# Void Acoustics Arclite 15 Inch 3-Way Arrayable Point Source Loudspeaker User Guide

**Arclite**
**Designed for Touring**



**USER GUIDE V1.0**

**Contents**

## Arclite 15 Inch 3-Way Arrayable Point Source Loudspeaker

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## 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, uch 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 userdependent and Void Acoustics Research Ltd cannot guarantee complete safety whenever the system is rigged and operated.

## 1.3 EC declaration of conformity

For EC Declaration of Conformity please go to: **www.voidacoustics.com/eu-declaration-loudspeakers**

## 1.4 UKCA marking

For details of the UKCA marking go to: w**ww.voidacoustics.com/uk-declaration-loudspeakers**

## 1.5 Warranty statement

For warranty statement go to: **https://voidacoustics.com/terms-conditions/**

## 1.6 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.

## 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.

When you are removing your Arclite loudspeaker from its original packaging:

- Arclite loudspeakers come packaged in a lid and base carton that has a protective sleeve around it; avoid using sharp implements to remove the cardboard to protect the finish
- If you need to place the loudspeaker on a flat surface make sure it is free from debris
- When you have removed the Arclite 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. See section 1 for warranty conditions and see section 7 if your product needs servicing.

## About

### 3.1 Welcome
Many thanks for purchasing this Void Acoustics Arcline 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 groundbreaking 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.

### 3.2 Arclite overview
Designed for pairing with Arcline 218 and 118 subwoofers, Arclite operates as a two-way active, three-way arrayable point source loudspeaker. Offering scalability with maximum output and coherence, to deliver a true point source alternative to the Arcline 8.
Tailored for audio integrators and sound engineers with a focus on touring, Arclite guarantees predictable behaviour even in the most demanding applications. An arrays dispersion and sound pressure levels can be configured precisely to best serve any  demands. Arclite's design also offers summation up to 20 kHz with minimal destructive interference.
Dual NL4 speakON™ connectors with link out and minimal rigging requirements for ground stacked deployments allows for very fast set-up times.
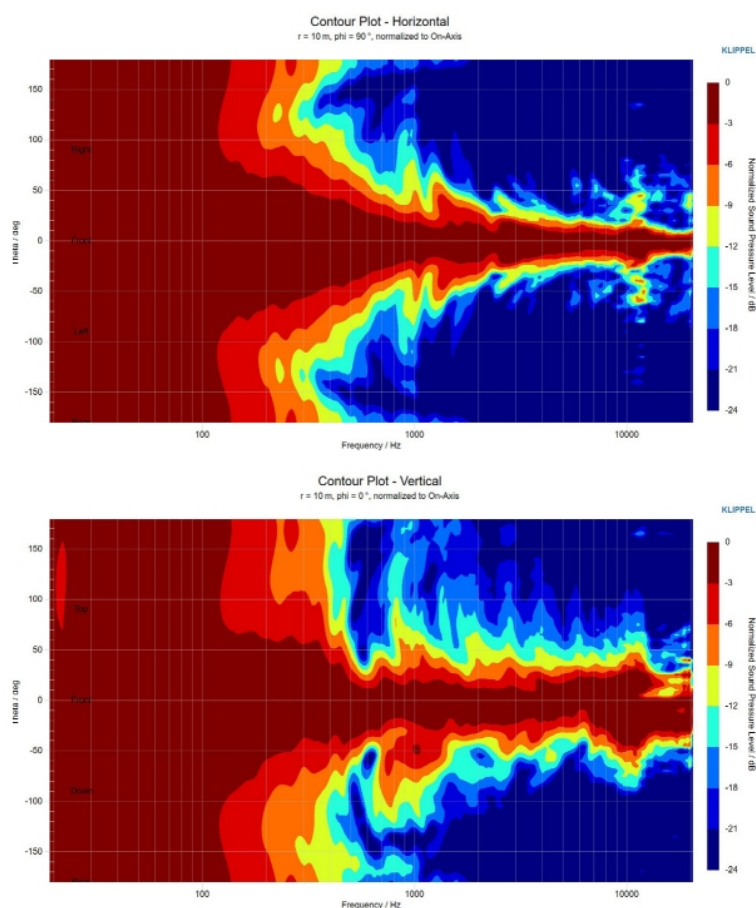### 3.3 Key features

- Two-way active, three-way arrayable point source
- Ground stack or flying configurations available
- Asymmetrical combination waveguide and horn optimised with FEA
- Dual NL4 speakON™ connector with link out for quick and easy set up
- Arrayable in vertical and horizontal configurations
- Blanking plate for use without rigging

### 3.2.3 Arclite specifications

| Frequency response | 45 Hz – 18 kHz ±3 dB |
|---|---|
| Efficiency[1] | MHF: 113 dB 1 W / 1 m<br>LF: 98 dB 1 W / 1 m |
| Nominal impedance | LF: 8 W, MHF: 16 W |
| Power handling[2] | LF: 1000 W, MHF 190 W |
| Maximum output[3] | 133 dB Cont, 139 Peak |
| Driver configuration | 1 x 15" LF, 1 x 4" MF, 1 x 2.5" HF |
| Dispersion | 35° H x 60° V (25° up – 35° down) |
| Connectors | 2 x 4-pole speakON™ NL4 |
| Height | 793 mm (31.3") |
| Width | 510 mm (20.1") |
| Depth | 559 mm (22") |
| Weight | 44 kg (97 lbs) |
| Enclosure | 15 mm multi-laminate plywood |
| Rigging | Ground stack or suspended |
| Finish | Textured 'TourCoat' polyurea |

