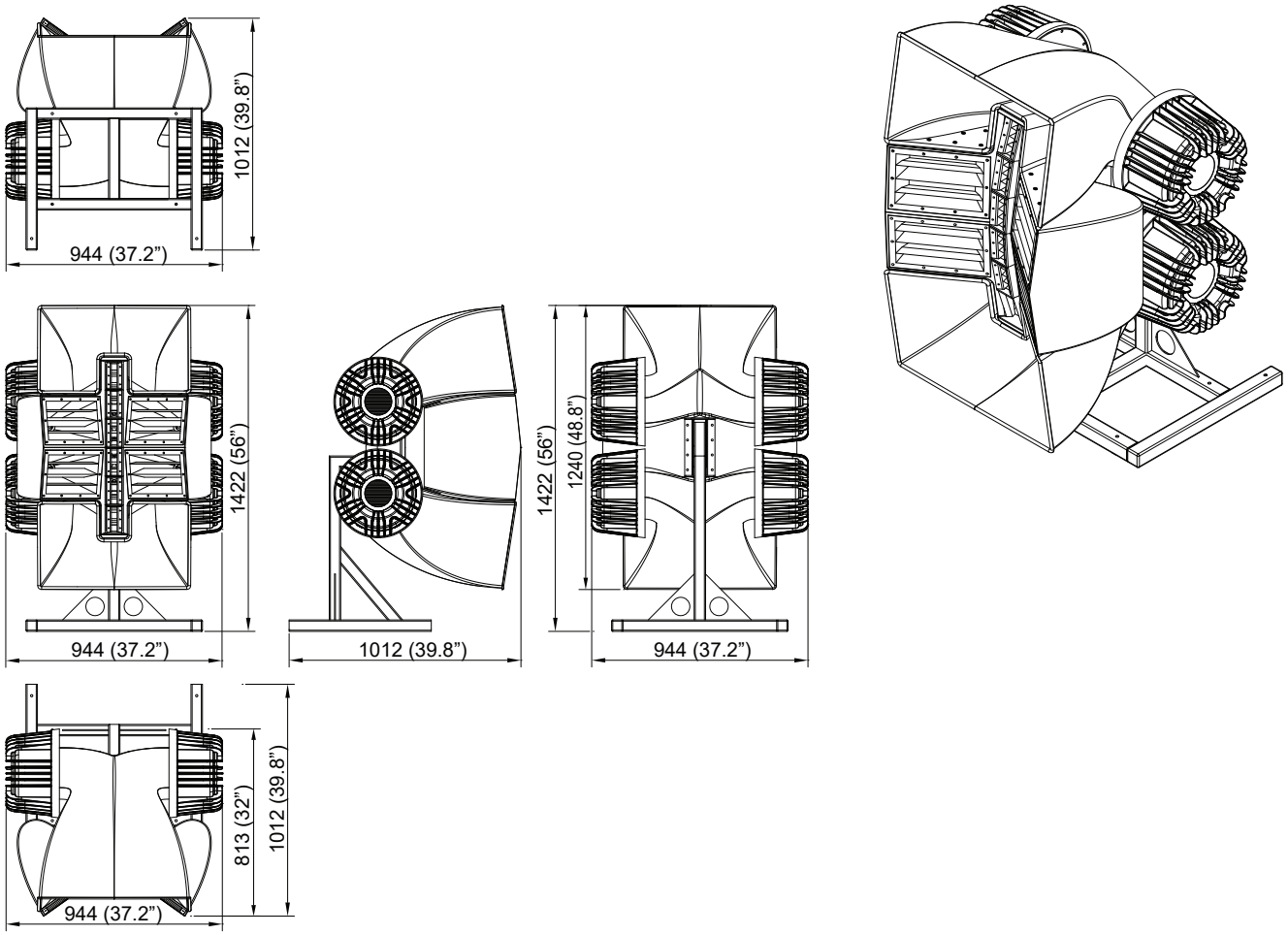



Figure 5.1: Dimensions

# 5 Specifications and dimensions

## 5.2 Hyperfold

### 5.2.1 Key features

- High power density in a compact footprint
- Exceptional upper bass speed and articulation
- Four high power 15" low frequency drivers
- Distinctive aluminium cabinet bracing
- 18 mm birch plywood construction
- Textured 'TourCoat' polyurea finish

### 5.2.2 Hyperfold specifications

| | |
|---|---|
| Frequency response | 60 Hz - 190 Hz ±3 dB |
| Efficiency[1] | 109.5 dB 1W/1m |
| Crossover points | Preset via dedicated processor |
| Nominal impedance | 2 x 4 Ω |
| Power handling[2] | 4000 W AES |
| Maximum output[3] | 142 dB cont, 145 dB peak |
| Configuration | 4 x 15" low frequency drivers |
| Dispersion | Array dependent |
| Connectors | 2 x 4-pole speakON™ NL4 |
| Height | 748 mm (29.4") |
| Width | 738 mm (29.1") |
| Depth | 1218 mm (47.9") |
| Weight | 150 kg (330.7 lbs) |
| Enclosure | 18 mm birch plywood |
| Finish | Textured 'TourCoat' polyurea, smooth cellulose |

[1] Measured in half space [2] AES2 - 1984 compliant [3] Calculated

# 5 Specifications and dimensions

## 5.2.3 Hyperfold dimensions

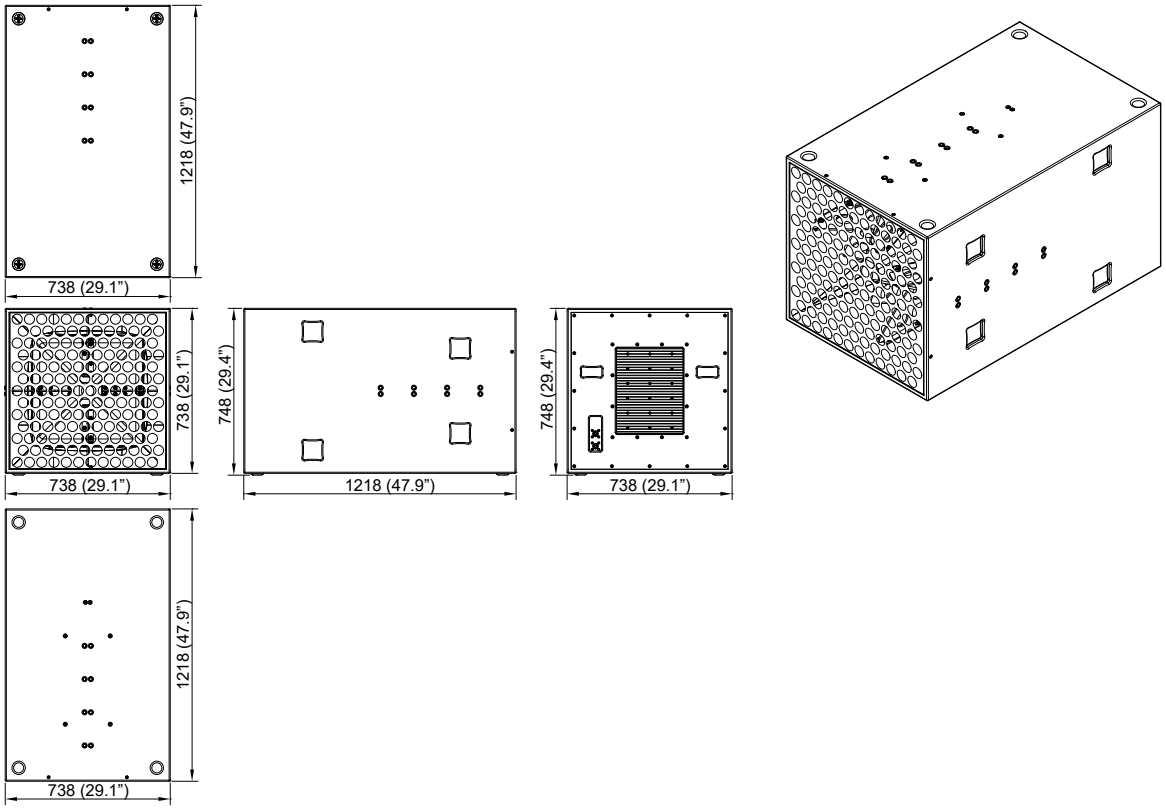



Figure 5.2: Dimensions

## 5.2.4 Hyperfold impedance graph

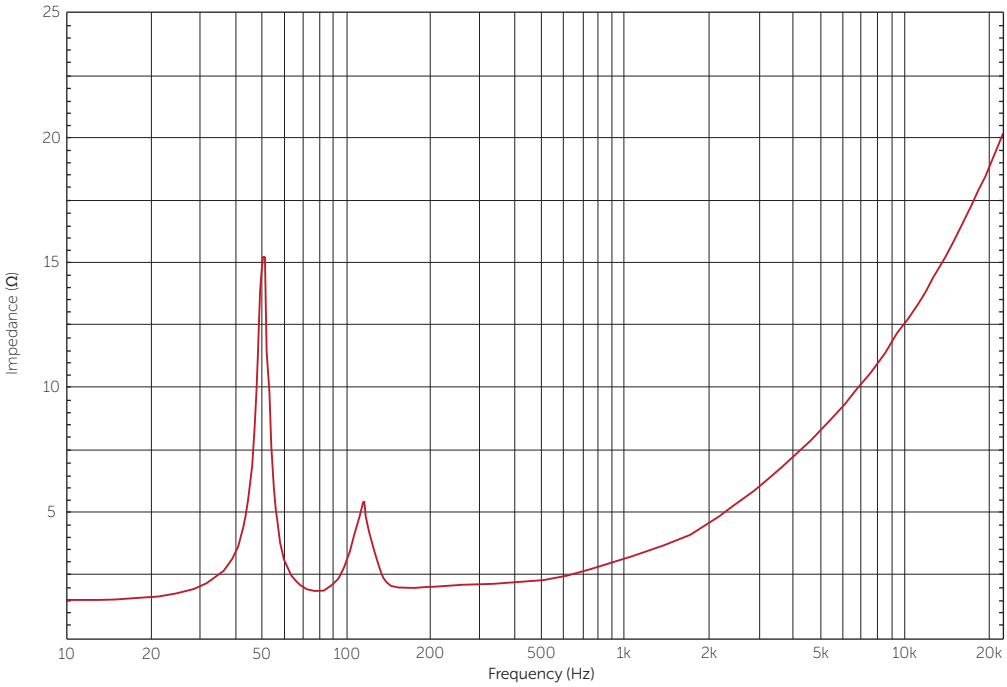



Figure 5.3: Impedance graph

# 5 Specifications and dimensions

## 5.3 Incubus Sub

### 5.3.1 Key features

- Distinctive aluminium cabinet bracing
- 3 x high power 21" low frequency drivers
- Extended sub frequency response to 30 Hz
- 18 mm birch plywood construction
- Black textured 'TourCoat' polyurea finish

