

Airten V3

User Guide V1.0



VOID

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Version 1.0

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1 Safety and regulations

1.1 Important safety instructions



The lightning flash with an 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 that under our sole responsibility the following product models: Air Motion, Tri Motion, Airten, Air Stream, Air Vantage, Air 8

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 and 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

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 Air 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 the 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.

Airten V3 loudspeakers are heavy (20 kg/44.1 lbs) and require a minimum two people to lift.

- Airten V3 loudspeakers come double boxed and are stapled shut; take care when unboxing and removing the staples to avoid injury or damage to the loudspeaker
- If you need to place the loudspeaker on a flat surface ensure you use a lint free product to protect the finish
- When you have removed the Airten V3 loudspeaker from the packaging inspect it to ensure there is no damage and keep all original packaging in case it needs to be returned for any reason.

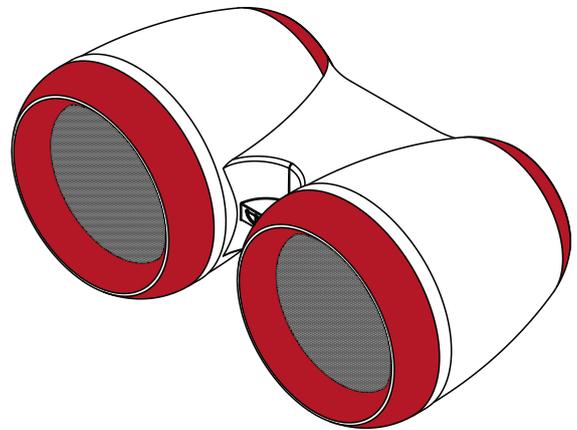


Figure 3.1: Safe handling positions
(as indicated in red)

See section 2 for warranty conditions and see section 8 if your product needs service.

4 About

4.1 Welcome

Many thanks for purchasing this Void Acoustics Airten V3. 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 Airten overview

This small, futuristic-styled composite loudspeaker is particularly favoured for high-end club and bar applications. Enjoy exceptional fidelity, zero resonance and accurately controlled dispersion.

Three key enhancements have been made in this latest V3 model to improve performance. The new crossover provides better frequency linearity, coherence and summation between the drivers. By introducing the Finite Element Analysis (FEA) optimised rear port, with refined aesthetics, noise and distortion are reduced while airflow is increased to reduce power compression. In addition, the diaphragm size within the compression driver has increased from 44 mm to 63 mm, allowing each driver to operate at its optimal frequency band with more efficiency and more accurate high frequency detail.

4.3 Key features:

- Small footprint ideal for DJ monitoring
- Very low enclosure resonance
- Focused 80°H x 80°V dispersion pattern
- Space saving coaxial MF/HF driver
- Fibreglass composite construction
- Smooth cellulose finish
- Standard red, black and white finishes, optional custom colours
- Integrated mounting plate

4 About

4.4 Airten V3 specifications

Frequency response	60 Hz - 20 kHz ± 3 dB
Efficiency ¹	99 dB 1W/1m
Crossover points	Passive 1.2 kHz
Nominal impedance	4 Ω
Power handling ²	500 W AES
Maximum output ³	125 dB cont, 128 dB peak
Driver configuration	2 x 10" LF, 1 x 1.4" HF compression driver
Dispersion	80°H x 80°V
Connectors	2 x 4-pole speakON™ NL4
Height	303 mm (11.9")
Width	681 mm (26.8")
Depth	366 mm (13")
Weight	20 kg (44.1 lbs)
Enclosure	Fibreglass composite
Rigging	Integral mounting plate
Finish	Smooth cellulose
Colour	Custom colours available upon request

