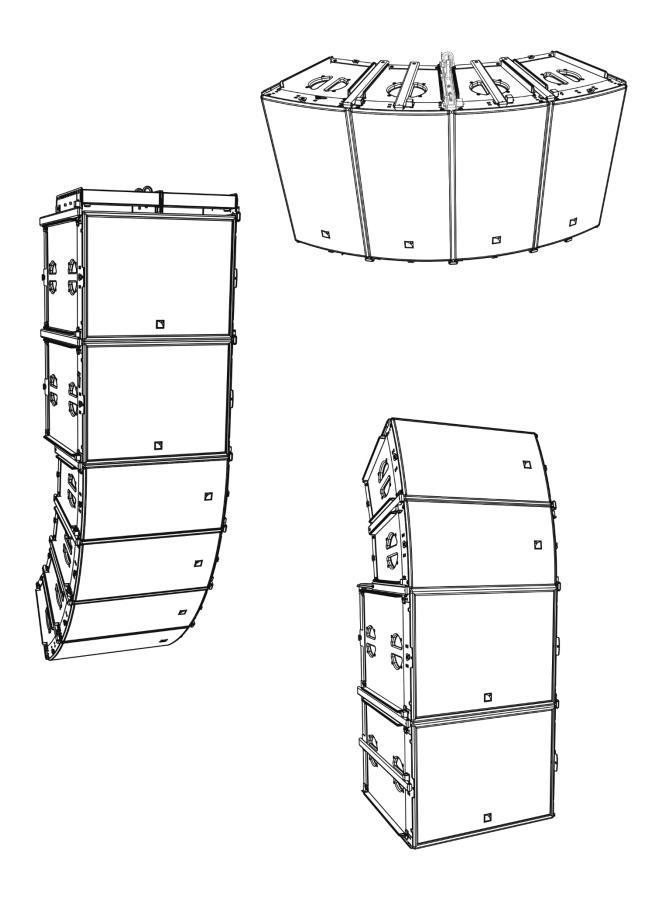
ARCS Wide/Focus



rigging manual (EN)



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SAFETY INSTRUCTIONS

- I. Read this manual
- 2. Follow all SAFETY INSTRUCTIONS as well as DANGER and OBLIGATION warnings
- 3. Never incorporate equipment or accessories not approved by L-ACOUSTICS®
- 4. Read all the related PRODUCT INFORMATION documents before exploiting the system

The product information document is included in the shipping carton of the related system component.

5. Work with qualified personnel for rigging the system

Installation should only be carried out by qualified personnel that are familiar with the rigging techniques and safety recommendations outlined in this manual.

6. Ensure personnel health and safety

During installation and set-up personnel must wear protective headgear and footwear at all times. Under no circumstances personnel is allowed to climb on a loudspeaker assembly.

7. Respect the Working Load Limit (WLL) of third party equipment

L-ACOUSTICS® is not responsible for any rigging equipment and accessories provided by third party manufacturers. Verify that the Working Load Limit (WLL) of the suspension points, chain hoists and all additional hardware rigging accessories is respected.

8. Respect the maximum configurations and the recommended safety level

For safety issue, respect the maximum configurations outlined in this manual. To check the conformity of any configuration in regards with the safety level recommended by L-ACOUSTICS®, model the system in SOUNDVISION and refer to the warnings in **Mechanical Data** section.

9. Be cautious when flying a loudspeaker array

Always verify that no one is standing underneath the loudspeaker array when it is being raised. As the array is being raised, check each individual element to make sure that it is securely fastened to the adjacent element. Never leave the array unattended during the installation process. As a general rule, L-ACOUSTICS® recommends the use of safety slings at all times.

10. Be cautious when ground-stacking a loudspeaker array

Do not stack the loudspeaker array on unstable ground or surface. If the array is stacked on a structure, platform, or stage, always check that the latter can support the total weight of the array. As a general rule, L-ACOUSTICS® recommends the use of safety straps at all times.

II. Take into account the wind effects on dynamic load

When a loudspeaker assembly is deployed in an open air environment, wind can produce dynamic stress to the rigging components and suspension points. If the wind force exceeds 6 bft (Beaufort scale), lower down and/or secure the loudspeaker array.

SYMBOLS

The following symbols are used in this document:



DANGER

This symbol indicates a potential risk of harm to an individual or damage to the product.

It can also notify the user about instructions that must be strictly followed to ensure safe installation or operation of the product.



OBLIGATION

This symbol notifies the user about instructions that must be strictly followed to ensure proper installation or operation of the product.



EQUIPMENT

This symbol indicates the equipment, tools, and spare parts required to perform a procedure.



INFORMATION

This symbol notifies the user about complementary information or optional instructions.

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WELCOME TO L-ACOUSTICS®

Thank you for choosing the L-ACOUSTICS® ARCS® WIDE SYSTEM or ARCS® FOCUS SYSTEM.

This document contains essential information on rigging the system properly. Carefully read this document in order to become familiar with this procedures.

As part of a continuous evolution of techniques and standards, L-ACOUSTICS® reserves the right to change the specifications of its products and the content of its documents without prior notice.

Please check the L-ACOUSTICS® web site on a regular basis to download the latest documents: www.l-acoustics.com.

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1 RIGGING SYSTEM COMPONENTS

The system approach developed by L-ACOUSTICS® consists in providing packaged solutions for loudspeaker system in order to guarantee the highest and most predictable level of performance at any step: modeling, installation, and operation. An L-ACOUSTICS® loudspeaker system is the set of components available to form any loudspeaker system based on one of the full-range loudspeaker enclosure afforded by L-ACOUSTICS®. It includes enclosures, rigging accessories, loudspeaker cables, amplified controllers, and software applications.

The main components involved in the rigging process of an ARCS® WIDE SYSTEM or ARCS® FOCUS SYSTEM are the following:

I.I Loudspeaker enclosures

ARCS® WIDE Full range enclosure, arrayable in a constant curvature line,

provided with 2 WIFORIG coupling bars.

ARCS® FOCUS Full range enclosure, arrayable in a constant curvature line,

provided with 2 WIFORIG coupling bars.

SB18m Subwoofer enclosure

provided with 2 SB18MRIG coupling bars.