### 5.3.2 Incubus Sub specifications

| | |
|---|---|
| Frequency response | 29 Hz - 95 Hz ±3 dB |
| Efficiency[1] | 105 dB 1W/1m |
| Crossover point | Preset via dedicated processor |
| Nominal impedance | 3 x 8 Ω |
| Power Handling[2] | 6000 W AES |
| Maximum output[3] | 140 dB cont, 146 dB peak |
| Driver configuration | 3 x 21" LF with 6" voice coils |
| Dispersion | Array dependent |
| Connectors | 2 x 8-pole speakON™ NL8 |
| Height | 704 mm (27.7") |
| Width | 1479 mm (58.2") |
| Depth | 1218 mm (48") |
| Weight | 214 kg (471.8 lbs) |
| Enclosure | 18 mm birch plywood |
| Finish | Textured 'TourCoat' polyurea |

[1] Measured in half space [2] AES2 - 1984 compliant [3] Calculated

# 5 Specifications and dimensions

## 5.3.3 Incubus Sub dimensions

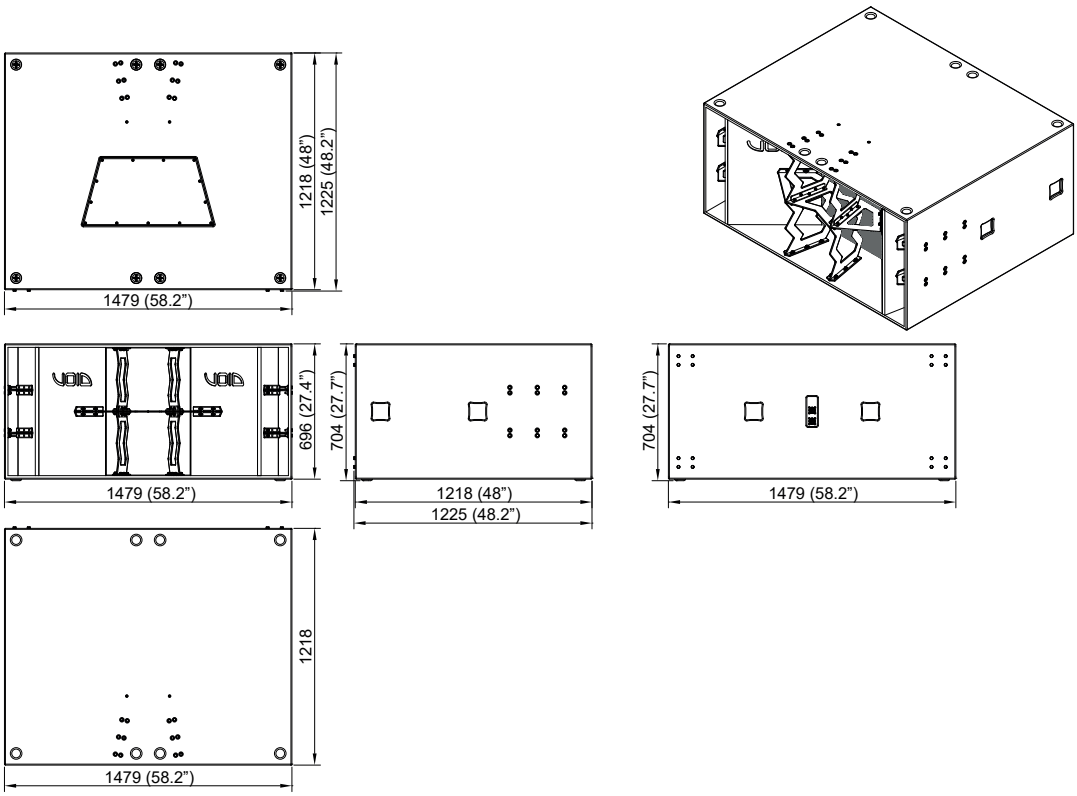



Figure 5.4: Dimensions

## 5.3.4 Incubus Sub impedance graph

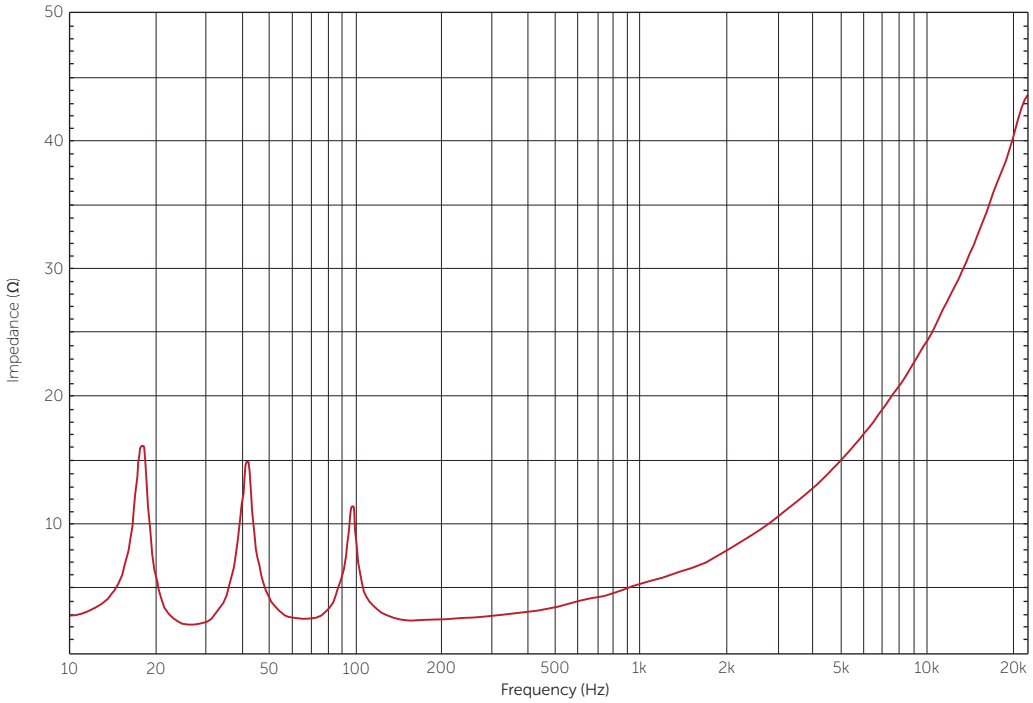



Figure 5.5: Impedance graph

# 6 Cabling and wiring

## 6.1 Electrical safety

To avoid electrical hazards please note the following:

- Do not access the inside of any electrical equipment. Refer servicing to Void-approved service agents

## 6.2 Cable considerations for fixed installations

We recommend specifying installation-grade Low Smoke Zero Halogen (LSZH) cables for permanent installations. The cables should use Oxygen Free Copper (OFC) of grade C11000 or above. Cables for permanent installations should be compliant with the following standards:

- IEC 60332.1 Fire retardancy of a single cable
- IEC 60332.3C Fire retardancy of bunched cables
- IEC 60754.1 Amount of Halogen Gas Emissions
- IEC 60754.2 Degree of acidity of released gases
- IEC 61034.2 Measurement of smoke density

We suggest using the following maximum copper cable lengths to keep level losses below 0.6 dB.

| Metric $mm^2$ | Imperial AWG | 8 Ω load | 4 Ω load | 2 Ω load |
|---|---|---|---|---|
| 2.50 $mm^2$ | 13 AWG | 36 m | 18 m | 9 m |
| 4.00 $mm^2$ | 11 AWG | 60 m | 30 m | 15 m |

## 6.3 Typical amplifier rack array

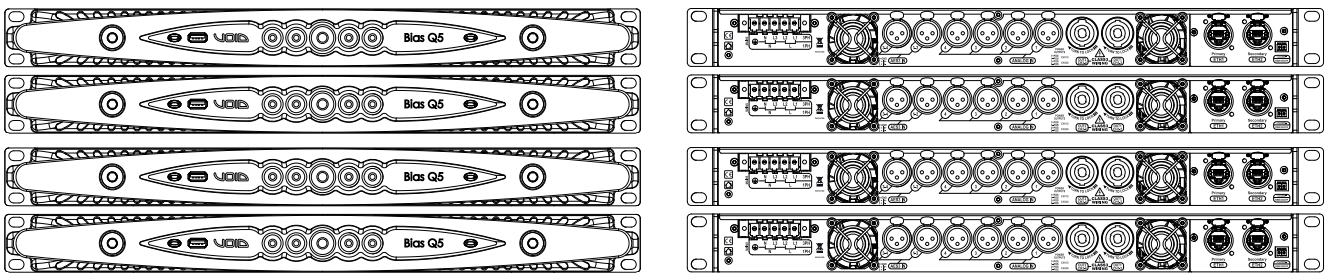



Figure 6.2: Typical amplifier rack layout for Q5

# 6 Cabling and wiring

## 6.4 Air Array layout

For clarity throughout this guide the speakON™ connections on the rear of the Air Array will be referred to speakON™ A for the left and speakON™ B for the right as shown in figure 6.1.

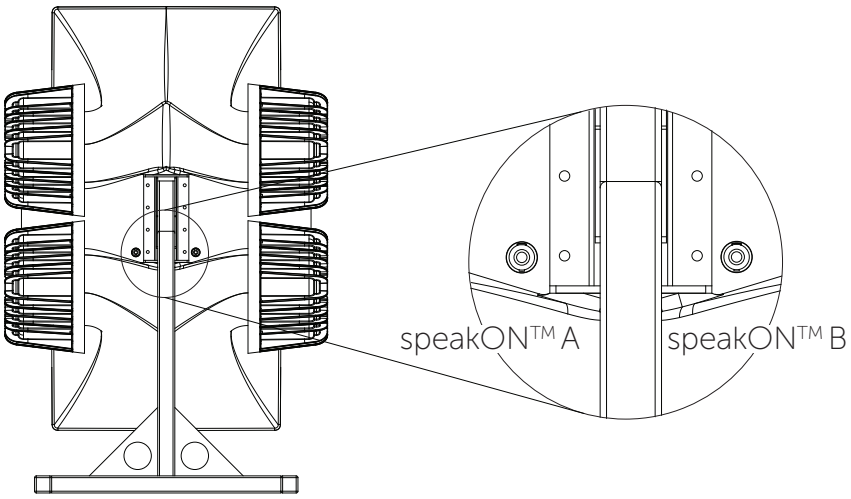



Figure 6.3: speakON™ layout

A further aid given will be a diagrammatic representation of which drivers would be engaged within the loudspeaker for each section. So, for example, figure 6.3 below shows the section for the low frequency drivers.