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

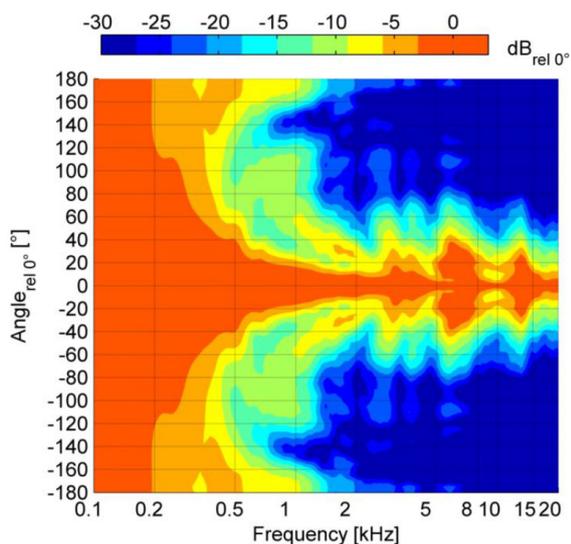


Figure 4.1: Horizontal directivity isobars

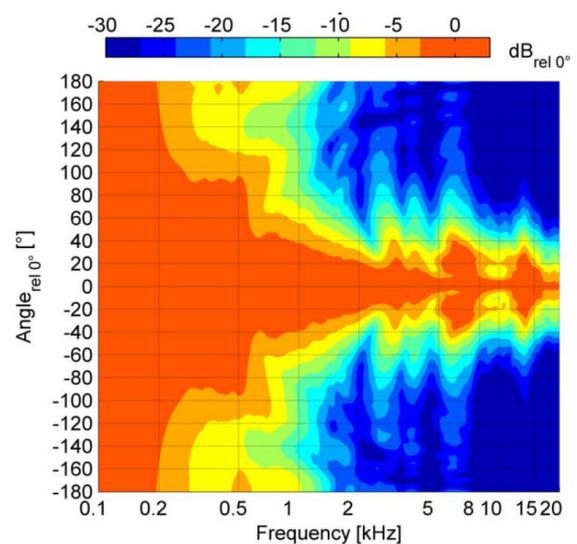


Figure 4.2: Vertical directivity isobars

4 About

4.5 Airten V3 dimensions

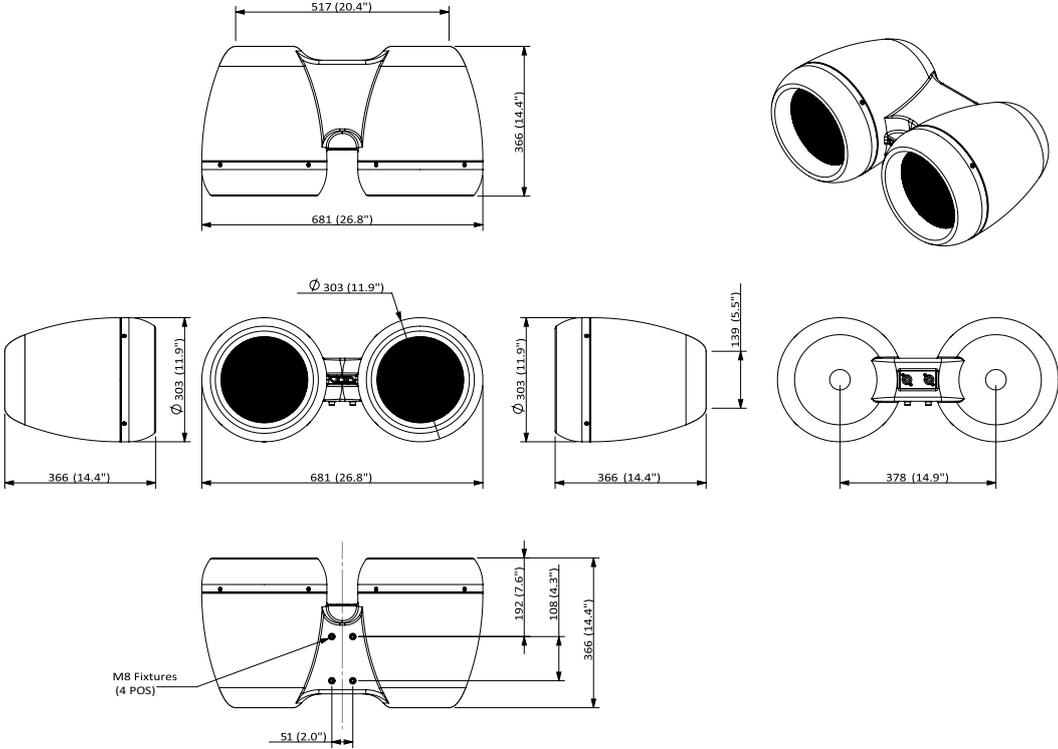


Figure 4.3: Dimensions

5 Cabling and wiring

5.1 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

5.2 Cable considerations for fixed installations

We recommend specifying installation-grade Low Smoke Zero Halogen (LSZH) cables for permanent installations. 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

5.3 Airten V3 wiring diagram

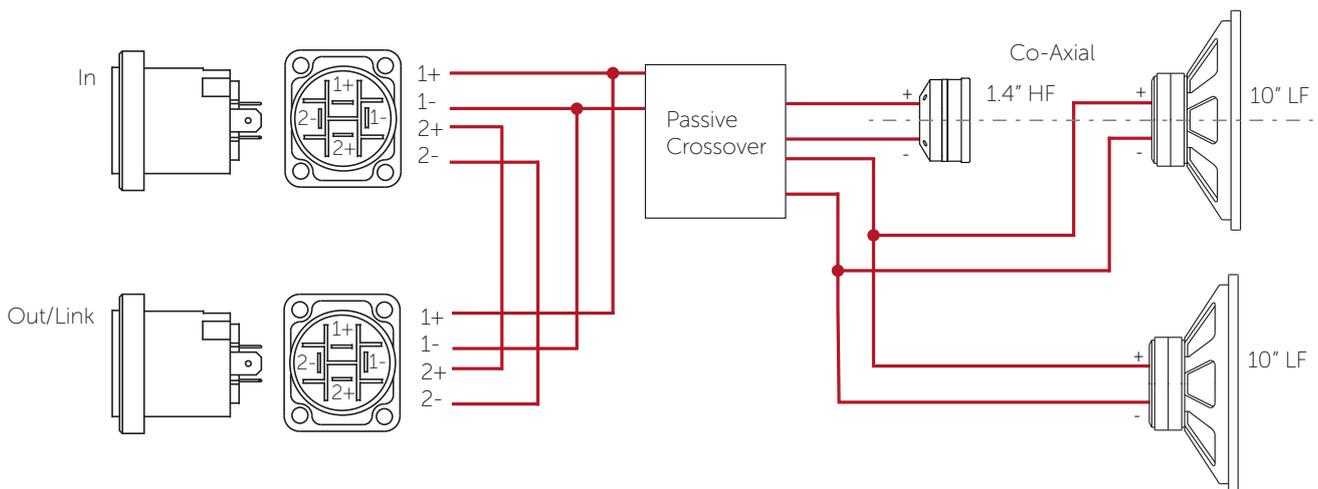


Figure 5.1: Airten V3 wiring diagram

	speakON™ pins 1+/1-	speakON™ pins 2+/2-
In	HF (1.4") and LF (2 x 10")	Link/out
Out	Link/out	Link/out

5 Cabling and wiring

5.4 Bias D1/Q2 Phoenix wiring

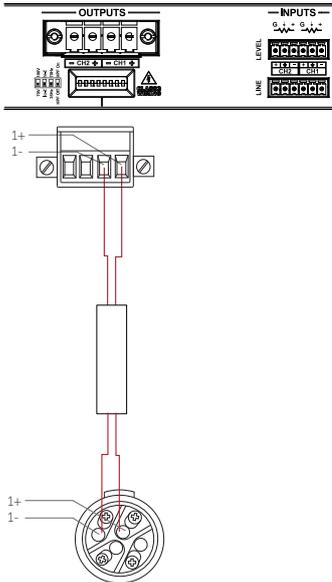


Figure 5.2: Bias D1

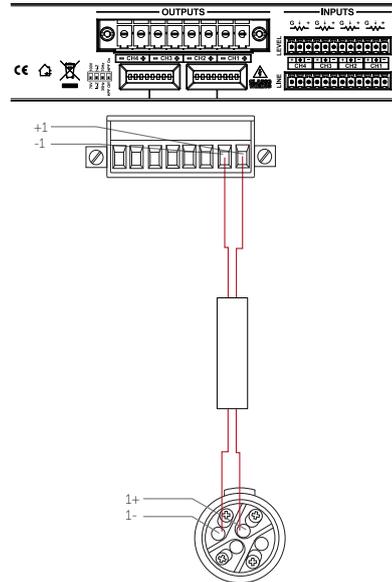


Figure 5.3: Bias Q2

Bias D1/Q2	Output 1 or 2
Output	LF (2 x 10") and HF (1.4")
Max parallel units	2 (2 Ω load to amplifier)