I.2 Rigging elements

WIFOBUMP Frame for flying ARCS® WIDE/FOCUS or SB18m enclosures as a vertical array.

Provided with two bow shackles WLL I t.

WIFORIG Coupling bars dedicated to ARCS® WIDE and ARCS® FOCUS.

Equipped with the LOCKTAB locking tab.

Delivered with the enclosures.

SB18MRIG Coupling bars dedicated to SB18m.

Equipped with the LOCKTAB locking tab.

Delivered with the enclosure.

WIFOLIFT Bar for flying two, four, six or eight ARCS® WIDE/FOCUS enclosures as a horizontal array.

Provided with one bow shackle WLL I t and one connecting rod.

WIFOLIFTBAR Bar for flying three, five or six ARCS® WIDE/FOCUS enclosures as a horizontal array.

Provided with one bow shackle WLL I t.

WIFOSOCK Pole mount socket for an ARCS® WIDE/FOCUS enclosure.

CLAMP250 Truss clamp.

WIFOTILT Rigging accessory for stacking and tilting up to 4 ARCS WIFO on SB18m.

1.3 Software application

SOUNDVISION Proprietary 3D acoustical and mechanical modeling software.



Mechanical safety

Before any installation, model the system in SOUNDVISION and check the **Mechanical Data** section for any stress warnings.



Other ARCS® WIDE/FOCUS SYSTEM components

All the other components of the system are presented in the **ARCS**® **WIDE/FOCUS SYSTEM user manual**, document in which the loudspeaker configurations and connection are described.

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Components involved in the rigging process of ARCS® WIDE SYSTEM / ARCS® FOCUS SYSTEM



2 MECHANICAL SAFETY

2.1 Maximum configurations

The ARCS® WIDE/FOCUS rigging system complies with 2006/42/EC: Machinery Directive. It has been designed following the guidelines of BGV-C1.

2006/42/EC: Machinery Directive specifies a safety factor of 4 against the rupture. The limits specified in the tables below correspond to deployments with a safety factor of 4 or higher for flown deployments.

Refer to Soundvision for the safety factor of a specific deployment.

The **safe limit** gives the maximum number of elements for which the safety factor is always compliant with the 2006/42/EC: Machinery Directive, regardless of the other deployment parameters (site angles, inter-enclosure angles, etc.)

The **maximum limit** gives the maximum number of elements for which the safety factor can be compliant with the 2006/42/EC: Machinery Directive, when the other deployment parameters provide the best mechanical conditions.

For mixed arrays refer to your Soundvision model.

Configuration	Rigging accessory	Safe limit	Maximum limit
	WIFOLIFTBAR	5 ARCS® WIDE/FOCUS	6 ARCS® WIDE or 5 ARCS® FOCUS
	WIFOLIFTBAR + CLAMP250	5 ARCS® WIDE/FOCUS	6 ARCS® WIDE or 5 ARCS® FOCUS
	WIFOLIFT		
Flown	WIFOLIFT + CLAMP250	4 ARCS® WIE	DE/FOCUS per WIFOLIFT
	WIFOBUMP	8 ARCS® WII	DE/FOCUS or 4 SB18m
	WIFOBUMP + CLAMP250	6 ARCS® W	IDE/FOCUS or 3 SB18m



6 ARCS® WIDE with WIFOLIFTBAR

When flying 6 ARCS® WIDE enclosures with the WIFOLIFTBAR, only use holes n° 2,3,4,5,6 of the WIFOLIFTBAR.

Other configurations

For other configurations, respect the recommended maximum limit for optimal stability.

Configuration	Rigging accessory	Safe / Maximum limit
	on ground	2 ARCS® WIDE/FOCUS
Ground-stacked	on SB18m	4 ARCS® WIDE/FOCUS
	WIFOTILT	4 ARCS - WIDE/FOCOS
Pole-mounted	WIFOSOCK	I ARCS® WIDE/FOCUS



Maximum 4 ARCS® WIDE/FOCUS under SB18m

In a flown hybrid vertical configuration never attach more than four ARCS® WIDE/FOCUS enclosures under the SB18m subwoofers.



Mechanical safety of the rigging system

Before any installation, always model the system in SOUNDVISION and check the **Mechanical Data** section for any stress warning or stability warning.

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2.2 Assessing mechanical safety

In order to assess the actual safety of any array configuration before implementation, refer to the following warnings:



Rated working load limit (WLL) is not enough

The rated WLL is an indication of the element resistance to tensile stress. For complex mechanical systems such as loudspeaker arrays, WLLs cannot be used per se to determine the maximum number of enclosures within an array or to assess the safety of a specific array configuration.



Mechanical modeling with SOUNDVISION

The working load applied to each linking point, along with the corresponding safety factor, will depend on numerous variables linked to the composition of the array (type and number of enclosures, splay angles) and the implementation of the flying or stacking structure (number and location of flying points, site angle). This cannot be determined without the complex mechanical modeling and calculation offered by SOUNDVISON.



Assessing the safety with SOUNDVISION

The overall safety factor of a specific mechanical configuration always corresponds to the lowest safety factor among all the linking points. Always model the system configuration with the SOUNDVISION software and check the **Mechanical Data** section to identify the weakest link and its corresponding working load. By default, a stress warning will appear when the mechanical safety goes beyond the recommended safety level.



Safety of ground-stacked arrays in SOUNDVISION

For ground-stacked arrays, a distinct stability warning is implemented in SOUNDVISION. It indicates a tipping hazard when the array is not secured to the ground, stage or platform. It is user responsibility to achieve full anchorage and to ignore this warning.



Consideration must be given to unusual conditions

SOUNDVISION calculations are based upon usual environmental conditions. A higher safety factor is recommended with factors such as extreme high or low temperatures, strong wind, prolonged exposition to salt water, etc. Always consult a rigging specialist to adopt safety practices adapted to such a situation.



3 TECHNICAL DESCRIPTION

3.1 Flying

The ARCS WIDE/FOCUS system can using WIFOLIFT or WIFOLIFTBAR depending on two factors:

- number of load-bearing lines,
- number of enclosures.