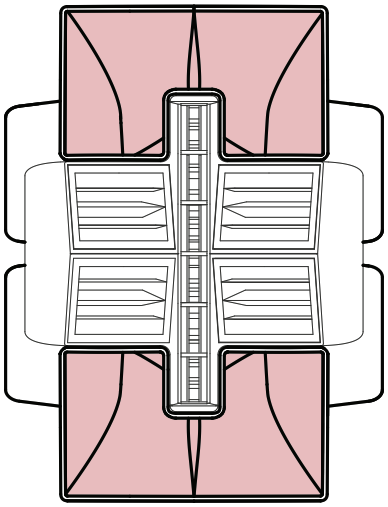


Figure 6.4: LF drivers

# 6 Cabling and wiring

## 6.5 Air Array wiring diagram

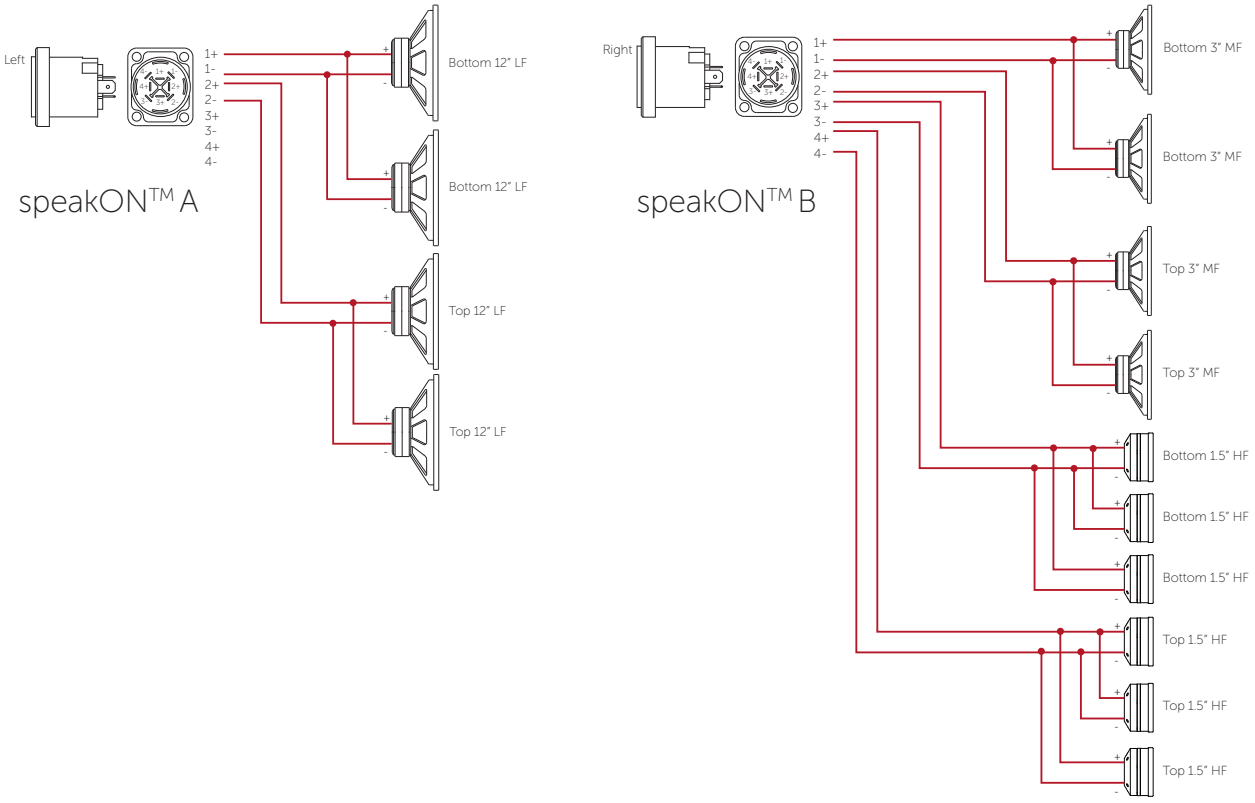


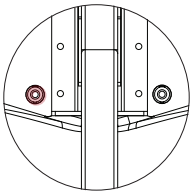

Figure 6.5: Air Array wiring diagram

| speakON™ A NL8 | | | |
|---|---|---|---|
| Pins | Driver | Power handling | Impedance |
| +/-1 | Bottom 2 x 12" | 1800 W AES | 4 Ω |
| +/-2 | Top 2 x 12" | 1800 W AES | 4 Ω |

| speakON™ B NL8 | | | |
|---|---|---|---|
| Pins | Driver | Power handling | Impedance |
| +/-1 | Bottom 2 x 3" | 400 W AES | 4 Ω |
| +/-2 | Top 2 x 3" | 400 W AES | 4 Ω |
| +/-3 | Bottom 3 x 1" | 160 W AES | 5.3 Ω |
| +/-4 | Top 3 x 1" | 160 W AES | 5.3 Ω |

# 6 Cabling and wiring

## 6.6 Air Array LF Bias Q5 speakON™ A wiring



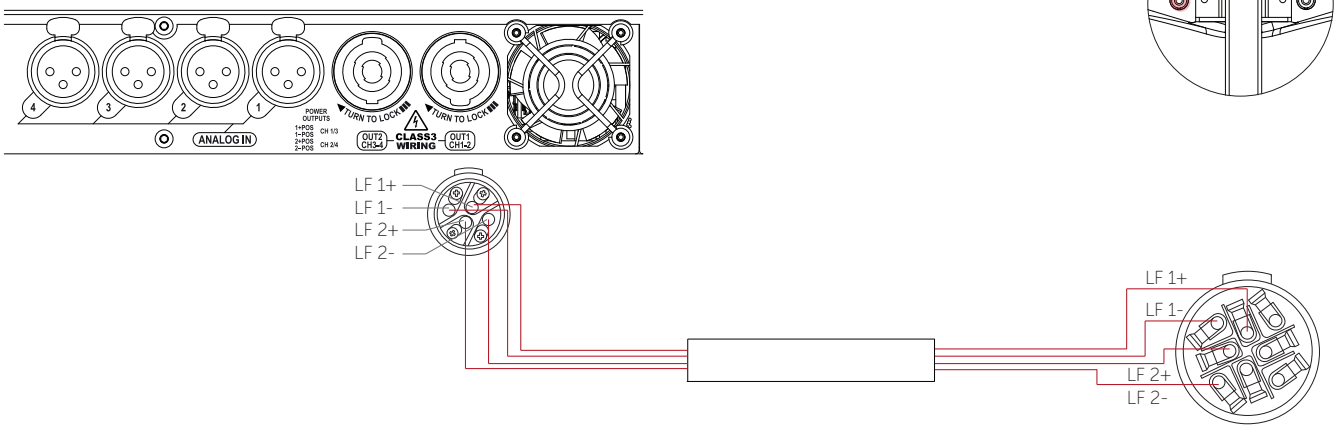
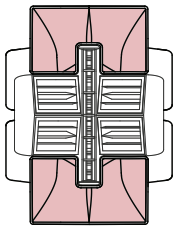


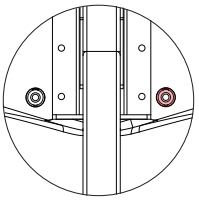

Figure 6.6: Bias V3 left speakON™ A connection
(NOTE: pins +/-3 and +/-4 are not connected)

| Bias Q5 for LF (speakON™ A connection) | | |
|---|---|---|
| Channel | Channel 1 | Channel 2 |
| Output | Bottom 2 x 12" LF | Top 2 x 12" LF |
| speakON™ NL8 pins | +/-1 | +/-2 |



# 6 Cabling and wiring

## 6.7 Air Array MHF Bias Q5 speakON™ B wiring



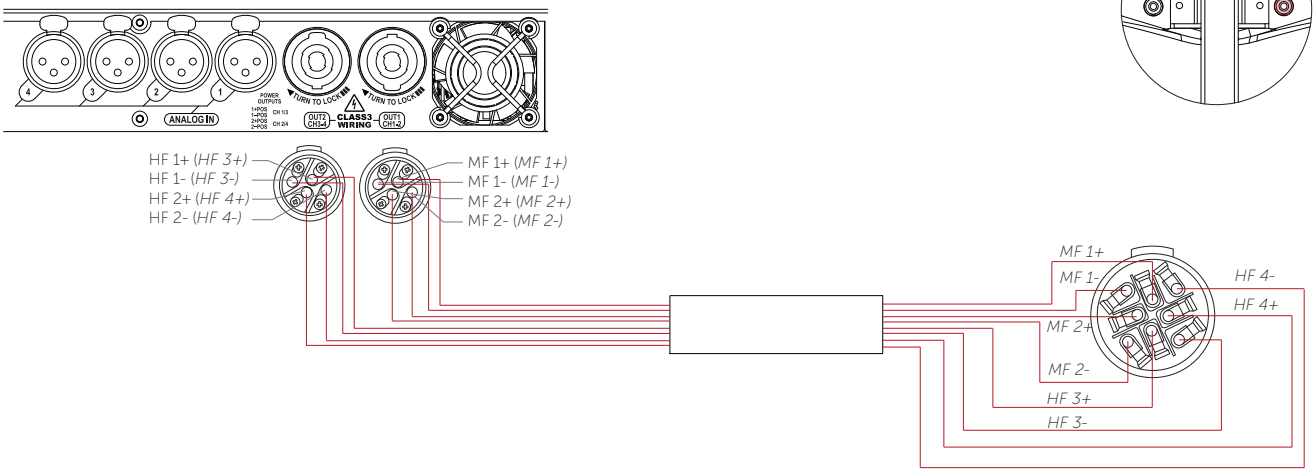
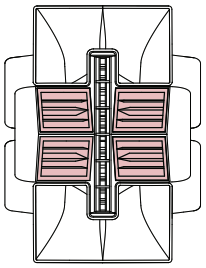
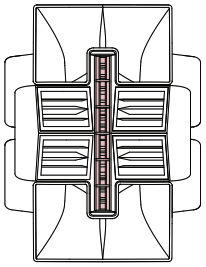