5.5 Bias Q5 speakON™ wiring

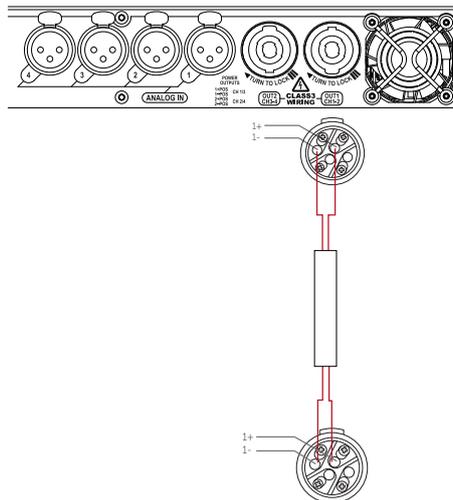


Figure 5.4: Bias Q5

Bias Q5	Output 1
Output	LF (2 x 10") and HF (1.4")
Max quantity per channel	2 (2 Ω load to amplifier)

6 System design

6.1 System design principles

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

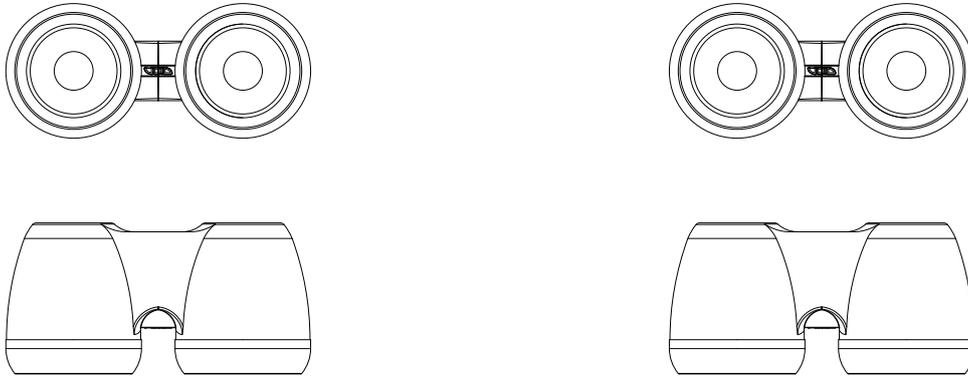


Figure 6.1: Airten single pair arrangement

For applications requiring wide horizontal coverage, use two Airten in pairs, angled at about 35°.

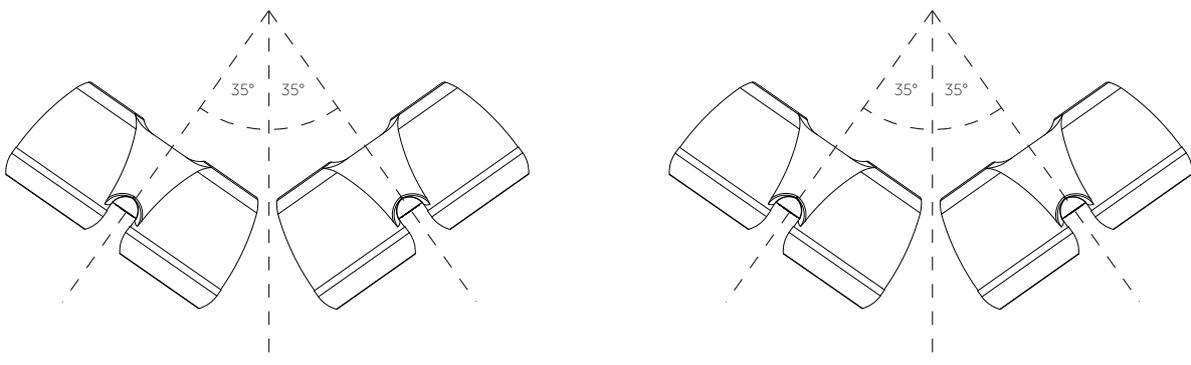


Figure 6.2: Air Motion dual pair arrangement

For temporary installation, a popular system configuration is two stacks consisting of Stasys 118, with an Airten on a pole mount. This raises the Airten to a useful height above the audience, and the sensitivity of the Stasys 118 matches the Airten well. This system is suitable for events of up to 250 people.



Figure 6.3: Airten bass cabinet mounting

6 System design

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

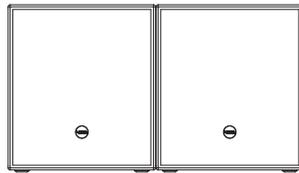
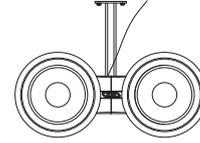
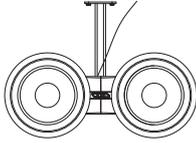


Figure 6.3: Airten ceiling mounting

6 System design

6.2 Loudspeaker placement and positioning

When deploying Airten, 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.

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 Airten 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 6.6. 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.

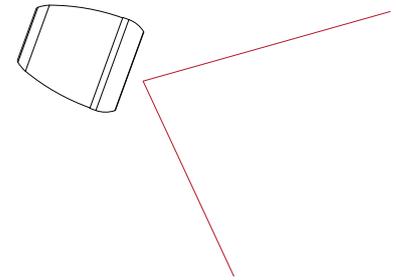


Figure 6.5a: Vertical dispersion (side view)

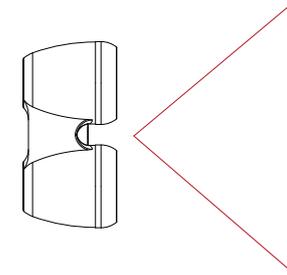


Figure 6.5b: Horizontal dispersion (top view)

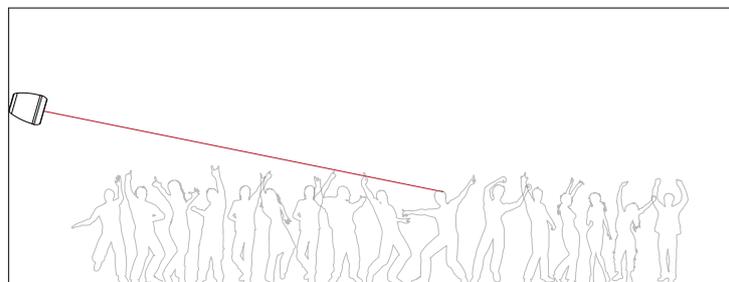


Figure 6.6: Correct loudspeaker placement

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 6.7 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.