Follow the indications in this table to know which accessories to use:

•	load-bearing line		2 load-bearing lines
2 or 4 ARCS WIDE / FOCUS	3 or 5 ARCS WIDE / FOCUS	6 ARCS WIDE	6 or 8 ARCS WIDE / FOCUS
I WIFOLIFT	2 WIFOLIFT + I WIFO	LIFTBAR	2 WIFOLIFT

3.1.1 WIFOLIFT



Maximum of four enclosures per WIFOLIFT.

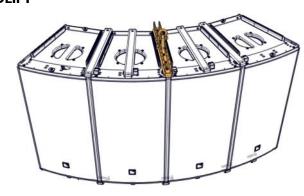
Always use I load-bearing line per pick-up point.

Only lift symmetrical arrays.

Each side of the array must mirror the other.



I WIFOLIFT





No bridled suspension on two WIFOLIFT bars.

Always use I load-bearing line per pick-up point.







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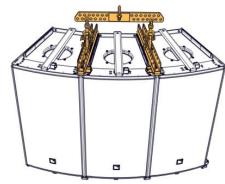
3.1.2 WIFOLIFTBAR

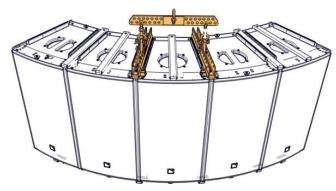


Only lift symmetrical arrays.

Each side of the array must mirror the other.

2 WIFOLIFT and I WIFOLIFTBAR

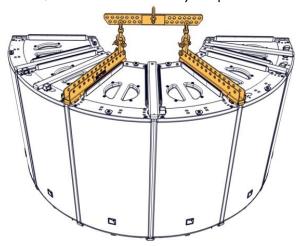






ARCS® WIDE only

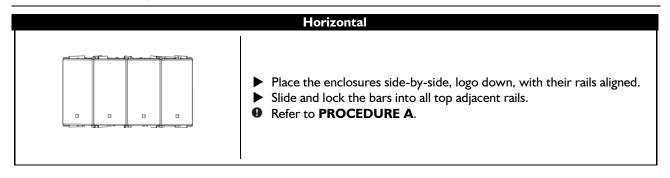
When used with 6 enclosures, the WIFOLIFTBAR is only compatible with ARCS® WIDE.



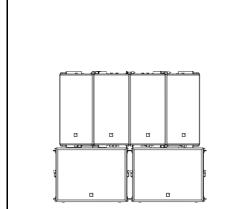


4 SYSTEM SETUP

4.1 Ground-stacking



Horizontal stacked on SB18m



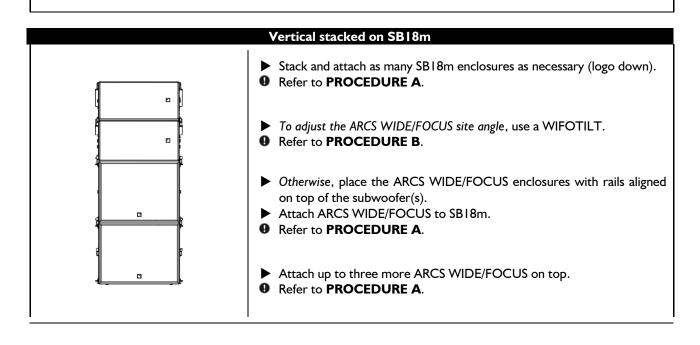


Use safety straps at all times.

Anchor the array since the ARCS WIDE / FOCUS enclosures are not secured to the SB18m.



- ► Stack SB18m horizontally or vertically, logo down.
- If SB18m enclosures are vertically stacked, attach them: refer to PROCEDURE A.
- ▶ Place the ARCS® WIDE/FOCUS enclosures on top of the subwoofers, side-by-side with rails aligned.
- ▶ Slide and lock the WIFORIG bars on the top adjacent ARCS® WIDE/FOCUS rails.
- Refer to PROCEDURE A.



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4.2 Flying



No bridled suspension on two WIFOLIFT bars.

Always use I load-bearing line per pick-up point.

Pullback implementation

By using rigging points at the rear of the installed coupling bars, an ARCS® WIDE/FOCUS horizontal or vertical array can be implemented in pullback configuration. Refer to APPENDIX A PULLBACK IMPLEMENTATION.

Final check before flying the system

Coupling bars: All lugs of locking tabs must be secured, as indicated in PROCEDURE A. <u>Shackles:</u> All safety pins must be secured as indicated in **PROCEDURE D**.

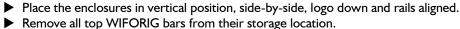


Truss clamping

By installing a CLAMP250 instead of a shackle, an array can be attached to a truss.

Refer to PROCEDURE D Attaching a shackle or CLAMP250.

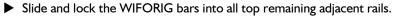




Horizontal 2 or 4 enclosure

Install the WIFOLIFT bar(s). See WIFOLIFT p 9-9.

Refer to **PROCEDURE A**.



Refer to **PROCEDURE A**.

Attach a shackle on each of the WIFOLIFT bars.

Refer to **PROCEDURE D**.

Slightly raise the array.

Remove all bottom WIFORIG bars from their storage location.

Slide and lock WIFORIG bars into all bottom adjacent rails.

Refer to **PROCEDURE A**.

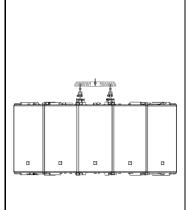


WIFOLIFTBAR positioning

Refer to **WIFOLIFT** on page 9-9.

Hybrid arrays

If you are implementing a hybrid configuration carefully follow the verification procedure outlined in PROCEDURE C Attaching a WIFOLIFTBAR



Horizontal 3, 5 or 6 enclosure

- Place the enclosures in vertical position, side-by-side, logo down and rails aligned.
- Remove all top WIFORIG bars from their storage location.
- Install the WIFOLIFT bar(s).

See **WIFOLIFT** p 9-9 at the beginning of this section.

- Refer to **PROCEDURE A**.
- Slide and lock the WIFORIG bars into all top remaining adjacent rails.
- Refer to **PROCEDURE A**.
- Attach a WIFOLIFTBAR to the two WIFOLIFT.
- 0 Refer to **PROCEDURE C**.
- Attach a shackle or a CLAMP250 to the WIFOLIFTBAR.
- Refer to PROCEDURE D.
- Slightly raise the array.
- Remove all bottom WIFORIG bars from their storage location.
- Slide and lock WIFORIG bars into all bottom adjacent rails.
- Refer to **PROCEDURE A**.