Figure 6.7: Bias Q5 (right speakON™ connection)

| Bias Q5 for MF (speakON™ B connection) | | |
|---|---|---|
| Output 1 | Channel 1 | Channel 2 |
| Output | Bottom 2 x 3" MF | Top 2 x 3" MF |
| speakON™ NL8 pins | +/-1 | +/-2 |



| Bias Q5 for HF (speakON™ B connection) | | |
|---|---|---|
| Output 2 | Channel 3 | Channel 4 |
| Output | Bottom 3 x 1" HF | Top 3 x 1" HF |
| speakON™ NL8 pins | +/-3 | +/-4 |



# 6 Cabling and wiring

## 6.8 Hyperfold wiring diagram

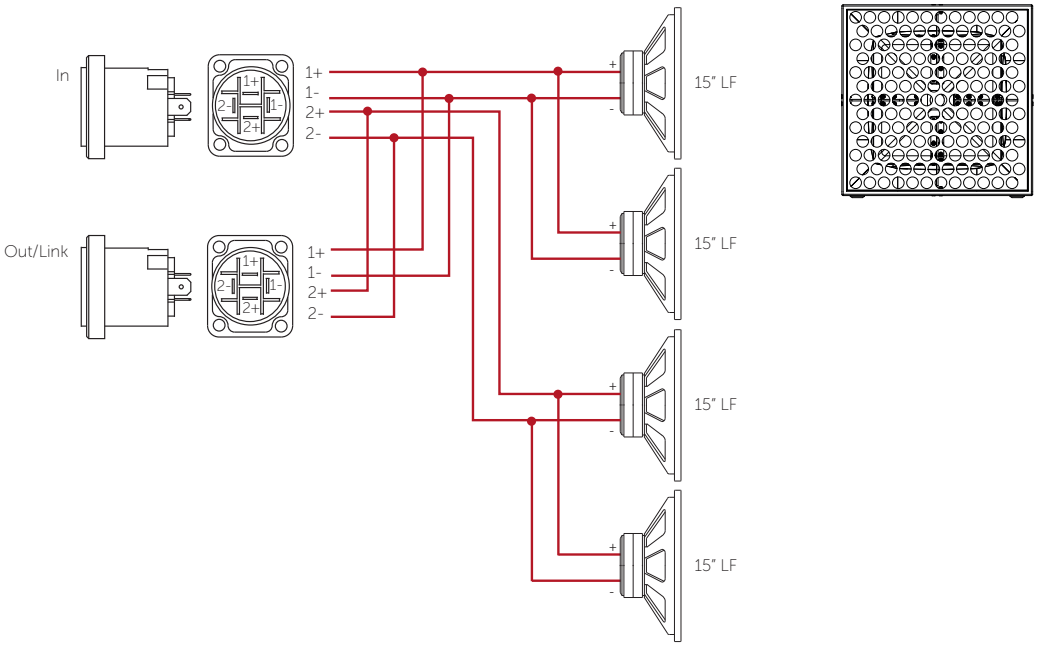



Figure 6.8: Wiring diagram

| | speakON™ pins +/-1 | speakON™ pins +/-2 |
|---|---|---|
| In | LF (2 x 15") | LF (2 x 15") |
| Out | LF link | LF link |

## 6.9 Hyperfold Bias Q5 speakON™ wiring

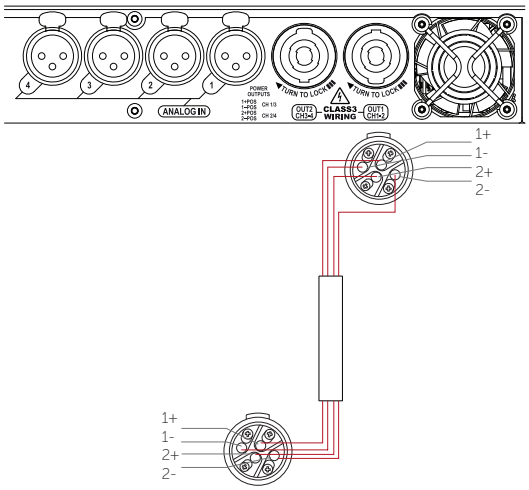



Figure 6.9: Bias Q5

| Bias Q5 | Channel 1 | Channel 2 |
|---|---|---|
| Output | LF (2 x 15") | LF (2 x 15") |
| Max parallel units | 2 (2 Ω load to amplifier) | 2 (2 Ω load to amplifier) |

# 6 Cabling and wiring

## 6.10 Incubus Sub wiring diagram

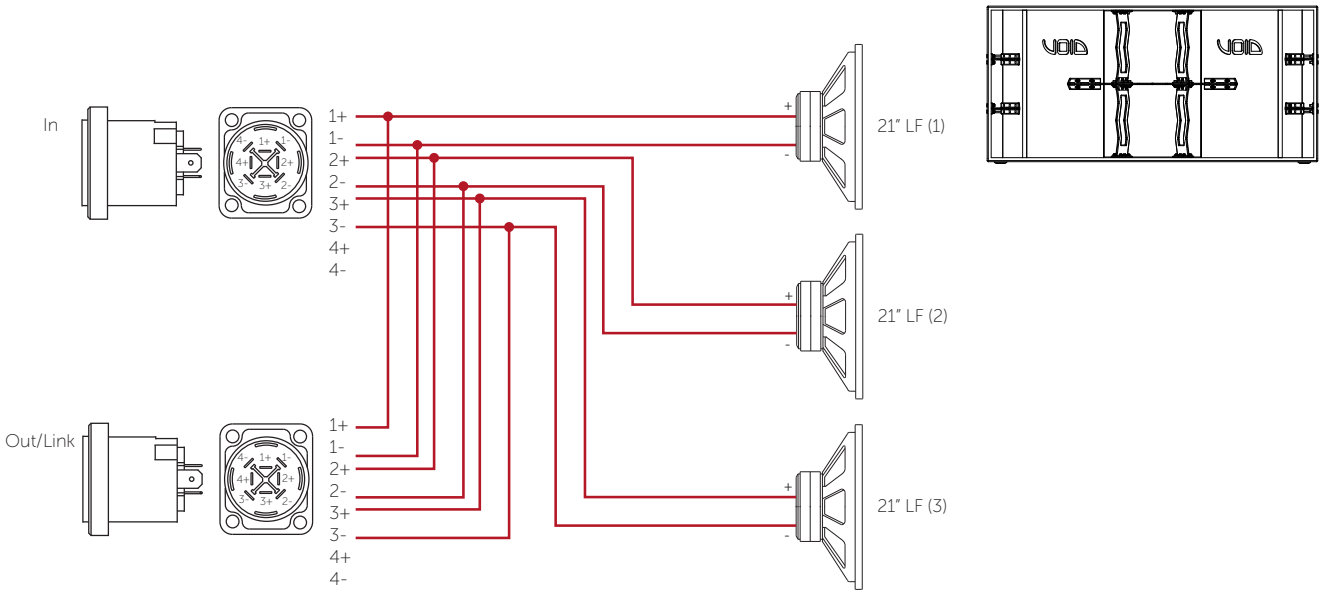



Figure 6.10: Wiring diagram

| speakON™ pins | +/-1 | +/-2 | +/-3 | +/-4 |
|---|---|---|---|---|
| In | 21" LF (1) | 21" LF (2) | 21" LF (3) | n/c |
| Out | LF link | LF link | LF link | n/c |