6 System design

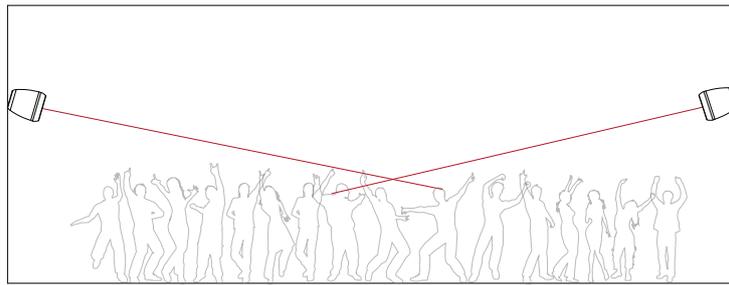


Figure 6.7: Multi point loudspeaker arrangement

In the horizontal plane rotate the Airten 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 efficiently.

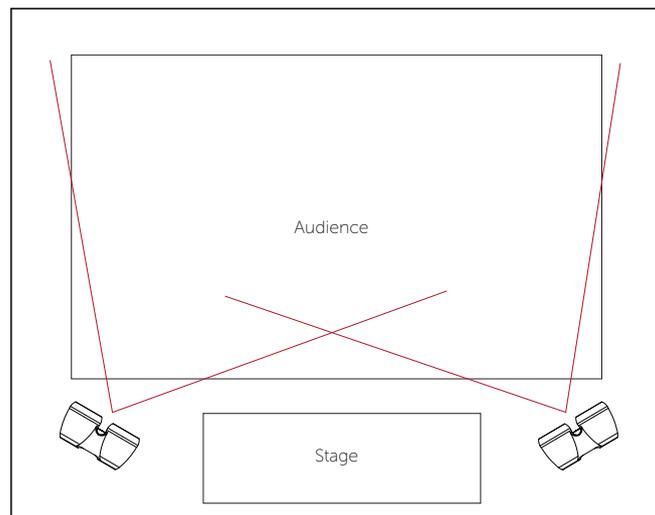


Figure 6.8: Correct horizontal dispersion

6 System design

Avoid directing the Airten 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.

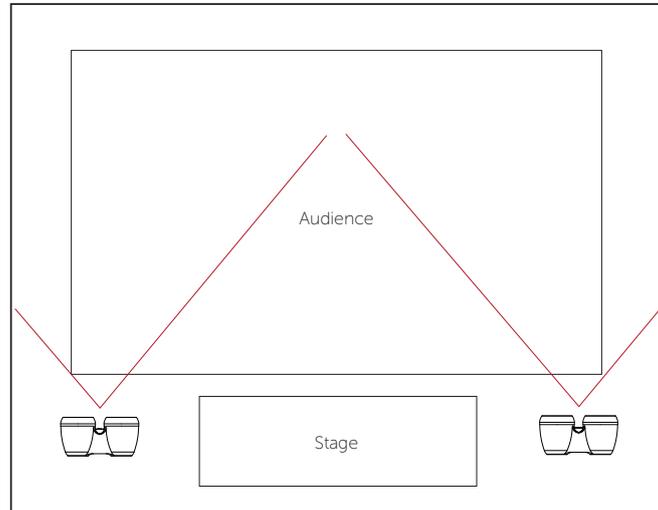


Figure 6.9: Incorrect horizontal dispersion

In figure 6.10 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.

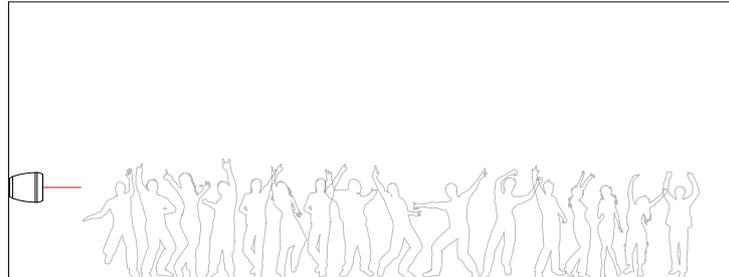


Figure 6.10: Incorrect loudspeaker placement

Figure 6.11 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.

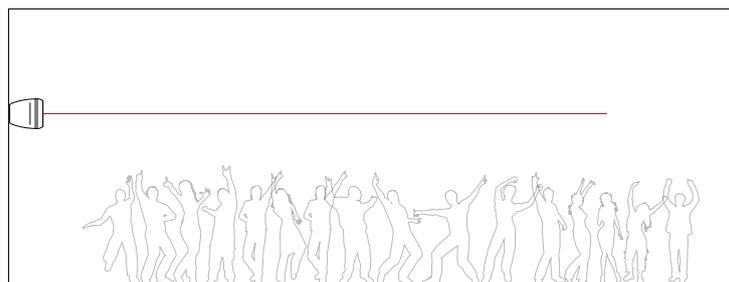


Figure 6.11: Incorrect loudspeaker placement

7 Mounting

Tools Required

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

7.1 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) whilst 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
- Secondary safeties should be provided in all instances where cabinets are flying or fixing overhead and should conform to local regulations

7.2 Airten Pole Mounting

Parts required:

- Air Series pole mount (black - IT1099, white - IT1102)

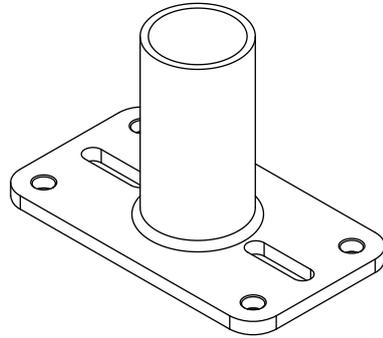


Figure 7.1: Air series pole mount

Step 1:

Lay a soft lint free rug clear of debris on the ground to avoid damage to the loudspeaker. Place the Airten with the horns face down and remove all four M8 bolts.

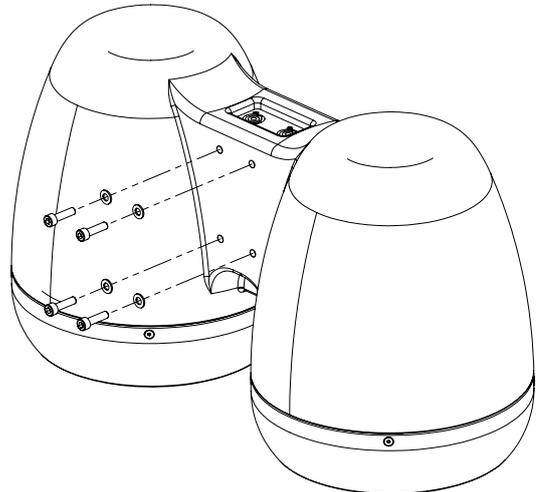


Figure 7.2: M8 socket cap removal

Step 2:

Place the Air Series pole mount into position and insert the M8 bolts.