No bridled suspension on the WIFOBUMP frame

Always use I load-bearing line per pick-up point.

Pullback implementation

By using rigging points at the rear of the installed coupling bars, an ARCS® WIDE/FOCUS horizontal or vertical array can be implemented in pullback configuration. Refer to **APPENDIX A PULLBACK IMPLEMENTATION**.

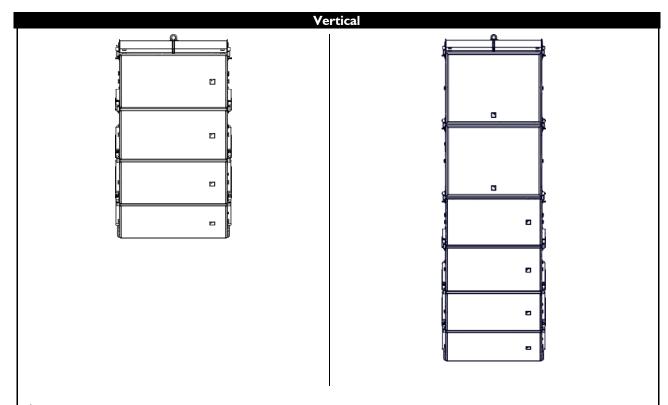
Final check before flying the system

<u>Coupling bars:</u> All lugs of locking tabs must be secured, as indicated in **PROCEDURE A**. <u>Shackles:</u> All safety pins must be secured as indicated in **PROCEDURE D**.



Truss clamping

By installing a CLAMP250 instead of a shackle, an array can be attached to a truss. Refer to **PROCEDURE D**.

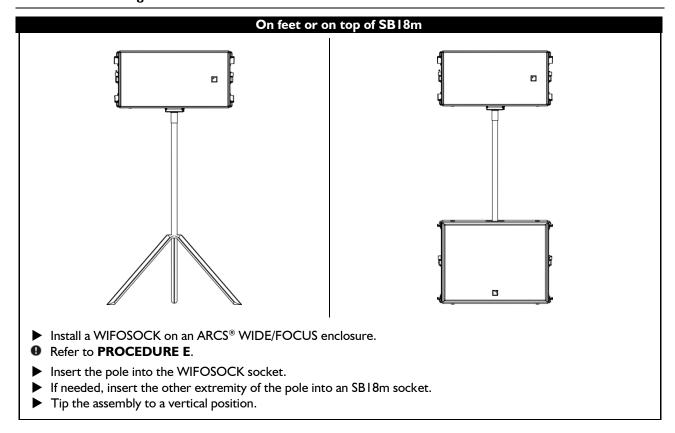


- ▶ Place the first enclosure (WIDE, FOCUS or SB18m) on the floor.
- ▶ For an array with 2 SB18m, place and lock a second SB18m on top of the first one.
- Refer to **PROCEDURE A** to lock the SB18MRIG bars.
- ▶ Remove the top coupling bars from their storage location.
- ▶ Place the WIFOBUMP frame on the top enclosure and lock the coupling bars.
 With an SB18m on top, refer to SOUNDVISION for the frame position (front or rear).
- **9** Refer to **PROCEDURE A** to lock the coupling bars.
- Attach a shackle on the WIFOBUMP.
- Refer to PROCEDURE D.
- ▶ Raise the array so you are comfortable lifting and attaching the next enclosure.
- ▶ Bring the next enclosure and remove the bars from their storage location.
- ▶ With the rigging bar in hand, lift the next enclosure and attach it under the array.
- Refer to PROCEDURE A to lock the coupling bars.
- To add more enclosures, repeat the previous 3 steps until the array is completed.

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4.3 Pole-mounting



0

Dismantling the system

Identify the array to dismount and apply the associated System setup procedure in reversed order.



5 SUBSET PROCEDURES

PROCEDURE A Locking a rigging bar (WIFORIG, SB18MRIG or WIFOLIFT)

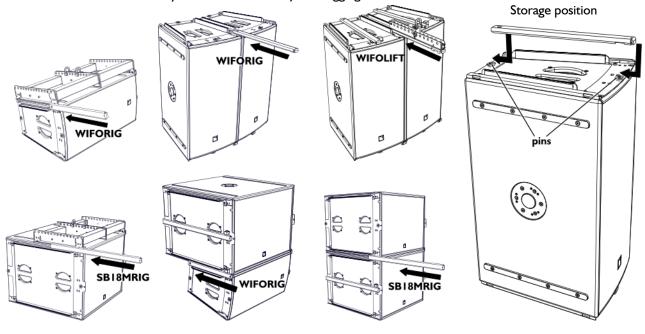


Coupling bars and SBI8m

Only use the longer SB18MRIG bars stored on the SB18m subwoofers to attach SB18m to another SB18m or to a WIFOBUMP.

The shorter WIFORIG bars do not ensure the mechanical safety of these connections.

- I. Remove the bar from its storage location.
- 2. From the front of the array, slide the bar into adjacent rigging rails.

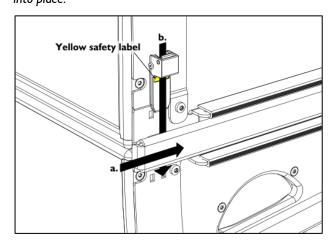


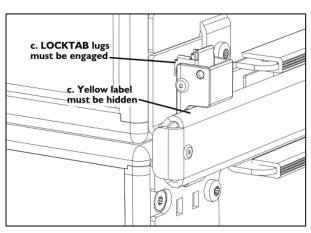
B. Secure the bar with the locking tab.

Accurately position the bar by pushing it into place.

Pinch the spring tongue and slide the locking tab until it snaps into place.

When encountering difficulty, try to slide the tab from the other side.







Always check that the yellow label is fully covered to ensure the locking tabs are fully engaged.