# 6 Cabling and wiring

## 6.11 Incubus Sub Bias Q5 speakON™ wiring

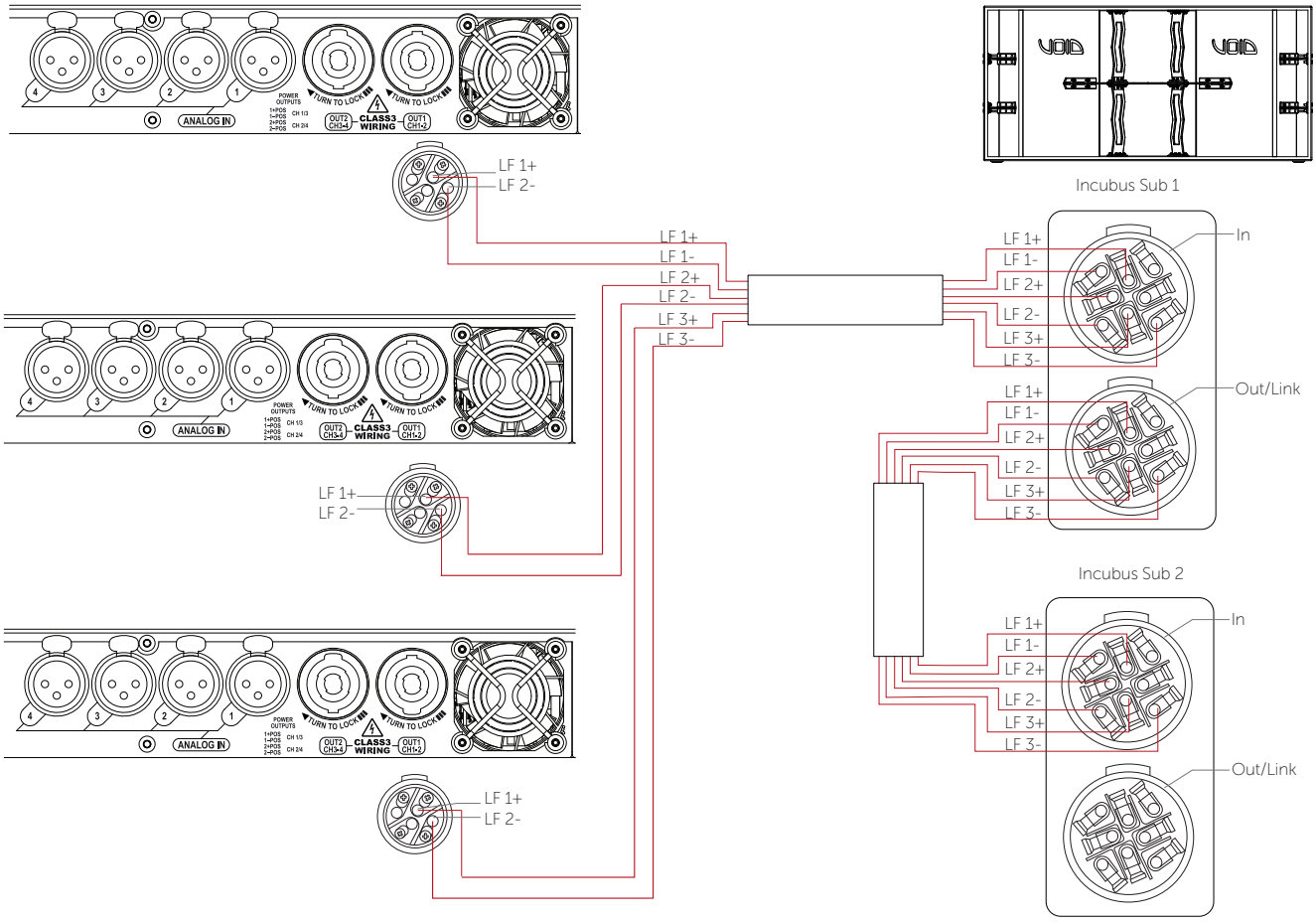



Figure 6.11: Bias Q5

| Amplifier | Bias Q5 1 | Bias Q5 3 | Bias Q5 3 |
|---|---|---|---|
| Output | Output 1 | Output 1 | Output 1 |
| speakON™ NL4 pins | 1+/2- | 1+/2- | 1+/2- |
| Drivers | 21" LF (1) | 21" LF (2) | 21" LF (3) |
| speakON™ NL8 pins | 1+/1- | 2+/2- | 3+/3- |

# 7 System design

## 7.1 System design principles

Incubus Series loudspeakers can be arrayed as a single pair facing forward to provide a wide stereo image.

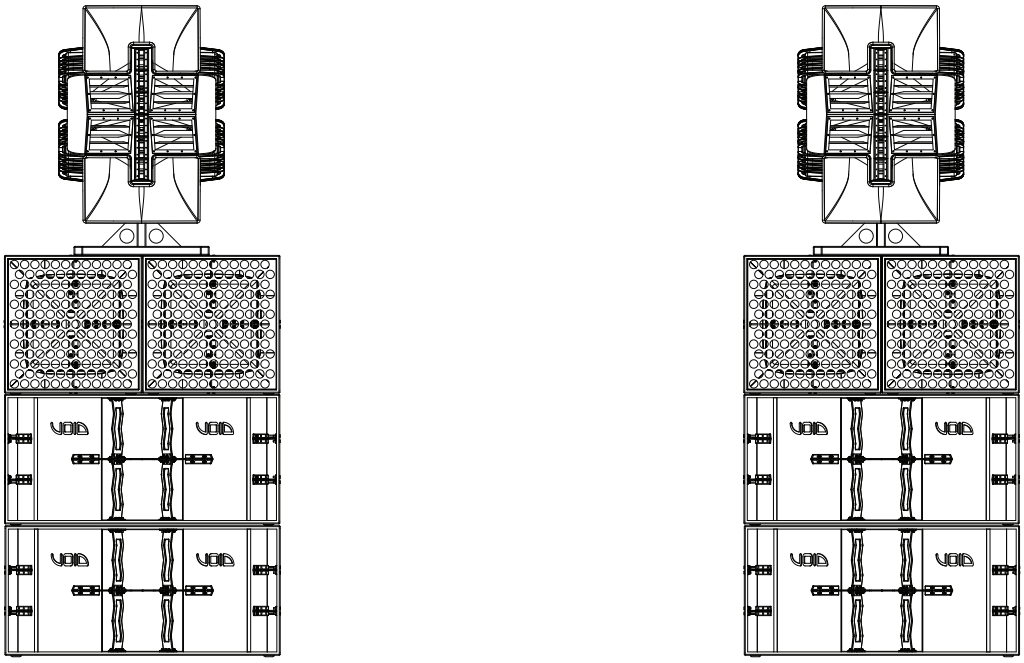


Figure 7.1: Incubus pair arrangement

For permanent installation, it is recommended to fly the Air Array loudspeakers for more even coverage. This also allows co-located low frequency enclosures in a single block, increasing sensitivity and providing more consistent bass coverage.

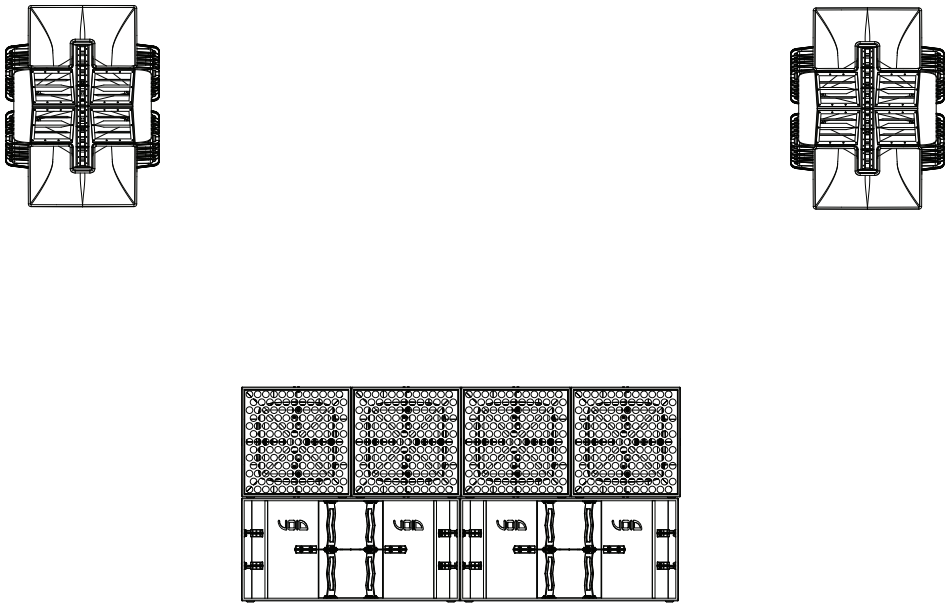


Figure 7.2: Permanent installation

## 7.2 Loudspeaker placement and positioning

When deploying Air Array loudspeakers, it is important to consider the speakers' vertical position to maximise coverage in the vertical axis. Horizontal loudspeaker dispersion figures dictate the coverage of the loudspeaker, left to right, to the -3 dB points. The same can be said for the vertical dispersion figure, but when applied to a listening area, this figure dictates the audience area coverage front to back.

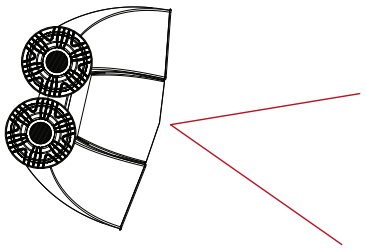


Figure 7.3a: Vertical dispersion (side view)

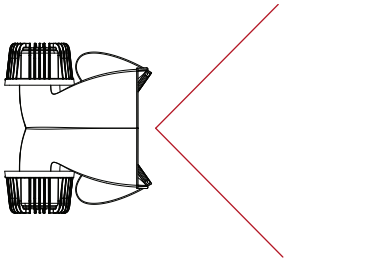


Figure 7.3b: Horizontal dispersion (top view)

Vertical dispersion is often overlooked or not assessed properly, resulting in inefficiently deployed loudspeaker systems that require more fill loudspeakers than are necessary to achieve required coverage. Following are some basic guidelines when considering the vertical position of your Air Array loudspeaker.

With optimum vertical positioning and aiming applied the loudspeaker system can be used at maximum efficiency. With a point source loudspeaker in this configuration the speaker is placed 2m-4m from the ground, aimed half way to two thirds of the way back from the audience area, as shown in figure 7.4. The applied aiming reduces unwanted reflections from the ceiling and directs the highest energy concentration to the audience area requiring it most. This is the most desirable position for the loudspeakers in this example.

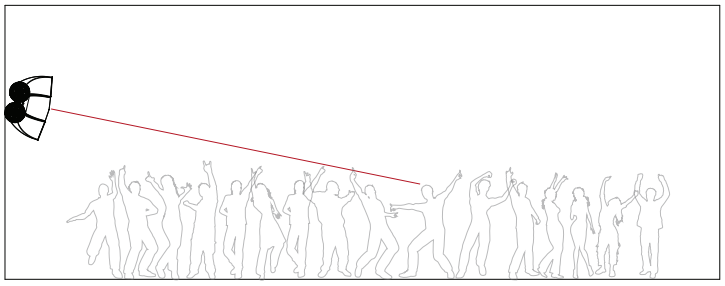


Figure 7.4: Correct loudspeaker placement

# 7 System design

A multi-point loudspeaker system in a club/bar environment can be very pleasing for the listener. However, it's important that the processes applied to previous examples are still implemented. In figure 7.5 you can see the loudspeakers have been positioned and aimed optimally. When deploying a multi-point loudspeaker system, extra consideration must be taken to counter unwanted room effects. Careful positioning and aiming of loudspeakers will minimise room effects, while maintaining even coverage throughout the audience area.

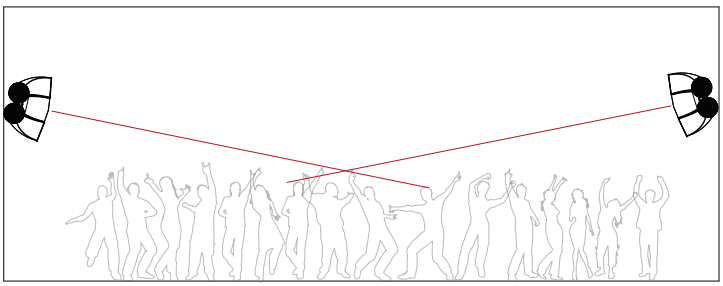


Figure 7.5: Multi point loudspeaker arrangement

In the horizontal plane rotate the Air Array loudspeaker toward the audience area at an angle such that the centre line of the dispersion from each loudspeaker meets about two thirds of the way towards the rear of the audience area. This will help provide a wider coverage and result in more of the power being used usefully.