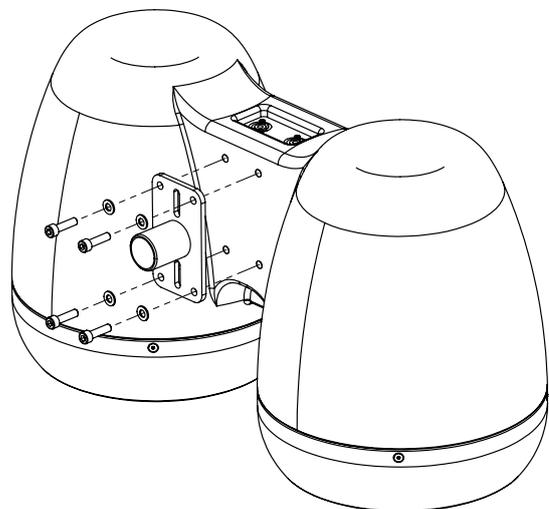


Figure 7.3: Air Series pole mount bracket positioning

7.2 Airten Pole Mounting

Step 3:

Fix all four M8 bolts taking care not to over tighten.

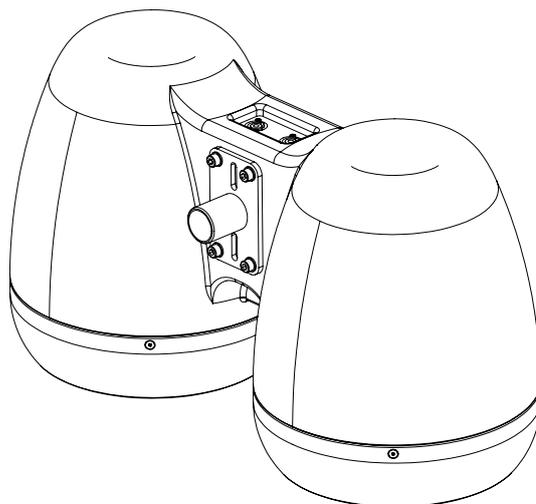


Figure 7.4: Air Series pole mount bracket fixing

Step 4:

After erecting the pole use two people to lift the Airten loudspeaker into position taking care to use the safe handling positions in section 3.

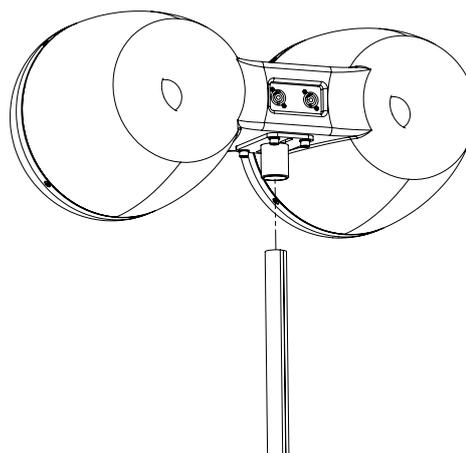


Figure 7.5: Air Series pole mount positioning

Step 5:

Finally ensure that the Airten loudspeaker is safely in place.

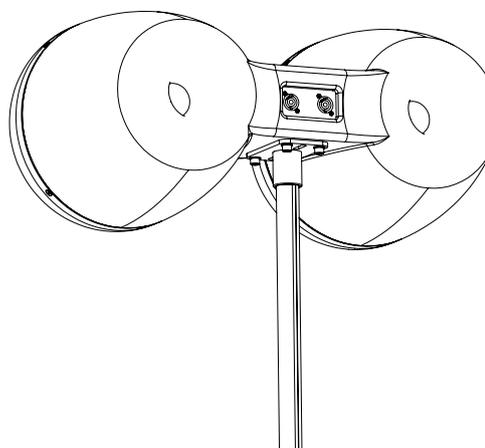


Figure 7.6: Air Series pole mount

7.3 Attaching the stud bracket

Parts required:

- Air Series stud mount bracket (black - IT1125, white - IT1126)
- Air Series U bracket (black - IT1083, white - IT1085)

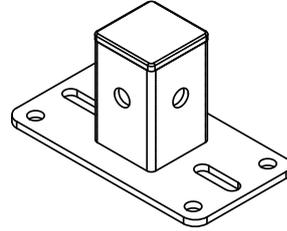


Figure 7.7: Air Series stud mount bracket

Step 1:

Lay a soft lint free rug clear of debris on the ground to avoid damage to the loudspeaker. Place the Airten with the horns face down and remove all four M8 bolts.

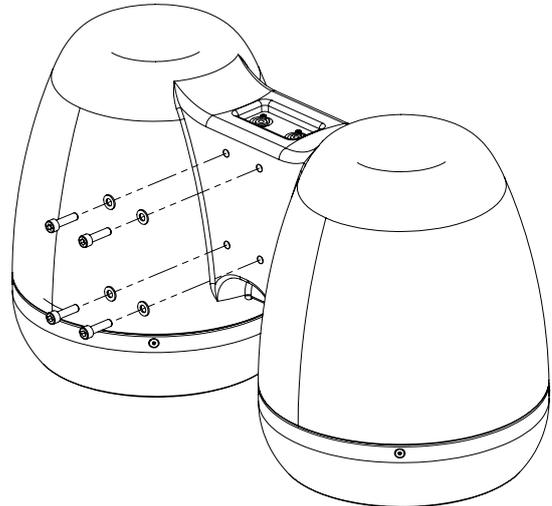


Figure 7.8: M8 socket cap removal

Step 2:

Place the Air Series stud mount bracket into position and insert the M8 bolts.