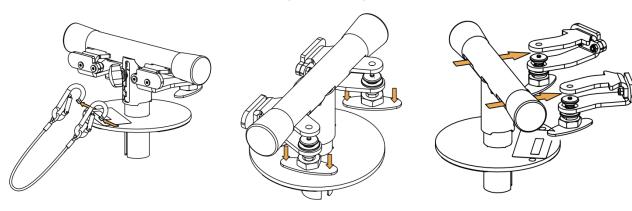
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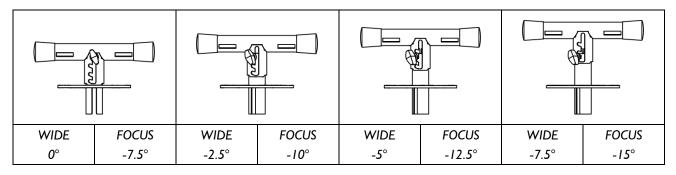
PROCEDURE B

Using WIFOTILT to adjust ARCS WIDE/FOCUS site angle

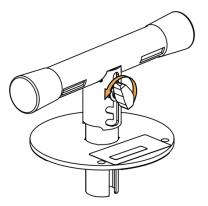
Remove the locking tabs and sling from WIFOTILT.



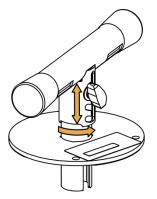
Adjust WIFOTILT angle.



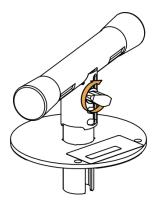
Loosen the knob.



Select the angle and notch the corresponding slit on the knob screw.



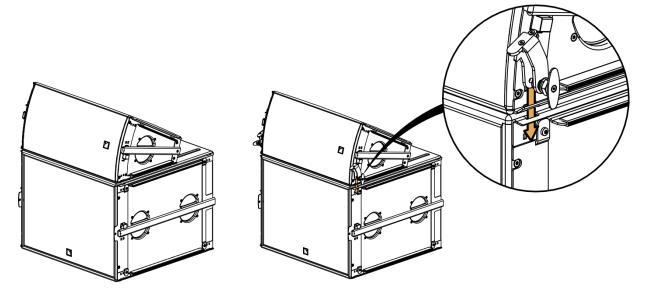
Turn the T-shape support and tighten the knob.



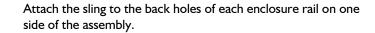


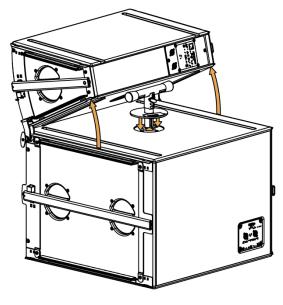
the SBI8m with rails aligned.

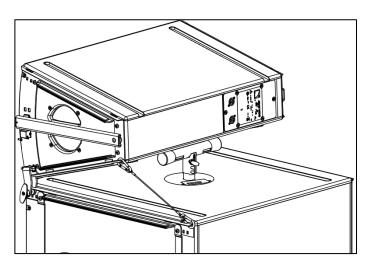
Position the first ARCS WIDE / FOCUS on Slide the WIFOTILT tabs through the holes at the front of both enclosures rails.



Lift the back of ARCS WIDE / FOCUS and place the WIFOTILT in the SBI8m pole socket.







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PROCEDURE C Attaching a WIFOLIFTBAR

5.1.1 Description

The WIFOLIFTBAR is a rigging accessory used to fly 3 or 5 ARCS® WIDE/FOCUS or 6 ARCS® WIDE.

It is used with two WIFOLIFT that are positioned on the array depending on the number of enclosures, **WIFOLIFT p** 9-9.

The WIFOLIFTBAR is composed of a metal bar with two rows of 15 holes and 2 swivel shackles. It can be used with a bow shackle WLL I t or a CLAMP250 attached to one of the two central holes. The swivel shackles can be attached the other 28 holes to connect the WIFOLIFTBAR to the two WIFOLIFT.

5.1.2 Tilt angle definition and rigging holes choice

The tilt angle of an array is defined by the holes selected on the WIFOLIFT.

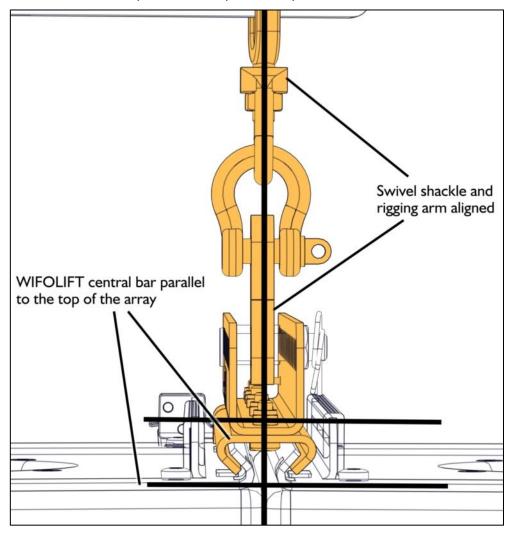
For homogeneous arrays (ARCS® WIDE *or* FOCUS), refer to the <u>Tilt angle reference chart</u> on the next page to define which WIFOLIFT holes correspond to your target tilt angle and which WIFOLIFTBAR holes to use.

For example, rigging a three ARCS® FOCUS array on holes n° I on the WIFOLIFT yield a 26.5° positive angle and requires attaching the swivel shackles to holes n° 2 on the WIFOLIFTBAR.

For hybrid arrays (ARCS® WIDE *and* FOCUS), a trial-and-error process must be applied to define the appropriate WIFOLIFT and WIFOLIFTBAR holes.

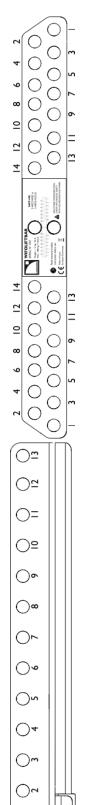
The goal is to reduce the stress on the WIFOLIFT to a minimum:

- the rigging arm and the swivel shackle must be aligned
- the WIFOLIFT bar must remain parallel to the top of the array.