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



Contour Plot - Horizontal
r = 10 m, phi = 90 °, normalized to On-Axis



Contour Plot - Vertical
r = 10 m, phi = 0 °, normalized to On-Axis

**3.5 Arclite dimensions**
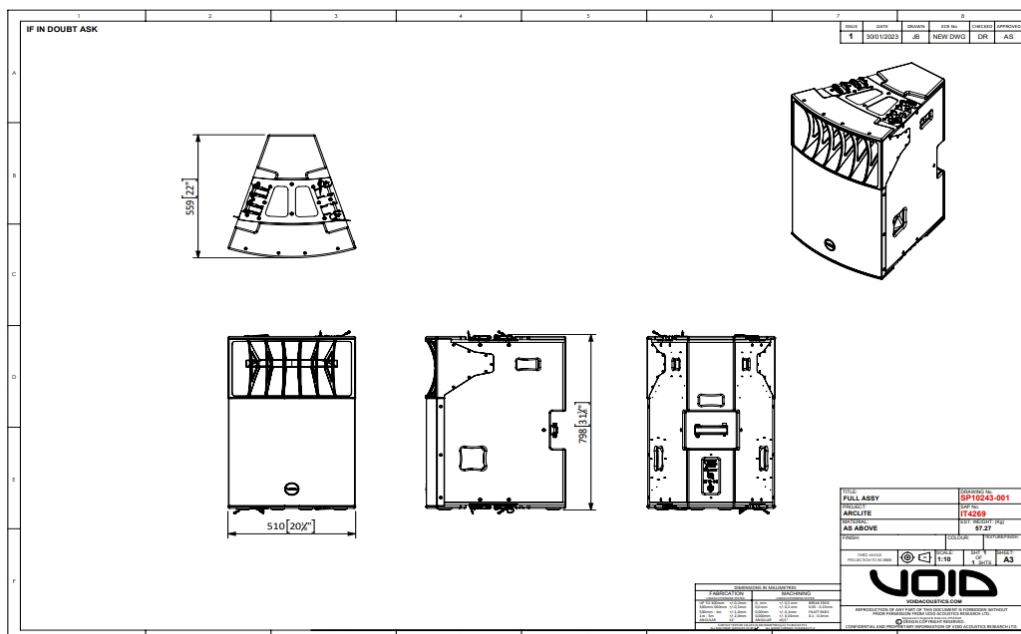
Figure 3.2: Dimensions

# Cable and Wiring

## 4.1 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.

## 4.2 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 |

## 4.3 Arclite wiring diagram
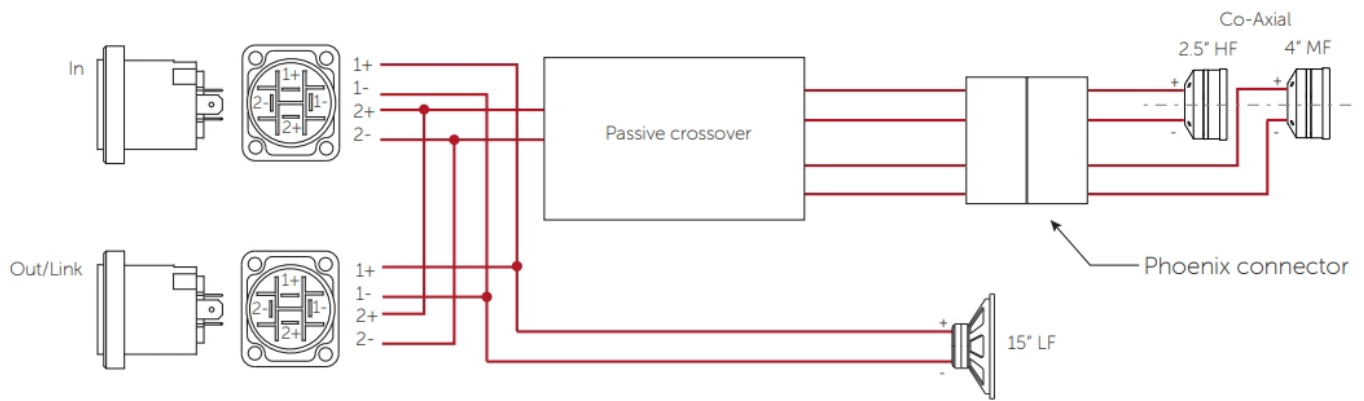
Figure 4.1: Arclite wiring diagram

## 4.4 Bias D1/Q1/Q1.5/Q2 phoenix wiring
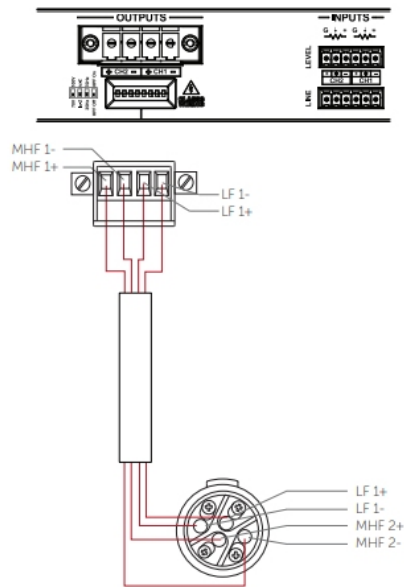


Figure 4.2: Bias D1
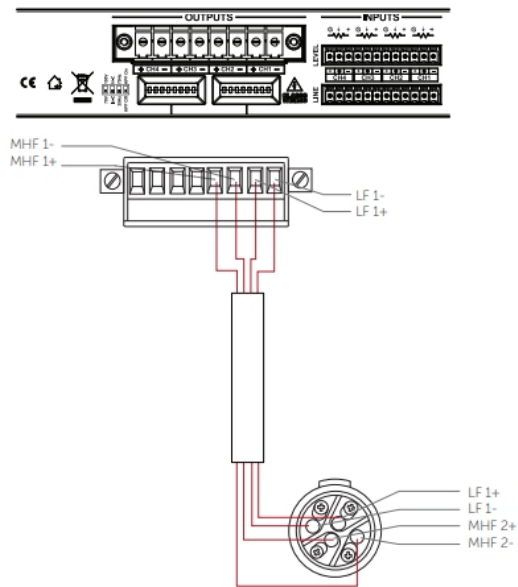


Figure 4.3: Bias Q2

| Bias D1/Q2 | Output 1 | Output 2 |
|---|---|---|
| Output | LF (15") | MHF (4"+2.5") |
| Max parallel units | 4 (2 W load to amplifier)* | 8 (2 W load to amplifier)* |