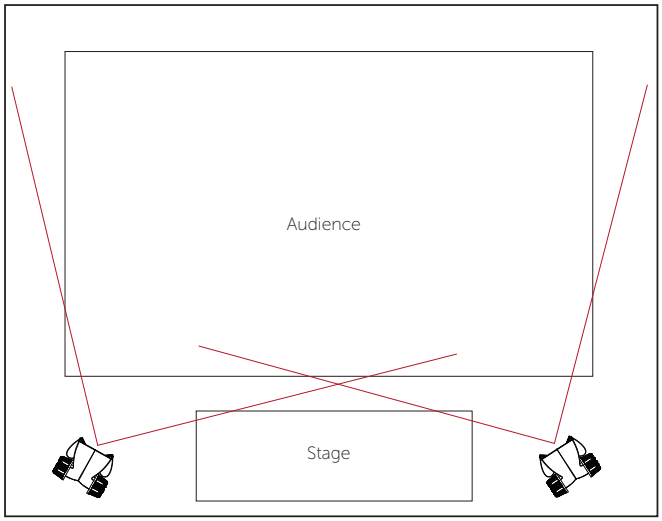



Figure 7.6: Correct horizontal dispersion

Avoid directing the Air Array loudspeakers straight forward. This will result in a proportion of the power being directed towards the walls, creating possible reflective issues, as well as causing a gap in coverage at the centre of the audience area.

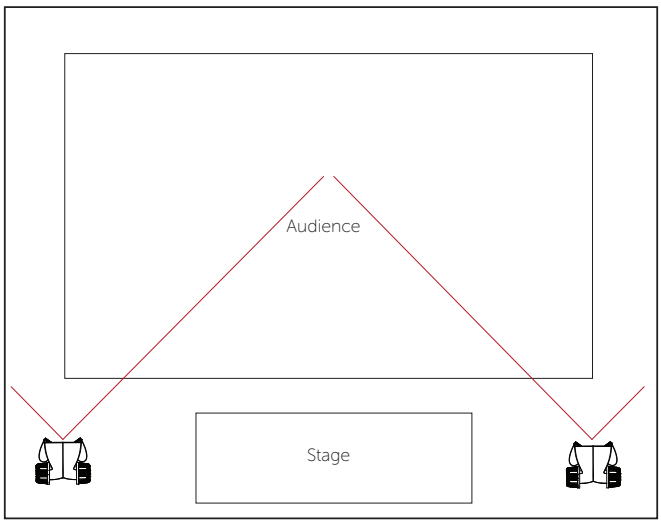



Figure 7.7: Incorrect horizontal dispersion

In figure 7.8 the loudspeakers vertical positioning is too low for the audience area. Mid and high range frequencies are absorbed by the first two rows of people, resulting in poor coverage and potential acoustic issues from room reflections.

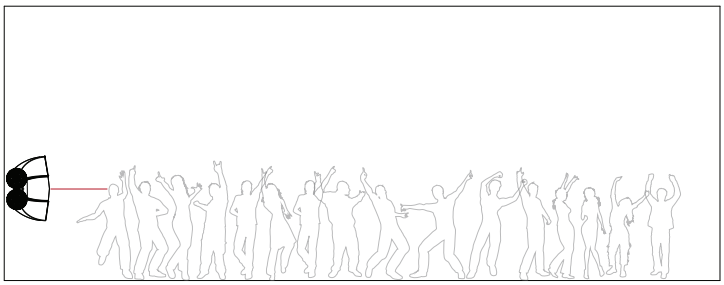


Figure 7.8: Incorrect loudspeaker placement

Figure 7.9 shows the loudspeaker vertical position is optimal for the audience area but the user hasn't applied an aiming angle. In this case, a large portion of energy is directed at the ceiling that could result in reduced intelligibility and unwanted room acoustic characteristics. The shallow angle of attack will also induce refraction issues on a hot dance floor, leading to reduced HF penetration at mid and far distances, again reducing intelligibility and coherence.

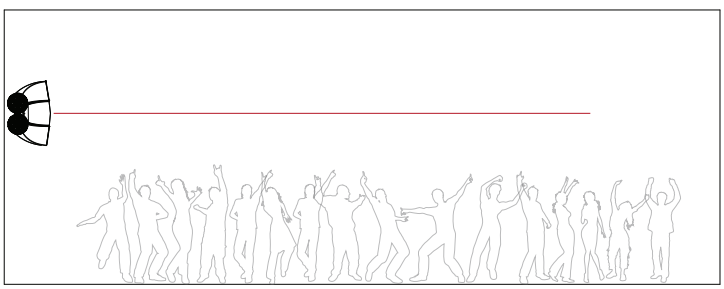


Figure 7.9: Incorrect loudspeaker placement

# 8 Mounting

## Tools required

- 19 mm ratchet spanner/wrench
- 10 mm Allen key
- 6 mm Allen key

## 8.1 Installation safety

To avoid mechanical hazards, please note the following:

- Safety regulations vary in different regions. Full compliance with those regulations must be your priority
- Rigging must only be undertaken by fully-qualified and experienced riggers who understand local regulations
- This may include consulting a structural engineer before installation of wall brackets
- Remember that all personnel have a duty of care to themselves, to their assistants, to the venue staff and to the public
- Before lifting any part of the system above head height, check the whole rig for loose tools or other items that may fall and cause injury
- Do not use a telephone (even if hands-free) while rigging. Always concentrate fully on the rigging operation
- Do not rig equipment that is worn, damaged, corroded, mishandled or over-stressed in any way
- Use only Void-approved mounting equipment and accessories.

# 8.2 Ground stack bracket

Step 1:

Remove the backing plate from the Air Array bracket by removing both M12 bolts from the bracket assembly.

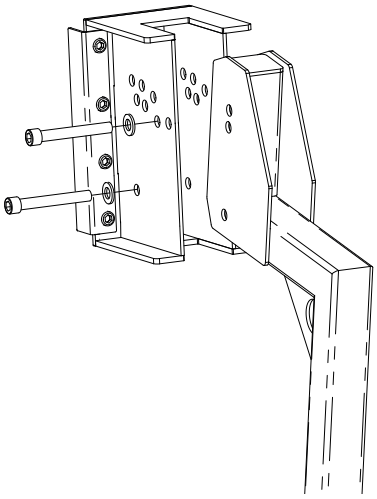


Figure 8.1: Backing plate removal

Step 2:

Remove all eight M8 bolts from the rear of the Air Array loudspeaker.

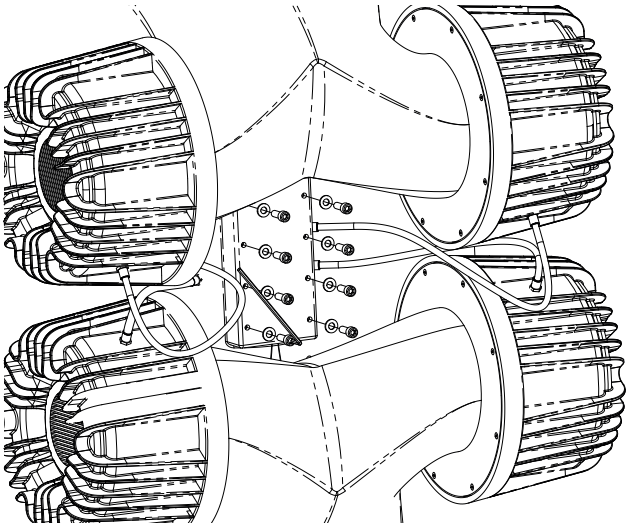


Figure 8.2: M8 bolt removal

Step 3:

Attached the backing plate to the Air Array ensuring that all eight M8 bolts are securely fastened.

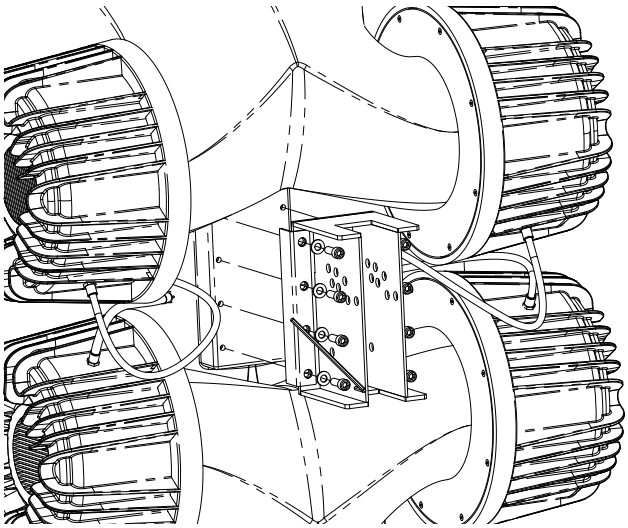


Figure 8.3: Backing plate attachment

# 8.2 Ground stack bracket

Step 4:

Carefully lower the Air Array loudspeaker into position onto the bracket assembly and attach the M12 bolt through the bracket assembly.

Note: Air Array loudspeakers are heavy and require a minimum of two people to lift. At this stage of the mounting procedure it becomes necessary to have three people, two to lift the Air Array loudspeaker and one to attach the bracket.

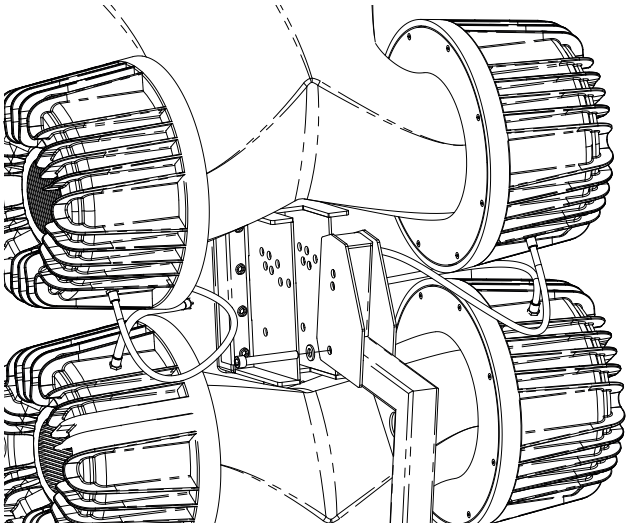


Figure 8.4: Air Array positioning

Step 5:

Adjust the vertical angle of the Air Array to the required position.