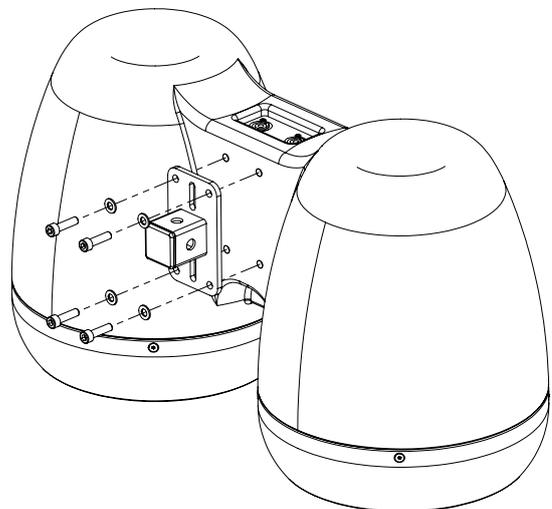


Figure 7.9: Air Series stud mount bracket positioning

7.3 Attaching the stud bracket

Step 3:

Fix all four M8 bolts taking care not to over tighten.

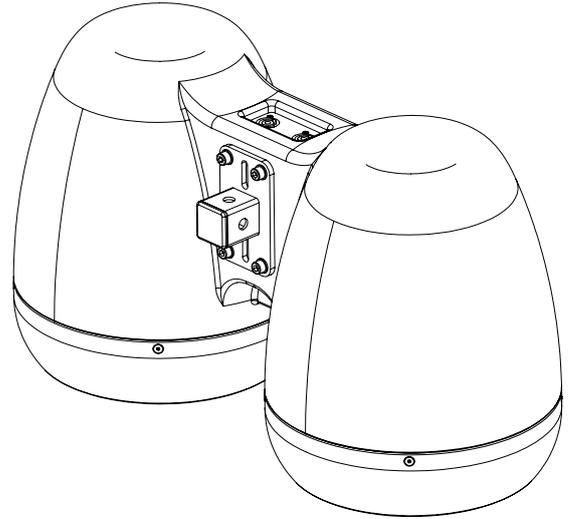


Figure 7.10: Air Series stud mount bracket fixing

Step 4:

Attach the Air Series U bracket.



Note:

The U bracket is threaded for the bolt on one side only. Insert the M10 x 70 mm bolt through the non-threaded side and tighten. Then tighten the M10 nut.

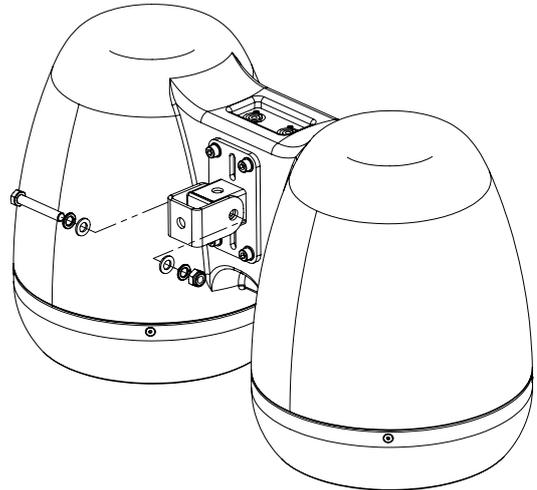


Figure 7.11: Air Series stud mount U bracket fixing

7.4 Airten wall mounting over bracket

Parts required:

- WHD 75 wall/ceiling mount (black - IT1132, white - IT1133)



Note:
All bolts must be fitted when securing the bracket to the wall.

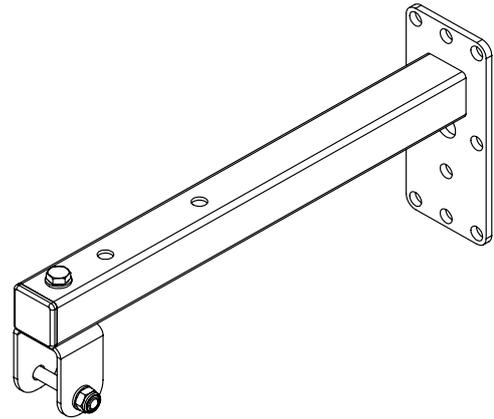


Figure 7.12: WHD 75 wall/ceiling mount

Step 1:

Lift the Airten loudspeaker into place using two people and the safe handling positions in section 3.

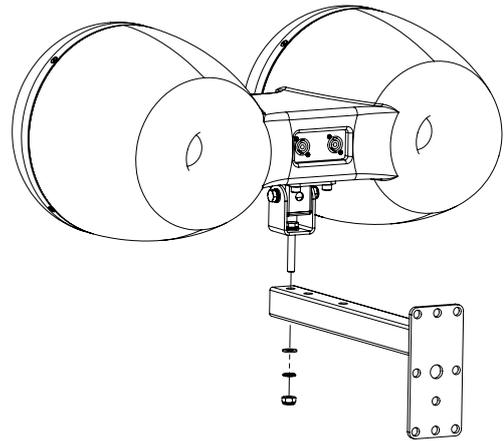


Figure 7.13: Airten loudspeaker positioning

Step 2:

Lower the Airten into place and attach the with M10 bolt below but do not tighten.

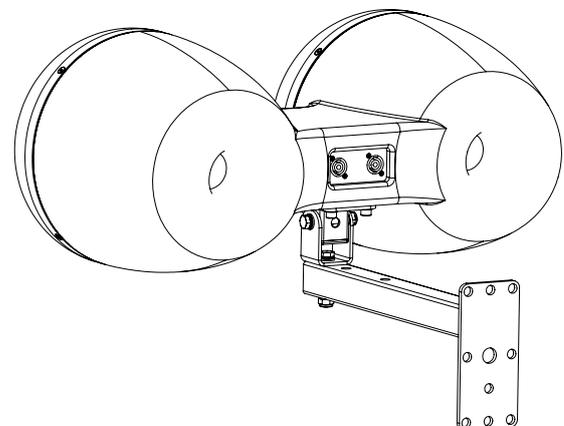


Figure 7.14: Airten loudspeaker fixing

7.4 Airten wall mounting over bracket

Step 3:

Rotate the Airten loudspeaker into the desired position and tighten the M10 bolt.