*Recommended max parallel units 2 (4 Ω load to amplifier) due to the power rating of the amplifier.
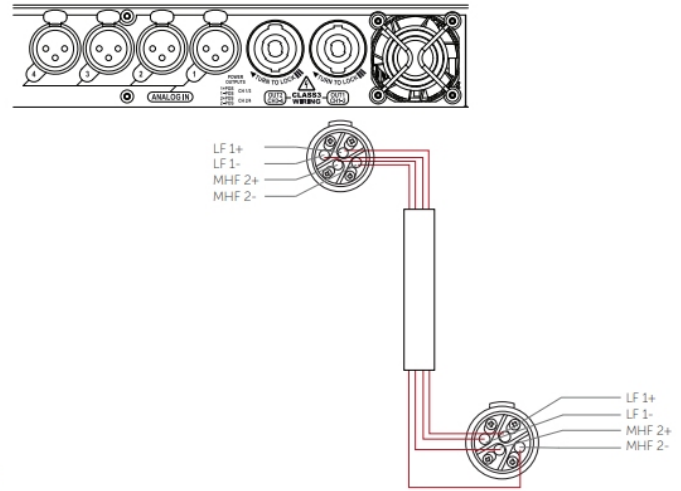
## 4.5 Bias Q3/Q5 speakONTM wiring
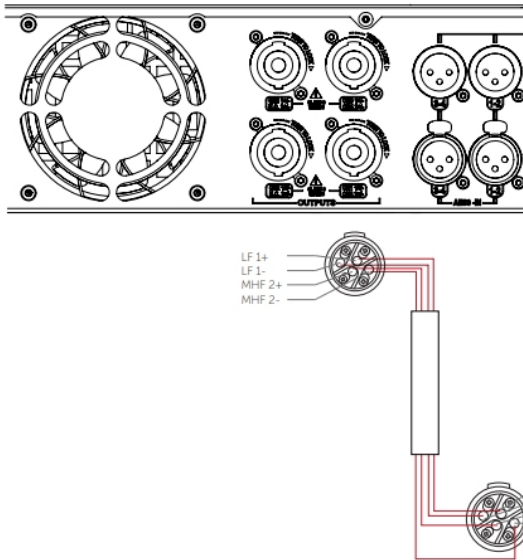
Figure 4.4: Bias Q3

Figure 4.5: Bias Q5

| Bias Q3/Q5 | Output 1 | Output 2 |
|---|---|---|
| Output | LF (15") | MHF (4"+2.5") |
| Max quantity per channel | 2 (4 W load to amplifier) | 4 (4 W load to amplifier) |

## Mounting

### 5.1 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
- Installations must only be undertaken by fully qualified and experienced engineers/technicians 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 installing. Always concentrate fully on the installation operation
- Do not install 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

### 5.2 Horizontal Array
Parts required:
IT4310 – Arclite – Vertical Fly Bar Assembly – Black (recommended load no more than 90KG)
IT4165 – Arclite – Top and Bottom Rigging Assy – Black 543

IT4165                                    IT4310
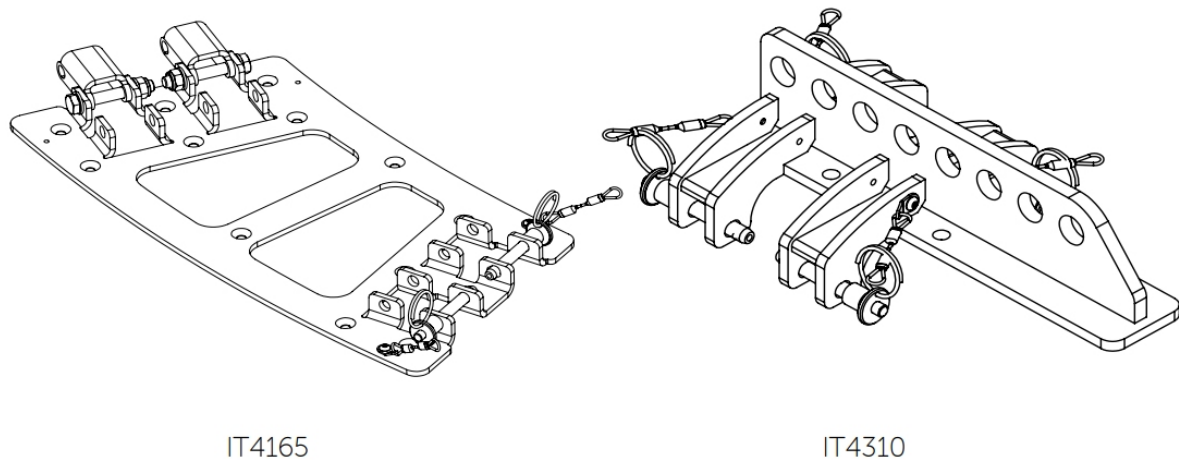
Figure 5.1: Rigging and fly bar