Tilt angle reference chart WIFOLIFTBAR



	3 ARCS® FOCUS	SOS	3 ARCS® WIDE	DE	5 ARCS® FOCUS	SOS	5 ARCS® WIDE	DE	6 ARCS® WIDE	DE
WIFOLIFT hole	WIFOLIFTBAR HOLE	Tilt angle	WIFOLIFTBAR HOLE	Tilt	WIFOLIFTBAR HOLE	Tilt angle	WIFOLIFTBAR HOLE	Tilt	WIFOLIFTBAR HOLE	Tilt angle
_	2	26,5°	2	26,0°	2	32,3°	_	34,7°		
2	3	21,6°	3	21,8°	3	28,0°	2	30,9°		
ε	3	°9′21	4	°6'21	3	24,4°	3	27,5°		
4	4	13,4°	5	13,8°	4	20,4°	4	23,9°		
5	2	°0,6	9	°5'6	4	16,4°	5	°2,02		
9	2	4,8°	7	4,4°	5	12,1°	9	ا 9'3°		
7	9	0,2°	8	١,١°	5	7,8°	7	12,4°		
8	9	-4,4°	6	-3,2°	6	3,3°	6	8,2°		
6	7	-8,9°	10	-7,4°	6	-1,3°	10	4,0°	2	5,1°
01	7	-13,1°	Π	-11,7°	7	-5,7°	П	-0°1°	3	I ,4°
П	8	-17,3°	12	-15,7°	7	-10,0°	12	-4,3°	4	-2,2°
12	8	-21,4°	13	-19,7°	8	-14,4°	13	-8,8°	5	-5,7°
13	6	-25,0°	4	-23, I°	8	-18,2°	41	-12,5°	9	°£'6-

RIGGING MANUAL

VERSION 8.0

5.1.3 Procedure

If you are raising a hybrid array (ARCS® WIDE and FOCUS), follow these steps:

Select the WIFOLIFT and WIFOLIFTBAR holes to define a starting point.

The values given in the Tilt angle reference chart can be used as a guideline.

Select the array which composition is the closest to your hybrid array and use the indicated WIFOLIFT and WIFOLIFTBAR.

For example, to reach a 0,2° tilt angle with an array of 2 ARCS® WIDE and 1 ARCS® FOCUS, refer to the 3 ARCS® WIDE array and use WIFOLIFT hole n° 7 and WIFOLIFTBAR hole n° 8.

- 2. Attach two swivel shackles to the indicated holes on a WIFOLIFTBAR.
- 3. Attach the WIFOLIFTBAR to the indicated hole on the two WIFOLIFT.
 - a. Attach a rigging arm to the selected hole on each WIFOLIFT by driving and securing the pierced bolt.
 - b. Pass the U-shaped part of the shackle through the swivel shackle loop.
 - c. Attach the bow shackle to the arm.
 - d. Secure the shackle.
- 4. Raise the array so you can measure the angle.

If you are not satisfied, lower the array to the ground and adjust the angle by picking another hole.

If you are satisfied with the angle, continue.



Risk of fall.

The WIFOLIFT must be parallel to the top of the array. Any other situation creates mechanical stress and can cause the WIFOLIFT to pop out.

5. Verify that the central bar of the two WIFOLIFT is parallel to the top of the array.

If it is parallel, the array is ready.

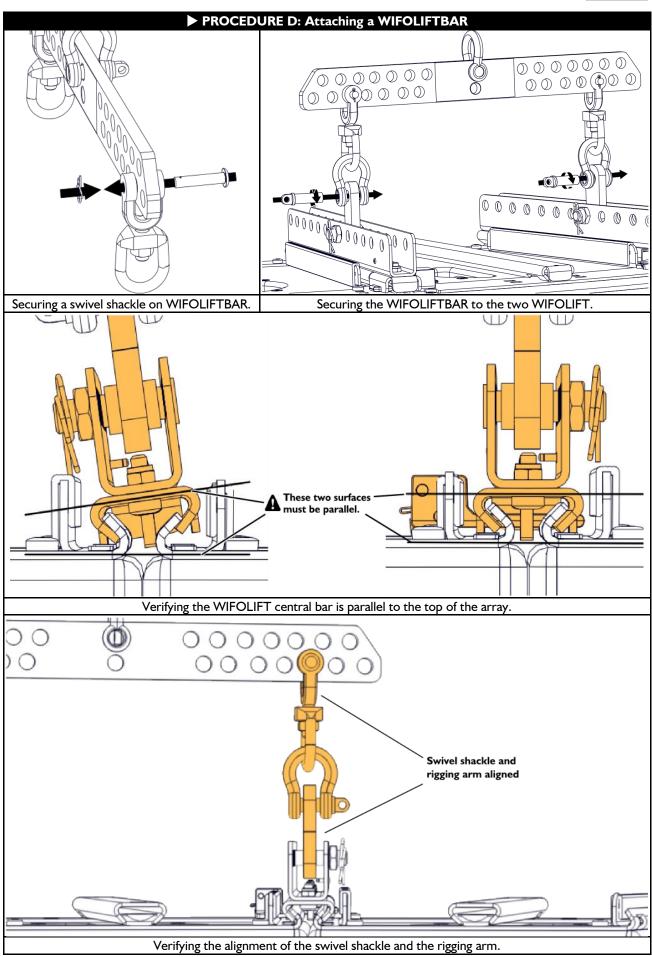
If it is not parallel, follow these steps:

- a. Lower the array to the ground.
- b. Change the swivel shackles rigging holes on the WIFOLIFTBAR so that the rigging arm and the swivel shackle form a straight line.
- c. Repeat step 5 until the central bar of the WIFOLIFT is parallel to the top of the array.

If you are raising an homogeneous array,

- 1. Select the appropriate WIFOLIFT and WIFOLIFTBAR holes using the <u>Tilt angle reference chart</u> on the previous page
- 2. Attach two swivel shackles to the indicated holes on a WIFOLIFTBAR.
- 3. Attach the WIFOLIFTBAR to the indicated hole on the two WIFOLIFT.
 - a. Attach a rigging arm to the WIFOLIFT hole by driving and securing the pierced bolt.
 - b. Pass the U-shaped part of the shackle through the swivel shackle loop.
 - c. Attach the bow shackle to the arm.
 - d. Secure the shackle.