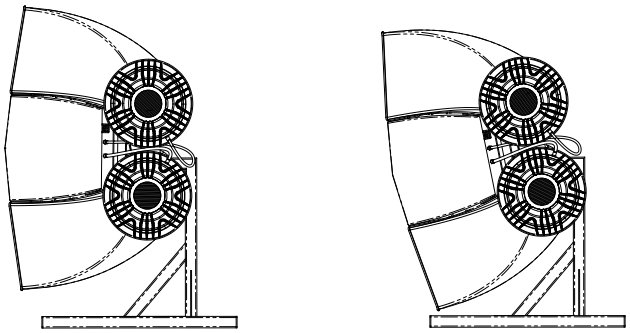


Figure 8.5: Vertical angle positioning

Step 6:

Fit the M12 through the appropriate slot.

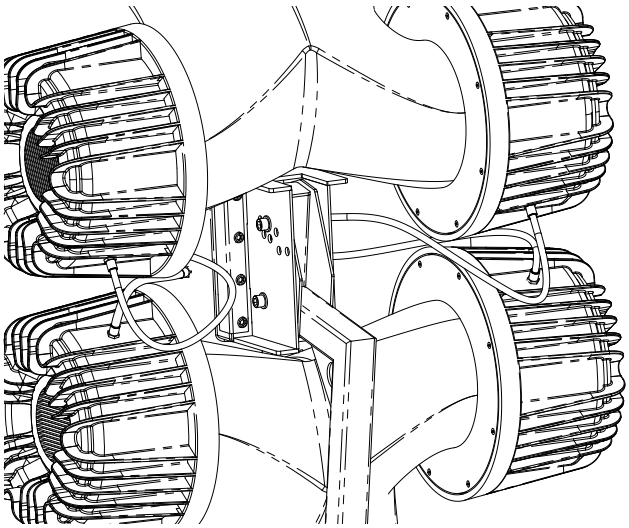


Figure 8.6: M12 bolt fixing

# 8.3 Flying bracket

Note: Flying the Air Array from a ceiling involves complex and dynamic loads, always consult a Void approved distributor for guidance on how to fix it.

Step 1:

Remove the backing plate from the Air Array bracket by removing both M12 bolts from the bracket assembly.

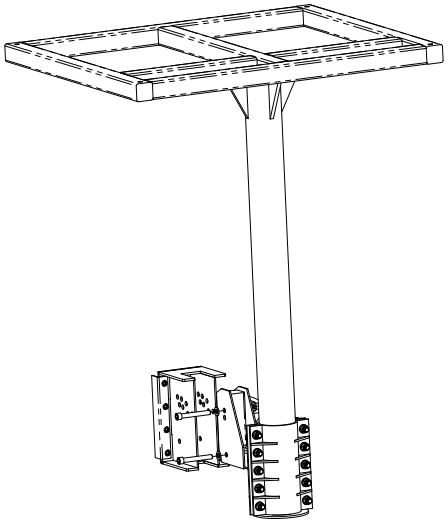


Figure 8.6: Backing plate removal

Step 2:

Remove all eight M8 bolts from the rear of the Air Array loudspeaker.

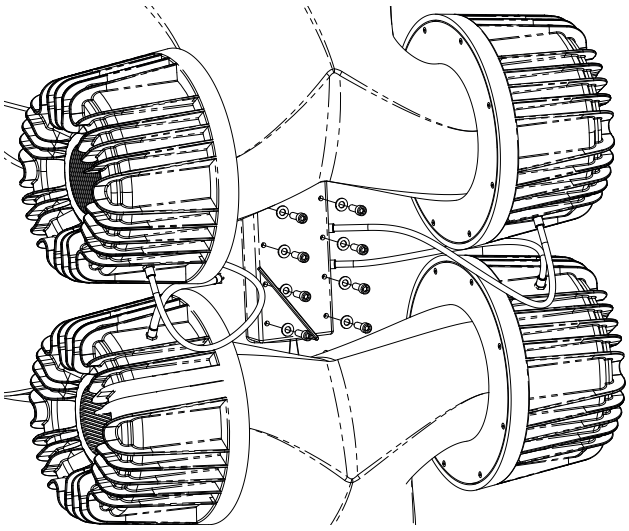


Figure 8.7: M8 bolt removal

# 8.3 Flying bracket

Step 3:

Attached the backing plate to the Air Array ensuring that all eight M8 bolts are securely fastened.

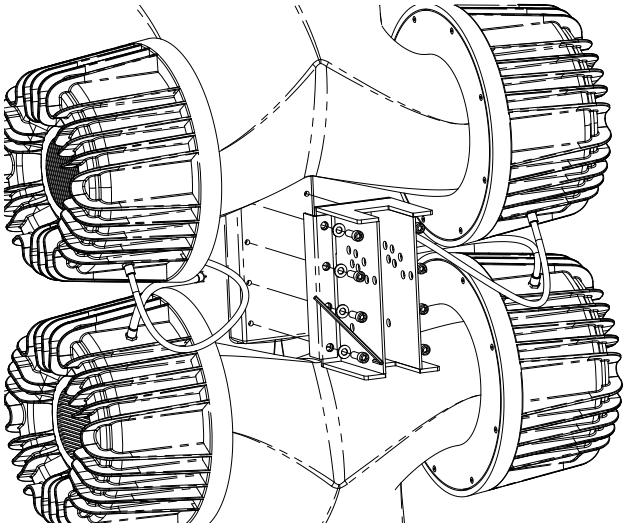


Figure 8.8: Backing plate attachment

Step 4:

Carefully lower the Air Array loudspeaker into position onto the bracket assembly and attach the M12 bolt through the bracket assembly.

Note: Air Array loudspeakers are heavy and require a minimum of two people to lift. At this stage of the mounting procedure it becomes necessary to have three people, two to lift the Air Array loudspeaker and one to attach the bracket.

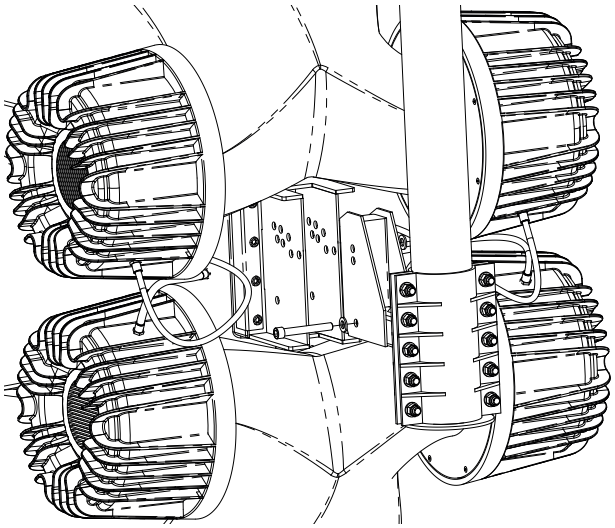


Figure 8.9: Air Array positioning

Step 5:

Adjust the vertical angle of the Air Array to the required position.

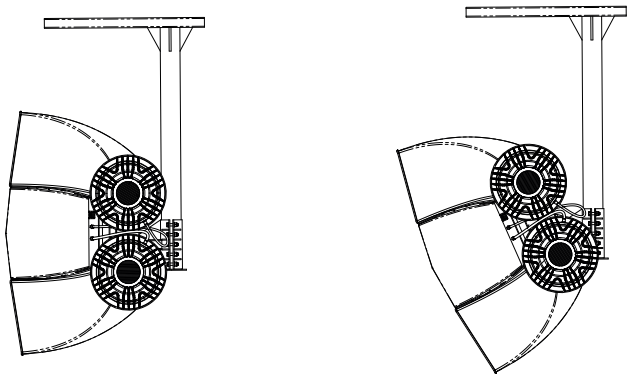


Figure 8.10: Vertical angle positioning

# 8.3 Flying bracket

Step 6:

Fit the M12 through the appropriate slot.

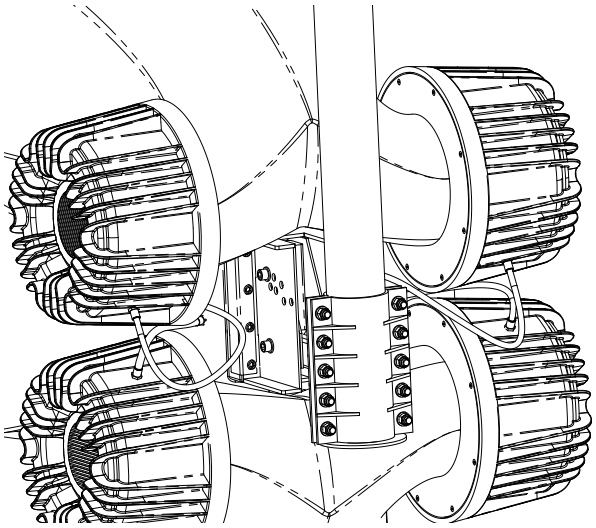


Figure 8.11: M12 bolt fixing

# 9 Adjustments

To avoid damage when making adjustments please note the following:

- Removing the grille can cause debris to collect within the enclosure, take care to remove anything that may have collected internally
- Do not use impact tools.

## 9.1 Wheel removal

Step 1:
Remove all four M6 bolts with a 13 mm spanner/wrench.

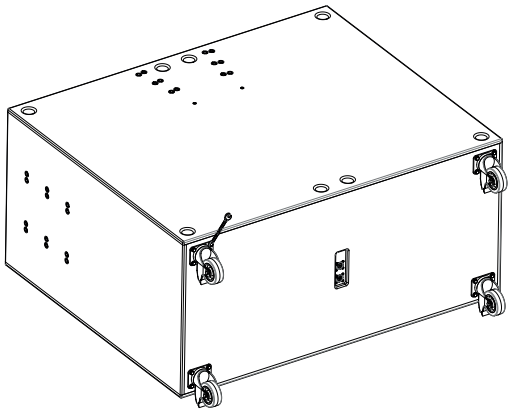


Figure 9.1: Bolt removal

Step 2:
Remove/add the wheels and keep in a safe place. Repeat the process for the other three wheels.