**Step 1:**
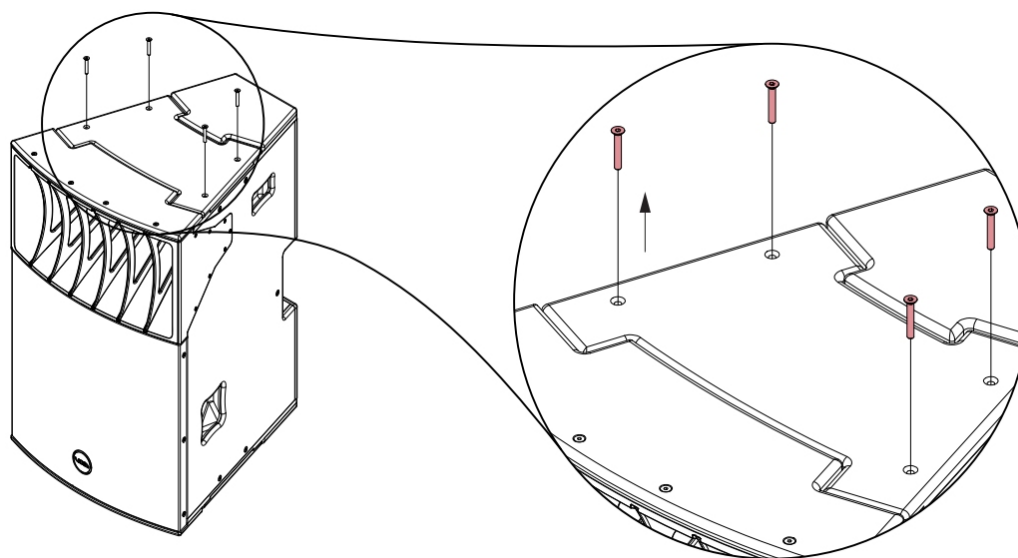Remove all four M6 bolts from the top or bottom infill panels.



Figure 5.2: Bolt removal
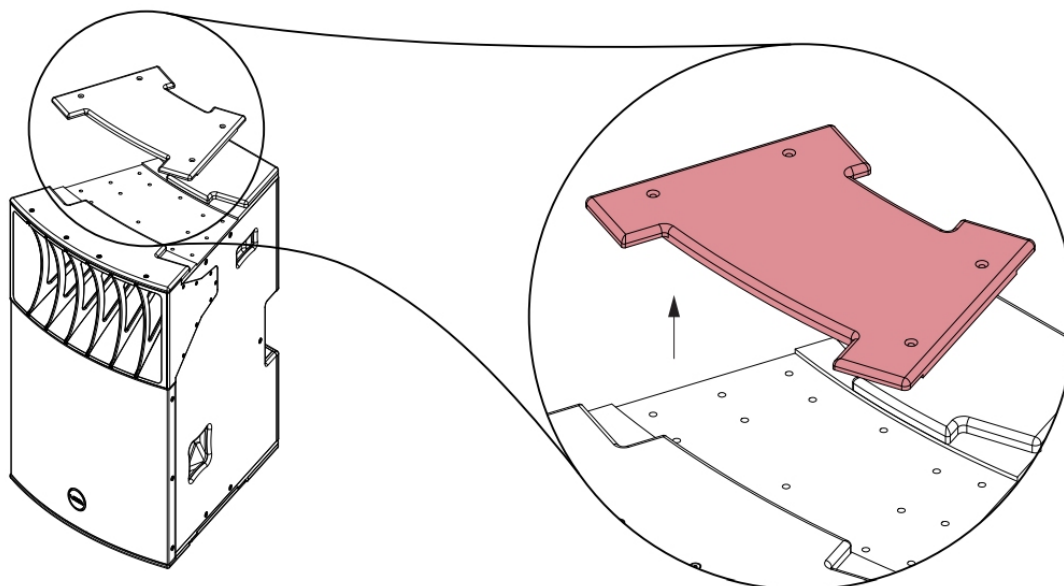
Step 2:
Remove the infill panel and save it for future use



Figure 5.3: Remove infill

Step 3:
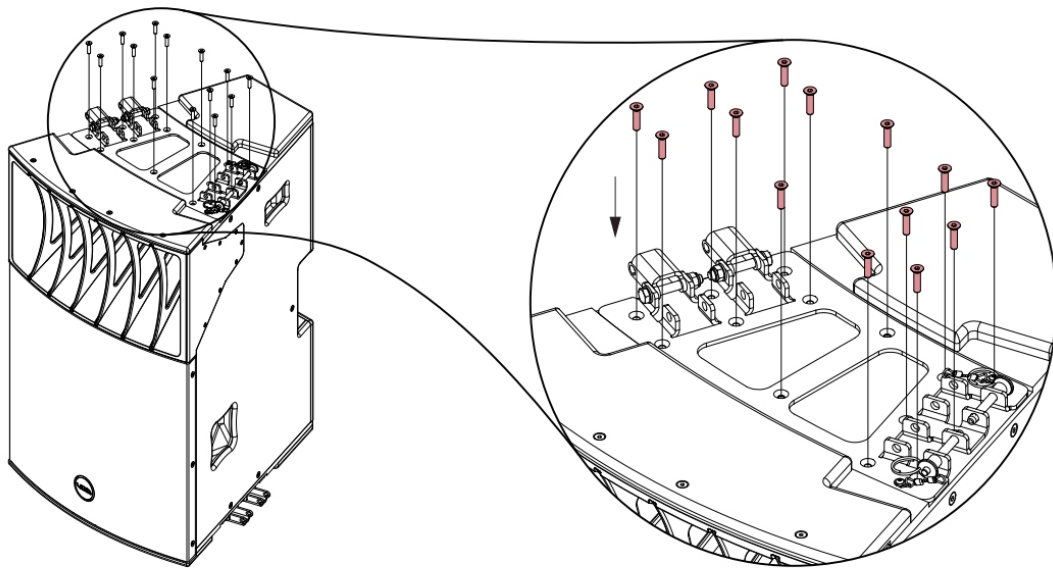Fix the rigging assembly into place using all fourteen M6 bolts provided.

Figure 5.4: Plate fixing

**Step 4:**

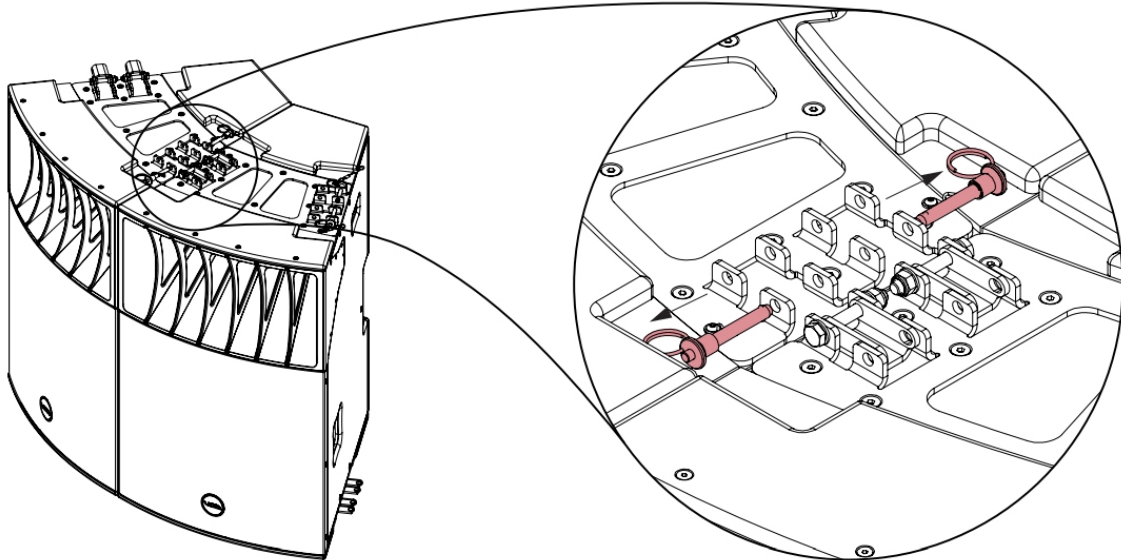Place two Arclite together as shown and remove both quick release pins from the rigging assembly