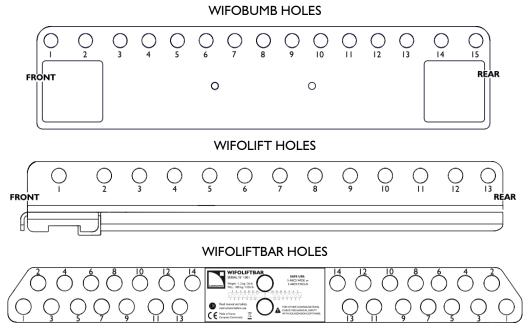


RIGGING MANUAL

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PROCEDURE D Attaching a shackle or CLAMP250

1. Refer to **SOUNDVISION** modeling or to the table in **APPENDIX B TILT ANGLE REFERENCE CHART** to identify the hole that corresponds to the targeted tilt angle.



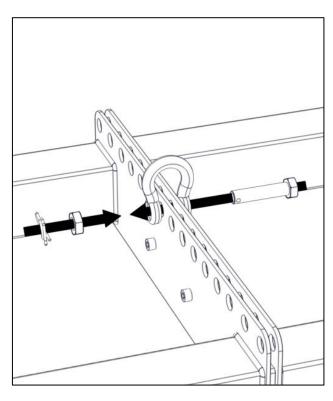
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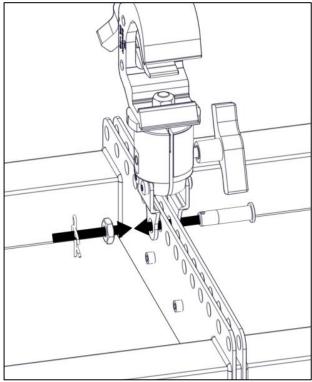
About site angle

Since many variables can affect the actual site angle, it is recommended to use an inclinometer.

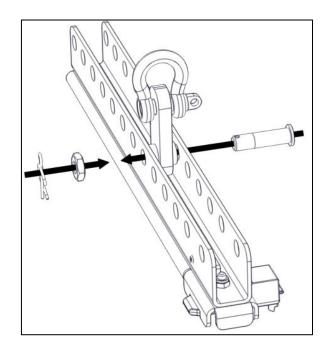
Attach and secure a shackle or a CLAMP250 to the identified hole, by driving the pierced bolt.

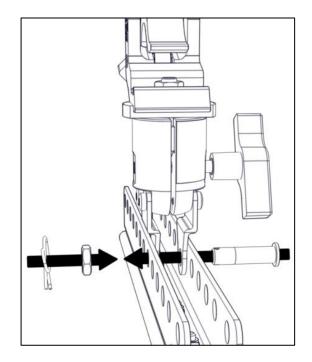
With a CLAMP250, install safety slings between the KIBU-SB and the truss.

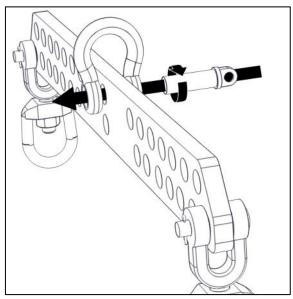


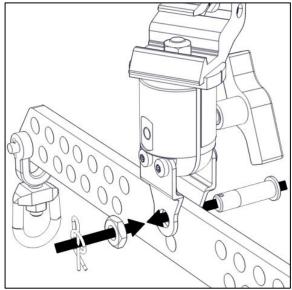










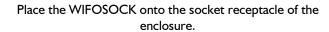


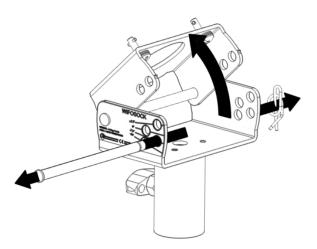
RIGGING MANUAL

VERSION 8.0

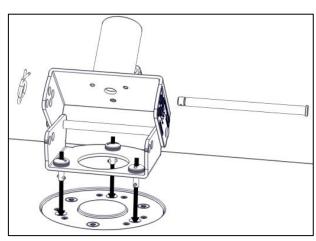
PROCEDURE E Mounting the WIFOSOCK

Remove the pin from the angle hole.

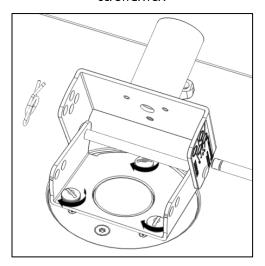


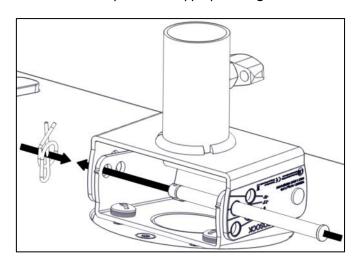


Secure the WIFOSOCK by applying a quarter-turn rotation to the three screws, with a coin or a screwdriver.



Insert the pin into the appropriate angle hole.





Possible angles on the WIFOSOCK



Selected angle on	Realized	site angle
WIFOSOCK	ARCS® WIDE	ARCS® FOCUS
-15,0°	0,0°	-7,5°
-7,5°	7,5°	0,0°
0,0°	15,0°	7,5°
7,5°	22,5°	15,0°



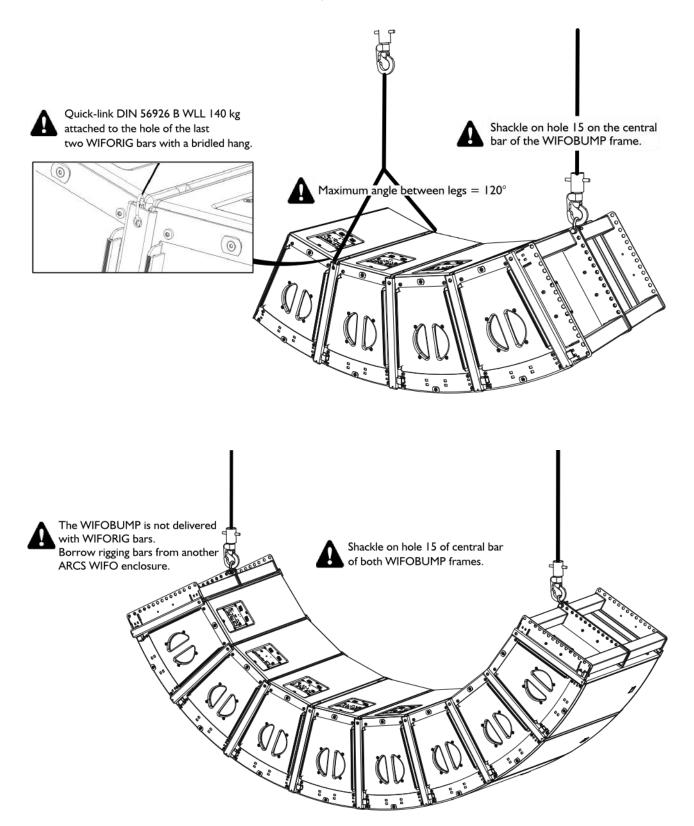
APPENDIX A PULLBACK IMPLEMENTATION

A. Vertical Array



Maximum configurations.