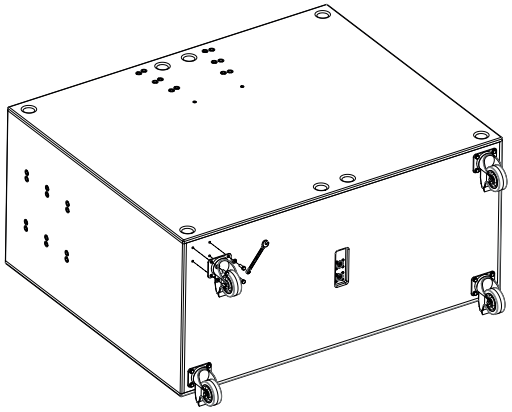


Figure 9.2: Wheel removal

Step 3:
Replace the M8 bolts by hand until finger tight before using hand tools.

Note: Replacing bolts is of particular importance as without them there can be air leakage and detuning.

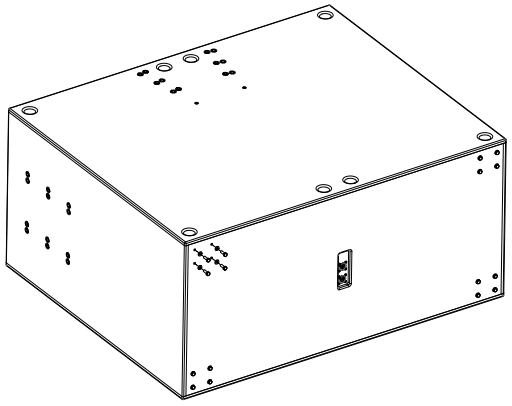


Figure 9.3: Bolt tightening

# 9 Adjustments

## 9.2 Hyperfold grille removal

Step 1:
Undo all eight M6 tab bolts using a 4 mm Allen key, take care NOT to remove the tab bolts as they may become lost within the enclosure.

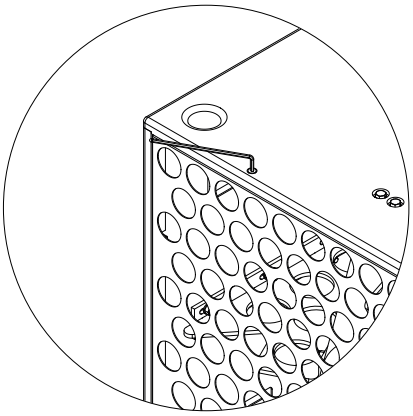


Figure 9.4: Bolt removal

Step 2:
Remove grille.

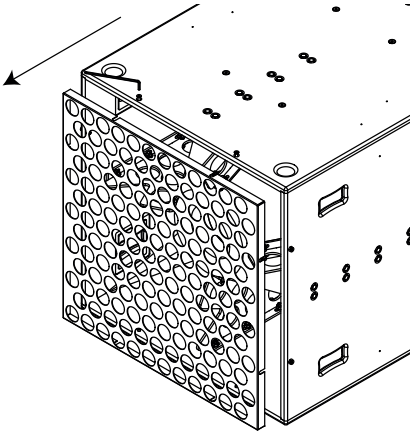


Figure 9.5: Grille removal

Step 3:
Replace the M6 bolts by hand until finger tight before using hand tools.

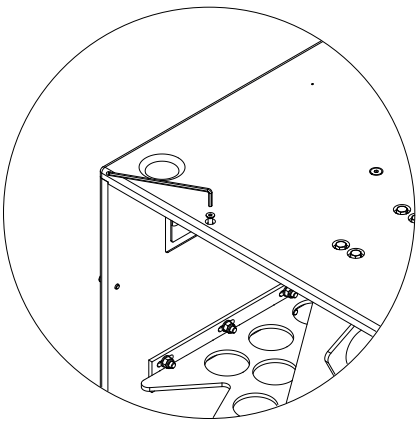


Figure 9.6: Bolt replacement

# 10 Service

Void Incubus System loudspeakers should only be serviced by a fully-trained technician.

No user serviceable parts inside. Refer servicing to your dealer.

## 10.1 Return authorisation

Before returning your faulty product for repair, please remember to get an R.A.N. (Return Authorisation Number) from the Void dealer who supplied the system to you. Your dealer will handle the necessary paperwork and repair. Failure to go through this return authorisation procedure could delay the repair of your product.

Note that your dealer will need to see a copy of your sales receipt as proof of purchase so please have this to hand when applying for return authorisation.

## 10.2 Shipping and packing considerations

- When sending a Void Incubus System loudspeaker to an authorised service centre, please write a detailed description of the fault and list any other equipment used in conjunction with the faulty product.
- Accessories will not be required. Do not send the instruction manual, cables or any other hardware unless your dealer asks you to.
- Pack your unit in the original factory packaging if possible. Include a note of the fault description with the product. Do not send it separately.
- Ensure safe transportation of your unit to the authorised service centre.

# 11 Appendix: Architectural specifications

## Air Array architectural specifications

The loudspeaker shall be an active three-way system with independent dedicated amplification consisting of four high power 12" (304.8 mm) horn loaded low frequency (LF) transducers, a mid frequency section consisting four 3" (76.2 mm) mid frequency (MF) compression drivers with attached waveguides and six 1" (25.4 mm) high frequency (HF) compression driver mounted on a waveguide to allow constant directivity.

Two hyperbolic horns fed from a split manifold and driven by the four LF transducers shall provide the low frequency section. Each LF transducer shall be enclosed in an independent moulded fibreglass enclosure featuring a heatsink cooling system to reduce power compression levels. Mid frequency transducers are in a sealed enclosure mounted in a V baffle configuration for a more coherent radiation pattern over frequency range. HF transducers shall be arranged in a line source configuration positioned on a physical arc, providing a virtual common feed point, resulting in an improved directivity pattern control and higher SPL over the high frequency range. Line source behavioural conditions are met by all sections hence allowing frequency and power shading within a single enclosure.

The LF transducers shall be constructed on a cast aluminium frame, with a treated paper cone, 101.6 mm (4") voice coil, wound with copper wires on a high quality voice coil former and neodymium magnets, for high power handling and long term-reliability. Each 3" MF transducer shall have a 6" diaphragm reproducing frequencies down to 500 Hz, and shall be mounted on a high standard waveguide with path length compensation for a better directivity pattern control over the frequency spectrum. The HF transducers shall project sound through a high precision planar waveguide to achieve pattern control and low distortion.

Performance specifications for a typical production unit shall be as follows: the usable on-axis bandwidth shall be 90 Hz to 26 kHz ($\pm$3 dB), with an average 45° directivity pattern on the vertical axis and 90° on the horizontal one (-6 dB down from on-axis level) from 1 kHz to 12 kHz; maximum SPL of 146 dB peak measured at 1 m using IEC268-5 pink noise. Power handling shall be 3600 W AES for the LF section at a rated impedance of 2 x 4 $\Omega$, 800 W AES for the MF section at a rated impedance of 2 x 4 $\Omega$ and 320 W AES for the HF section at a rated impedance 2 x 5.3 $\Omega$. The system shall be powered by its own dedicated power amplification modules with DSP management, from which crossover points will also be set. The wiring connection shall be via two Neutrik speakON™ NL8. The left NL8 shall be used to power the LF section and the right one shall power the MHF section.

The enclosure shall be of a fibreglass composite with a smooth cellulose finish of any RAL colour. The system shall be stack mounted with a dedicated stand or can also be flown with a load tested suspension system. The external dimensions of the enclosure shall be (W) 944 mm x (H) 1240 mm x (D) 813 mm (37.2" x 48.8" x 32"). Weight shall be 144.8 kg (319.2 lbs) including stand.

The loudspeaker shall be the Void Acoustics Air Array.

# 11 Appendix: Architectural specifications

## Hyperfold architectural specifications

The loudspeaker shall be an active manifold horn loaded sub system consisting of four high power 15" (381 mm), long excursion, low frequency (LF) transducers mounted in a birch plywood enclosure.

Each low frequency transducer shall be constructed on a cast aluminium frame, with a treated paper cone, 101.6 mm (4") voice coil, wound with copper wires on a high quality voice coil former for high power handling and long-term reliability.

Performance specifications for a typical production unit shall be as follows: the usable bandwidth shall be 60 Hz to 190 Hz (±3 dB); maximum SPL of 145 dB peak (142 dB continuous) measured at 1 m using IEC268-5 pink noise. Power handling shall be 4000 W AES at a rated impedance of 2 Ω (2 x 4 Ω) with pressure sensitivity at 109.5 dB measured at 1W/1m. The system shall be powered by its own dedicated power amplification module with DSP management. The wiring connection shall be via two Neutrik speakON™ NL4 (one for input and one for loop-out to another speaker), allow for pre-wiring of the connector before installation.

The enclosure shall be constructed from 18 mm multi-laminate birch plywood coated with textured polyurea with a smooth cellulose finish. It shall have a lightweight aluminium bracing and external dimensions of (H) 748 mm x (W) 738 mm x (D) 1218 mm (29.4" x 29.1" x 47.9"). Weight shall be 150 kg (330.7 lbs).

The loudspeaker shall be the Void Acoustics Hyperfold.

# 11 Appendix: Architectural specifications

## Incubus Sub architectural specifications

The loudspeaker shall be an active bandpass-horn hybrid system consisting of three high power 21" (533.4 mm), long excursion, low frequency (LF) transducers mounted in a rectangular enclosure.

Each low frequency transducer shall be constructed on a cast aluminium frame, with a treated paper cone, 152.4 mm (6") voice coil, wound with copper wires on a high quality voice coil former for high power handling and long-term reliability.

Performance specifications for a typical production unit shall be as follows: the usable bandwidth of 29 Hz to 95 Hz (±3 dB), with a maximum SPL of 146 dB peak (140 dB continuous) measured at 1 m using IEC268-5 pink noise. Power handling shall be 6000 W AES at a rated impedance of 3 x 8 Ω and a pressure sensitivity of 105 dB measured at 1W/1m. The system shall be powered by its own dedicated power amplification module with DSP management. The wiring connection shall be via two Neutrik speakON™ NL8 (one for input and one for loop-out to another speaker), to allow for pre-wiring of the connector before installation.

The enclosure shall be constructed from a 18 mm multi-laminate birch plywood finished in a textured 'TourCoat' polyurea. It shall have lightweight aluminium bracing and external dimensions of (H) 704 mm x (W) 1479 mm x (D) 1218 mm (27.7" x 58.2" x 48"). Weight shall be 214 kg (471.8 lbs).

The loudspeaker shall be the Void Acoustics Incubus Sub.

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