Figure 5.5: Quick release

Step 5:

Rotate the links into position as shown.
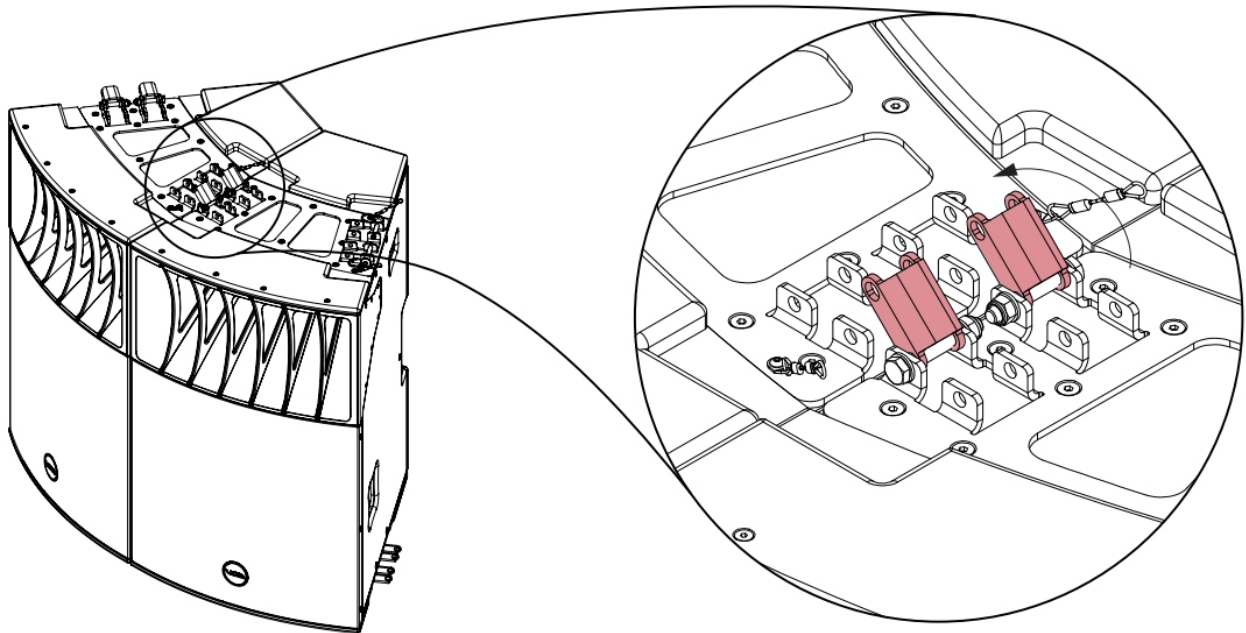
Figure 5.6: Links

Step 6:
Reinsert the pins into the rigging assembly of the neighbouring cabinet through the links to fix the top rigging assemblies together.
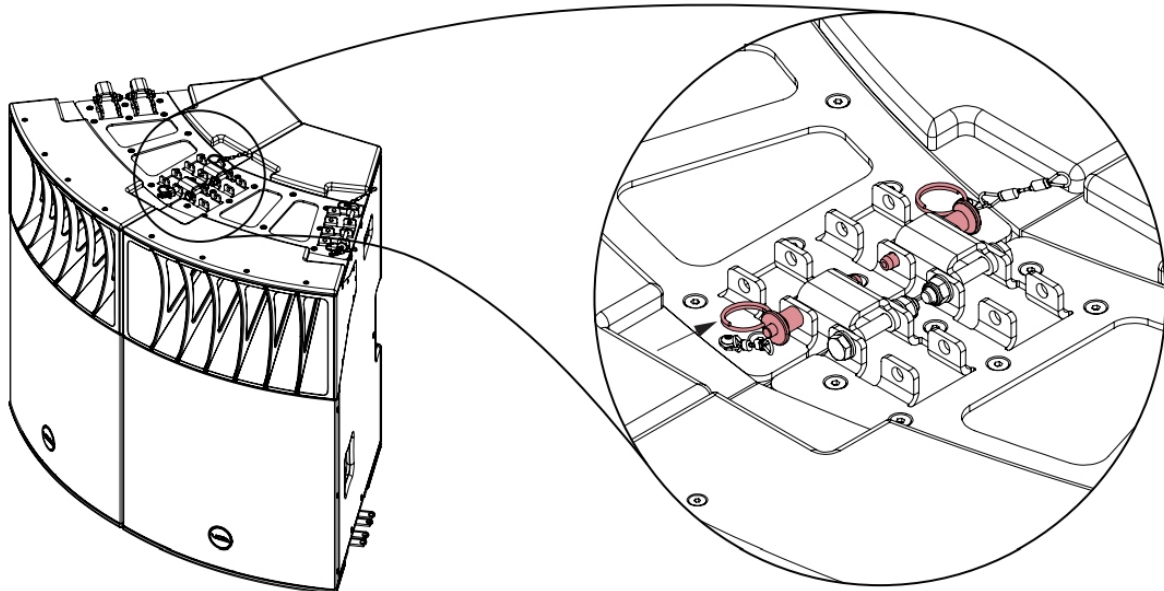