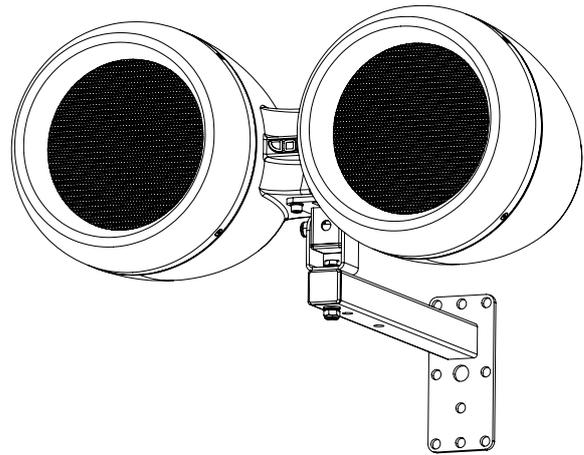


Figure 7.15: Airten loudspeaker positioning

7.5 Airten wall mounting under bracket

Parts required:

- WHD 75 wall/ceiling mount (black - IT1132, white - IT1133)
- Multi bracket extension (black - IT2089, white - IT2088)



Note:
All bolts must be fitted when securing the bracket to the wall.

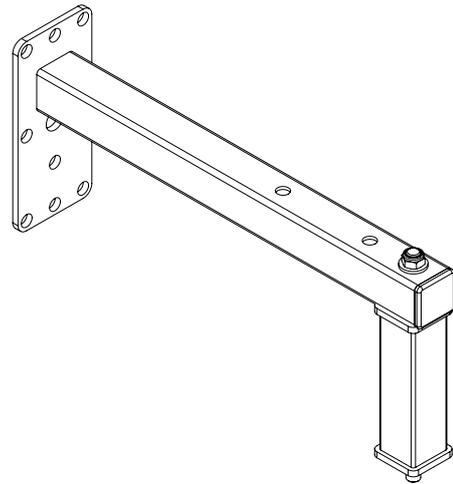


Figure 7.16: WHD wall/ceiling mount with extension piece

Step 1:

Attach the extension piece to the WHD 75 wall/ceiling mount with the M10 nut.

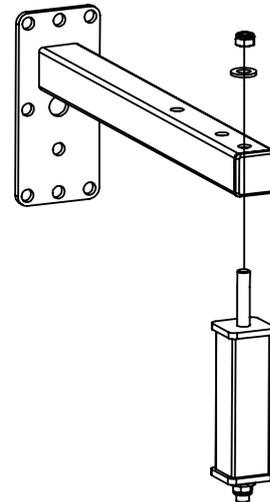


Figure 7.17: WHD wall/ceiling mount with extension piece fixing

Step 2:

Raise the Airten loudspeaker into position, taking care to follow the safe handling positions in section 3, and attach the M10 nut.

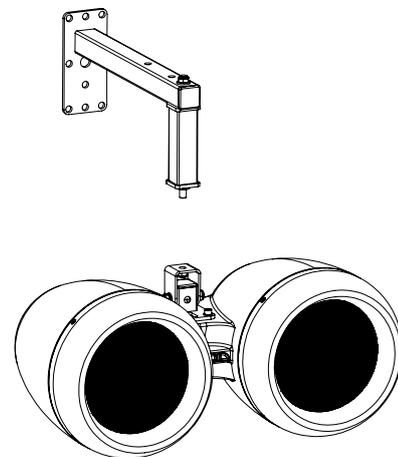


Figure 7.18: Airten positioning

7.5 Airten wall mounting under bracket

Step 3:

Rotate the Airten loudspeaker into the desired position and tighten the M10 bolt.

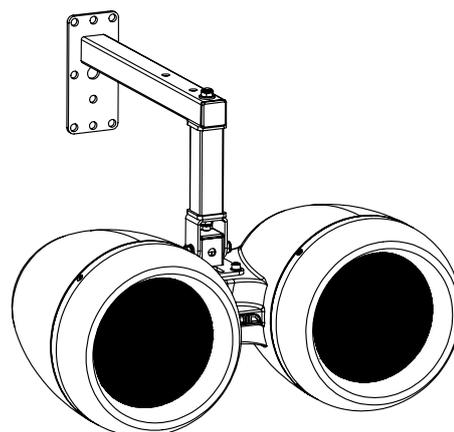


Figure 7.19: Airten fixing

7.6 Ceiling pole mounting

Parts required:

- Air series ceiling bracket (black - IT2462, white - IT3149)



Note:
All eight bolts must be fitted when securing the bracket to the wall.

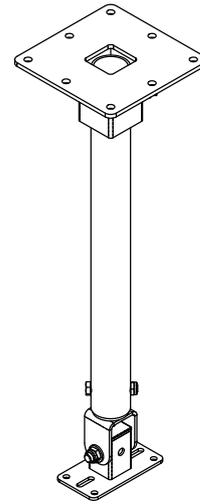


Figure 7.20: Air series ceiling bracket

Step 1:
Lift the Airten into position making sure to hold it by the safe lifting positions detailed in section 3.

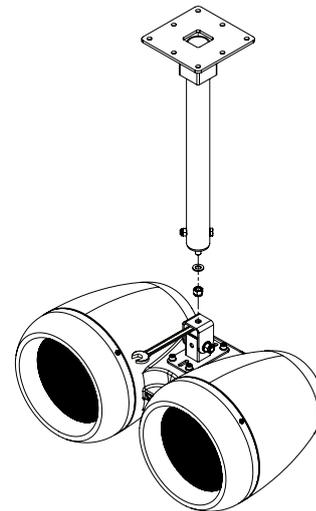


Figure 7.21: Airten positioning

Step 2:
Attach the Airten bracket with the M12 nut using a 19 mm ratchet spanner.

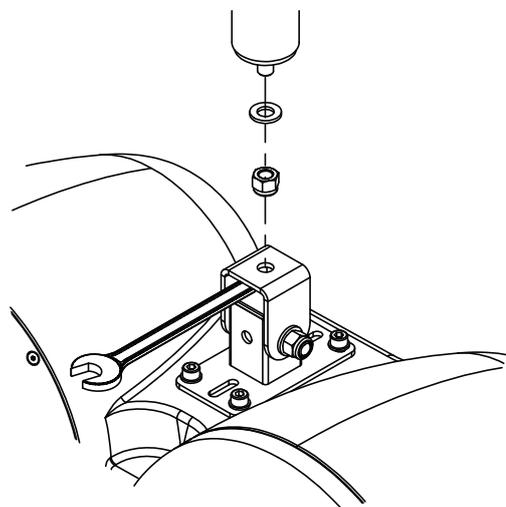


Figure 7.21: Airten positioning

7.6 Ceiling pole mounting

Step 3:

Attach the secondary bond (safety wire) to the central box section.



The safety wire must be rated to 20 kg with a safety factor conforming to local regulations.