Figure 5.7: Insert pins

Step 7:
Place the bracket into position as shown and fix with all four pins provided.
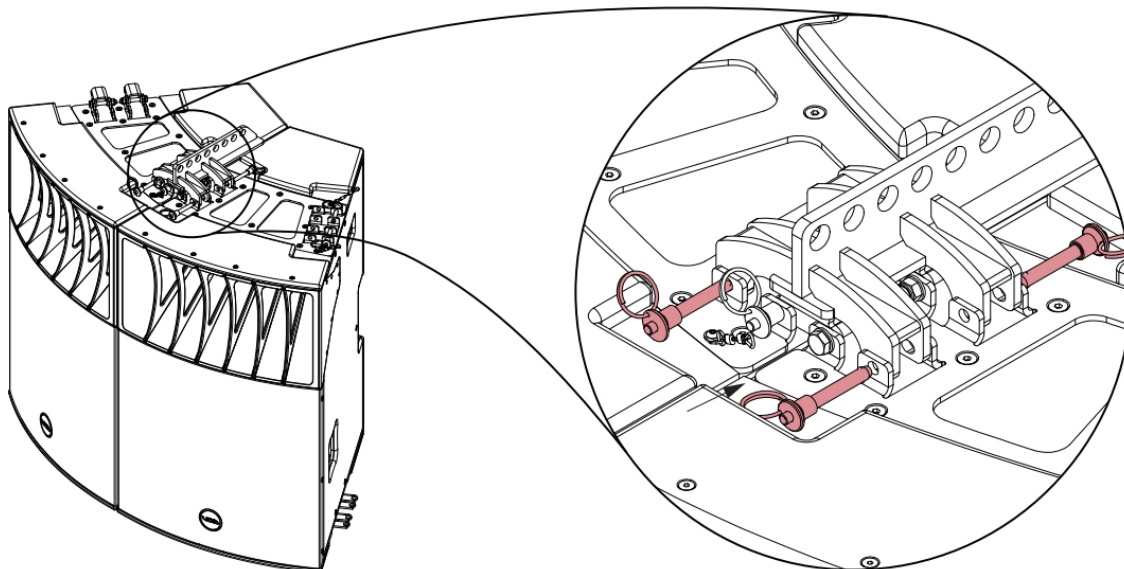
Figure 5.8: Bracket

**Step 8:**
Remove the 'R' clip from the rear link assembly.
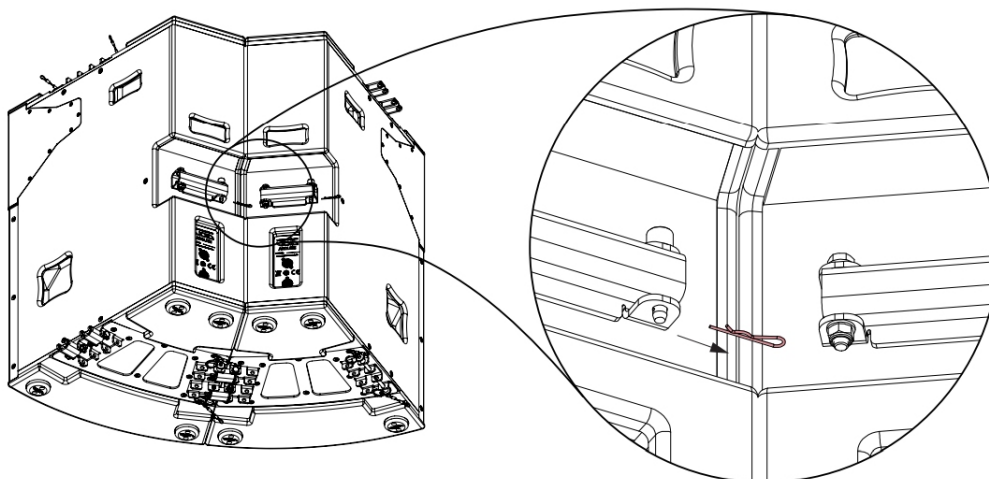


Figure 5.9: R-clip release

**Step 9:**
Remove the pin
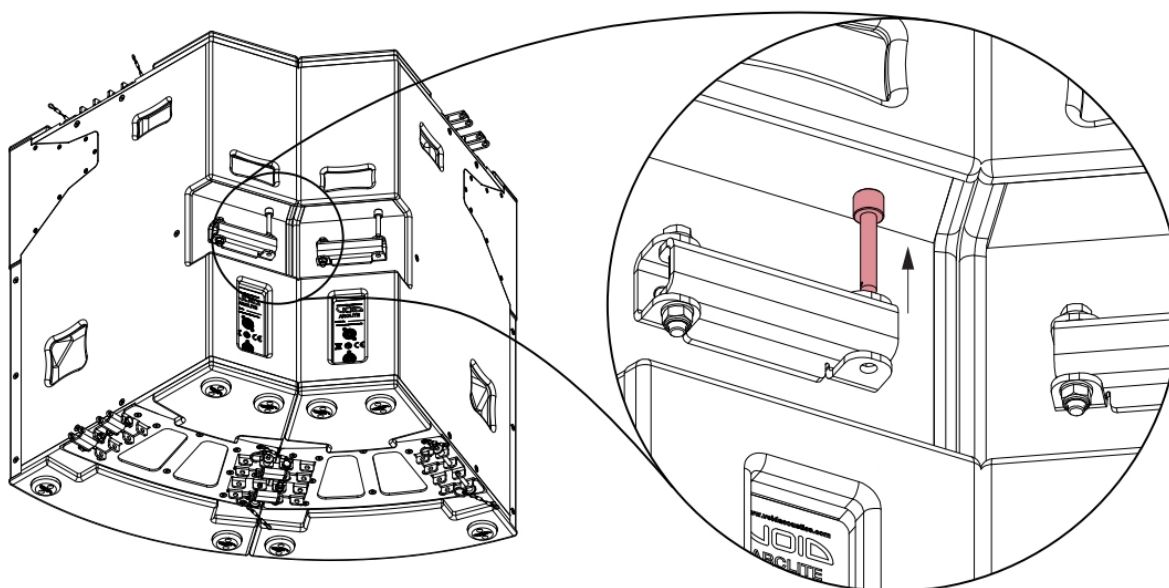


Figure 5.10: Remove pin

**Step 10:**
Rotate the relink into position so the holes align
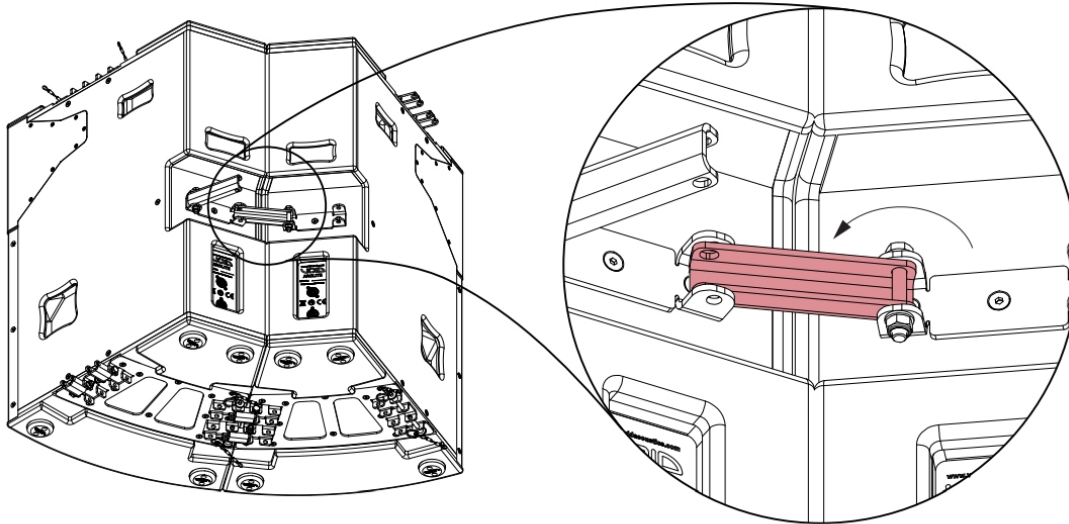
Figure 5.11: Rotate link

**Step 11:**
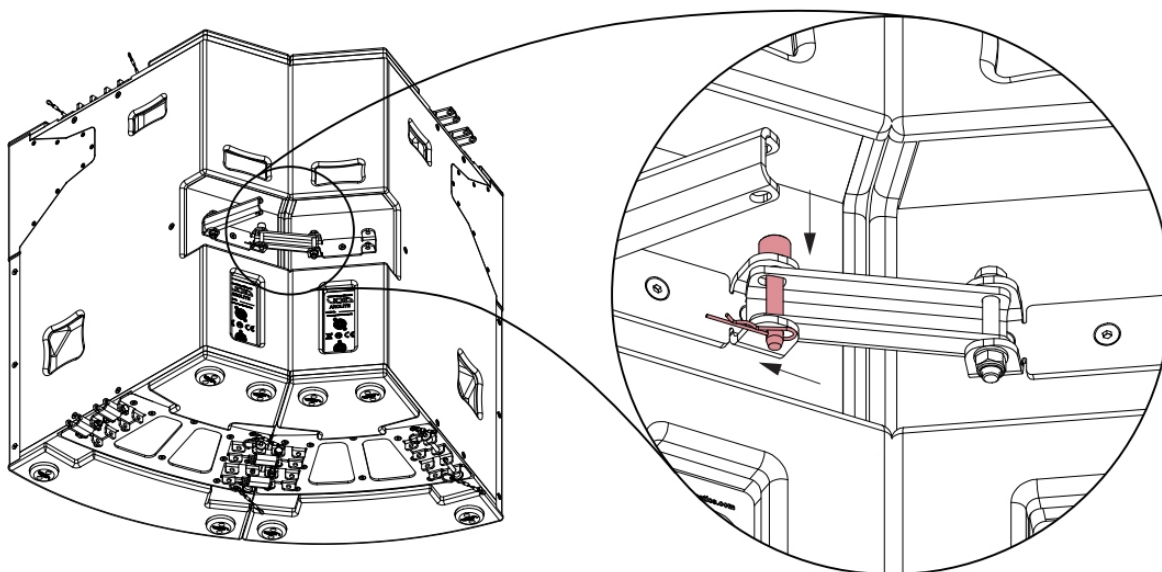Reinsert the pin and 'R' clip so that the cabinets are linked together