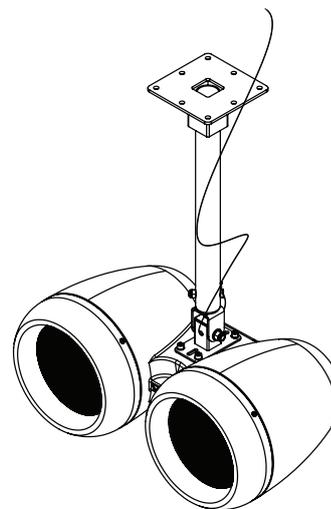


Figure 7.23: Safety wire attachment

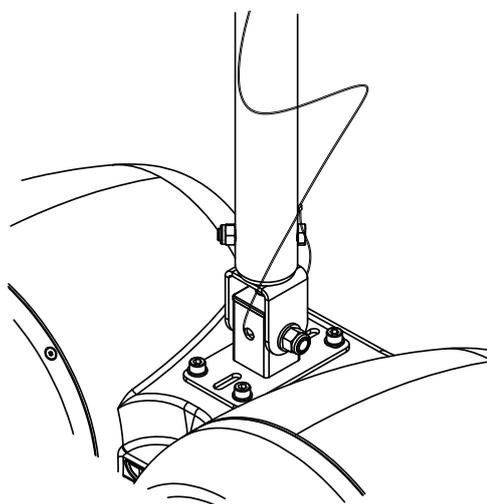


Figure 7.24: Safety wire attachment detail

7.7 Pole mounting on U bracket

Parts required:

- Pole mount sleeve (black - IT2238, white - IT2237)

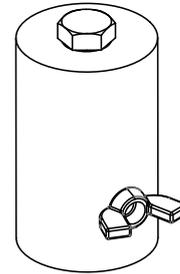


Figure 7.25: Air series pole mount bracket

Step 1:
Remove the M12 bolt from the pole mount bracket.

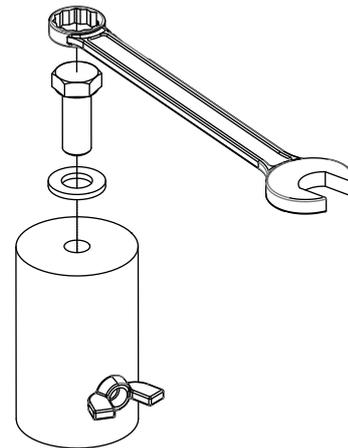


Figure 7.26: Pole mount bracket removal

Step 2:
Mount the pole mount bracket to the U bracket.

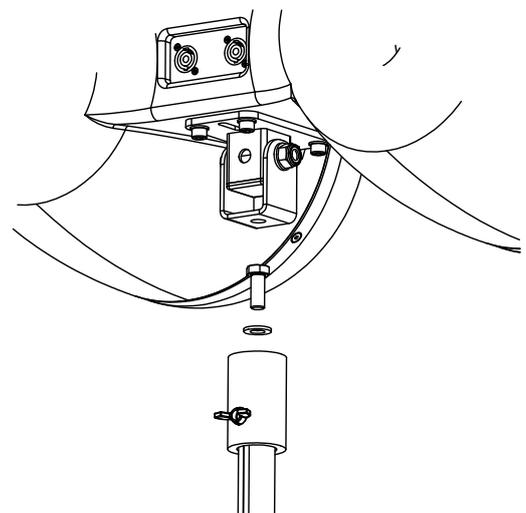


Figure 7.27: Mounting to the U bracket

7.7 Pole mounting on U bracket

Step 3:

Lift the Airten loudspeaker into position taking care to follow the safe handling positions detailed in section 3.

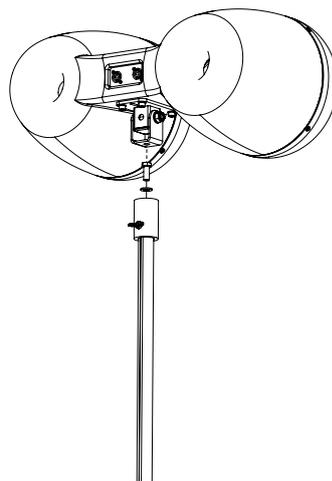


Figure 7.28: Positioning the loudspeaker

Step 4:

Adjust the loudspeaker into the desired position and then tighten the wing nut on the pole mount bracket.



Figure 7.29: Adjusting the loudspeaker position

8 Service

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



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

8.1 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.

8.2 Shipping and packing considerations

- When sending a Void Airten 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.

9 Appendix

Architectural specifications

The loudspeaker shall be a passive two-way system, consisting of two high power 10" (250 mm) direct radiating reflex loaded low frequency (LF) transducers, and 1.4" (35.6 mm) diameter co-axial direct radiating reflex loaded high frequency (HF) transducer, mounted in an aesthetically designed enclosure.

The co-axial transducer shall be constructed on a cast aluminium frame, with the low frequency transducer consisting of a polycarbonate LF cone with its dust cap removed and a 64 mm (2.5") diameter voice coil, wound with copper wire on a high quality voice coil former, for high power handling and long-term reliability. The high frequency transducer shall be bolted through the rear of the magnet structure that belongs to the low frequency transducer to form a co-axial drive unit. The sound shall project through a machined waveguide that exits in the centre of the low frequency transducer and uses the 250 mm (10") baffle diameter to achieve pattern control and low distortion.

Power handling shall be at 500 W AES at a rated impedance of 4 Ω ; and crossover point at 1.2 kHz using 2nd order filters (12 dB per octave). The system shall be powered by its own dedicated power amplification module with DSP management, with the wiring connection via two Neutrik speakON™ NL4 (one for input and one for link-out to another speaker), to allow for pre-wiring of the connector before installation.

Performance specifications for a typical production unit shall be as follows: a usable on-axis bandwidth of 60 Hz to 20 kHz (± 3 dB), with an average 80° directivity pattern in the vertical axis and 80° in the horizontal one (-6 dB down from on-axis level) from 1 kHz to 10 kHz; maximum SPL of 128 dB peak measured at 1m using IEC268-5 pink noise;

The enclosure shall be moulded fibreglass reinforced plastic construction, with a smooth cellulose finish of any RAL colour, and shall include integral threaded inserts for the fitment of wall and ceiling mounting hardware. The external dimensions shall be (H) 303 mm x (W) 681 mm x (D) 366 mm (11.9" x 26.8" x 14.4"). Weight shall be 20 kg (44.1 lbs).

The loudspeaker shall be the Void Acoustics Airten V3.

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