Figure 5.12: Link

**Step 12:**
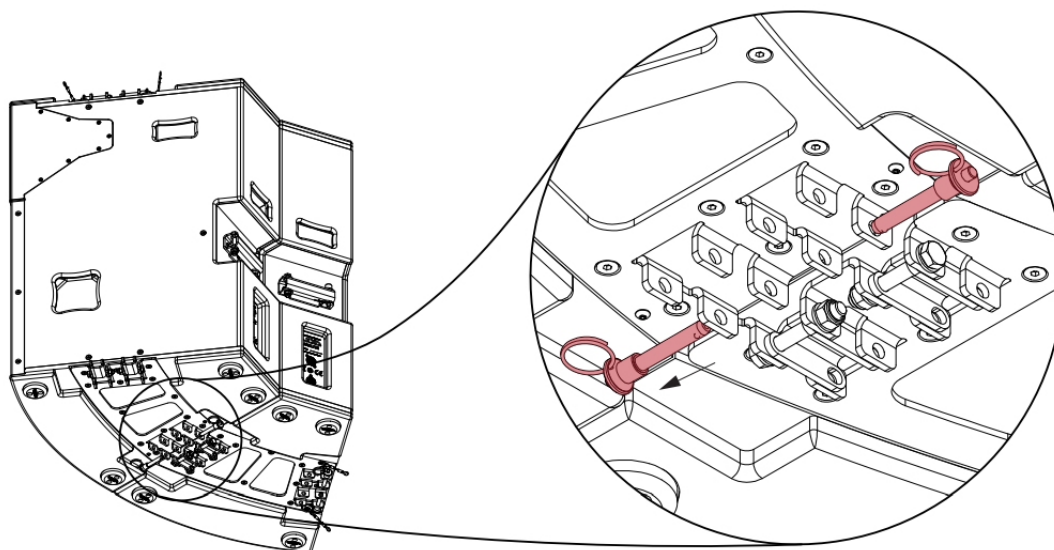Remove both quick release pins from the rigging assembly.



Figure 5.13: Remove pins
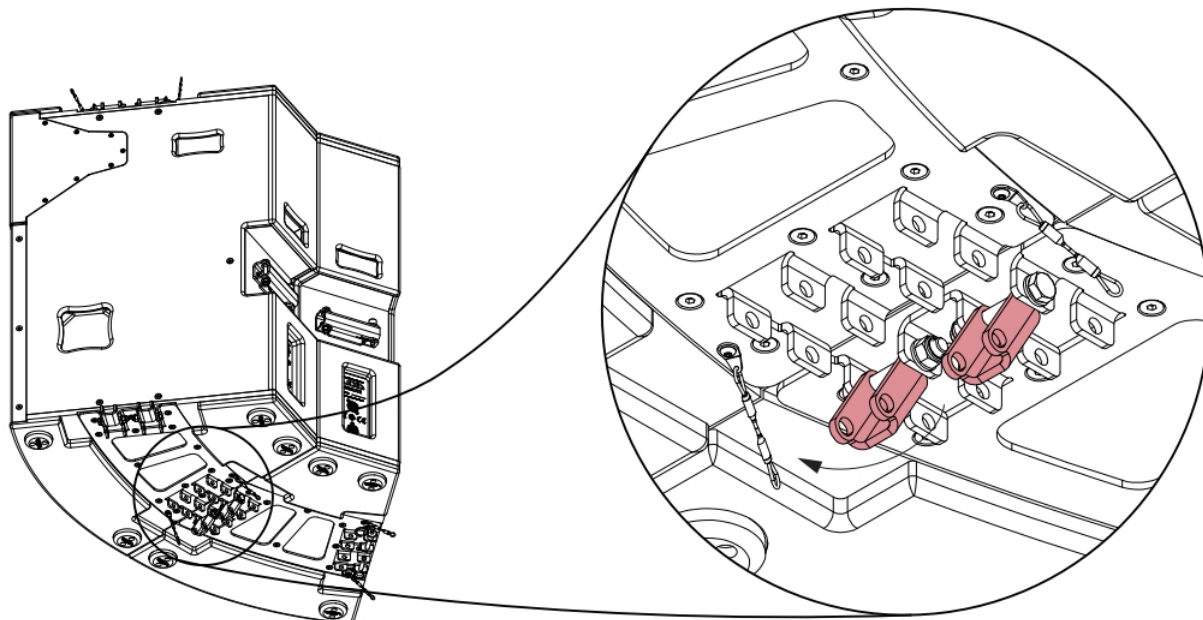
**Step 13:**
Rotate the links into position as shown.

Figure 5.14: Links

Step 14:
Reinsert the pins into the rigging assembly of the neighbouring cabinet through the links to fix the top rigging assemblies together.
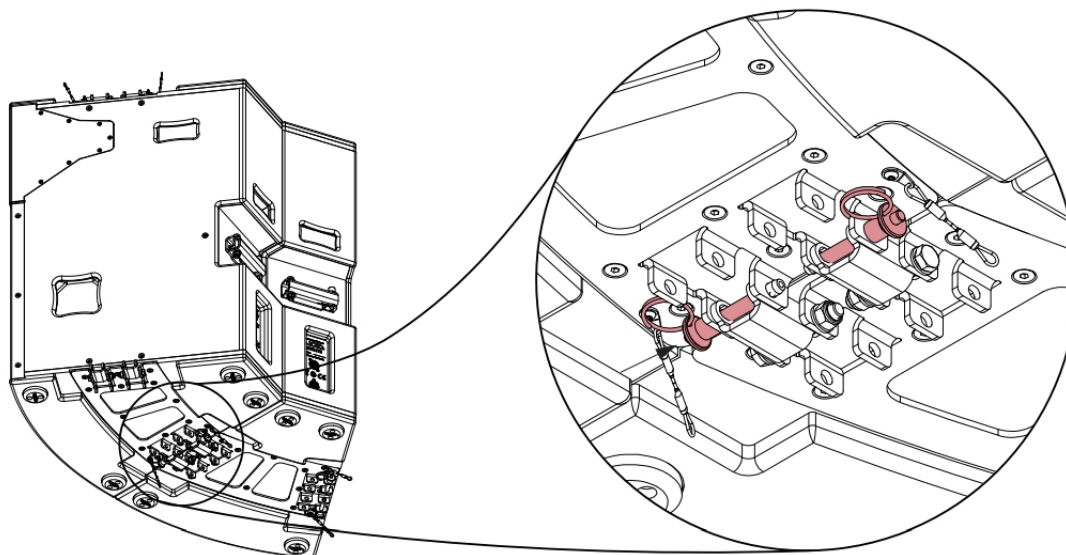


Figure 5.15: Insert pins

## Service

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

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

### 6.1 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.
### 6.2 Shipping and packing considerations

- When sending a Void Arcline 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.

## Appendix

**Architectural specification**

The loudspeaker shall be a two-way active, three-way arrayable point source, featuring an asymmetrical combination waveguide and horn, consisting of one high power reflex loaded 15" (381 mm) low frequency (LF) transducer, with a two way, mid-high (MHF) coaxial ring radiator compression driver.

The low frequency transducer shall be constructed on a rigid metal frame, featuring a 4" (101 mm) voice coil, wound with copper wire on a high-quality voice coil former, for high power handling and long-term reliability. The high frequency coaxial ring radiator shall project its sound through a high precision proprietary waveguide with asymmetrical horn mouth.

Performance specifications for a typical production unit shall be as follows: the usable on- axis bandwidth shall be 45 Hz to 18 kHz (±3 dB) for a single enclosure; shall average 35° directivity pattern on the horizontal axis and 60° on the vertical one (25° up – 35° down) (-6 dB down from on-axis level) from 1 kHz to 12 kHz.; maximum SPL of 139 dB peak measured at 1 m using IEC268-5 1/3 Oct pink noise. Power handling shall be 1000 W AES for the LF section at a rated impedance of 8 Ω and 190 W AES for the HF section at a rated impedance of 16 Ω. The wiring connection shall be via two Neutrik speakON™. 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 15 mm multi laminate birch plywood, finished in a textured polyurea and shall contain fixing points so that rigging can be attached to array multiple units in horizontal or vertical configurations. External dimensions shall be (H) 793 mm x (W) 510 mm x (D) 559mm (31.3" x 20.1" x 22") . The weight shall be 44 kg (97lbs).

The loudspeaker shall be a Void Acoustics Arclite.

UG10710-1.0 – Arclite User Guide V1.0

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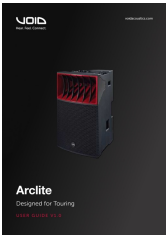Call: +44(0) 1202 666006
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## Documents / Resources

**Void Acoustics Arclite 15 Inch 3-Way Arrayable Point Source Loudspeaker** [pdf] User Guide
Arclite 15 Inch 3-Way Arrayable Point Source Loudspeaker, 3-Way Arrayable Point Source Loudspeaker, Arrayable Point Source Loudspeaker, Point Source Loudspeaker, Source Loudspeaker, Loudspeaker

## References

- **Hear. Feel. Connect | Void**
- **Terms & conditions | Void**
- **User Manual**