2 or 4 ARCS® WIDE/FOCUS enclosures array for 1 WIFOBUMP frame. 6 or 8 ARCS® WIDE/FOCUS enclosures array for 2 WIFOBUMP frames.



RIGGING MANUAL

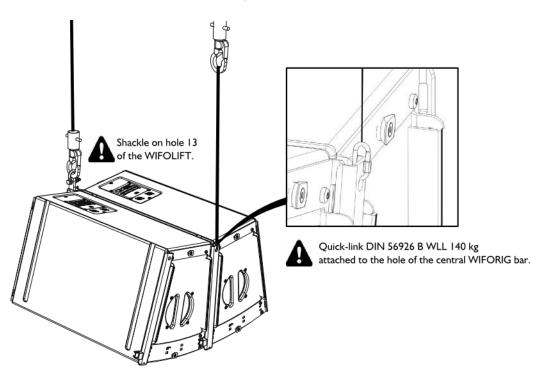
VERSION 8.0

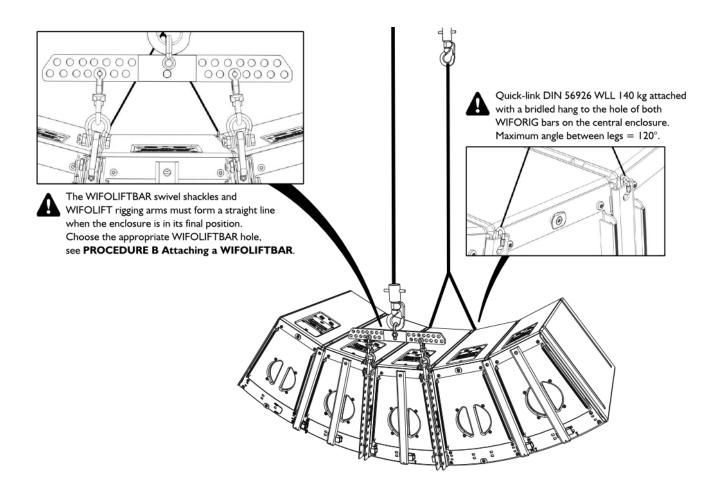
B. Horizontal array



Maximum configurations.

2 or 4 ARCS® WIDE/FOCUS enclosures array for 1 WIFOLIFT.
3 or 5 ARCS® WIDE/FOCUS enclosures array for 2 WIFOLIFT and 1 WIFOLIFTBAR.







APPENDIX B TILT ANGLE REFERENCE CHARTS

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Tilt angle reference chart WIFOLIFT	0^	
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2 A FO	2 ARCS [®] FOCUS	2 ARCS® WIDE	4 ARCS® FOCUS	4 ARCS® WIDE	6 ARCS® FOCUS	6 ARCS® WIDE	8 ARCS® FOCUS	8 ARCS® WIDE
26,4°	ا ه	26,6°	30,7°	33,4°	37,3	33,1	27,0°	18,1°
21	21,3°	21,6°	26, I°	29, I°	33,7	29,5	22,8°	15,4°
12	17,2°	17,5°	22,3°	25,5°	30,6	26,5	19,3°	13,2°
	12,9°	13,1°	18,2°	21,6°	27,3	23,4	15,7°	°0'11
ω	8,4°	8,7°	14,0°	°9′21	23,8	20,0	12,0°	8,8°
(*)	3,8°	4,1°	°9,6	13,3°	20,1	16,6	8,2°	6,5°
7	-0,9°	°5′0-	5,1∘	8,9°	16,2	13,0	4,2°	4,2°
'	-5,5°	-5,2°	°5'0	4,4°	12,2	6,3	0,3°	°6'I
1	-10,1°	∘2'6-	-4, I°	-0,2°	8,1	5,5	-3,7°	-0,4°
ı	-14,5°	-14,2°	°9,6-	-4,7°	3,8	1,7	-7,6°	-2,7°
1	-18,8°	-18,4°	-13,1°	-9,3°	-0,5	-2,2	-11,4°	°0,5-
7-	-22,9°	-22,5°	-17,4°	-13,7°	-4,8	0,6-	-15,2°	-7,3°
``	-26,4°	-26,1°	-21,2°	-17,6°	-8,7	5,6-	-18,5°	°£'6-

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Tilt angle reference chart WIFOLIFTBAR

WIDE	Tilt angle								
6 ARCS®	WIFOLIFTBAR HOLE								
DE	Tilt angle	34,7°	30,9°	27,5°	23,9°	20,2°	ا6,3°	12,4°	8,2°
5 ARCS [®] WII	WIFOLIFTBAR HOLE	_	2	3	4	5	9	7	6
sns	Tilt angle	32,3°	28,0°	24,4°	20,4°	16,4°	ا 2 , ا °	°8,7	3,3°
5 ARCS® FOC	WIFOLIFTBAR HOLE	2	3	3	4	4	5	5	9
)E	Tilt angle	26,0°	°8'17	°6,71	اع'8،	°5,6	°4,4	۰۱٬۱	-3,2°
3 ARCS® WII	WIFOLIFTBAR HOLE	2	3	4	5	9	7	8	6
SO	Tilt angle	26,5°	°9′17	.9'21	13,4°	°0,6	4,8°	0,2°	-4,4°
3 ARCS® FOC	WIFOLIFTBAR HOLE	2	ε	ε	4	5	5	9	9
	WIFOLIFT hole	-	2	٤	4	5	9	7	8
	3 ARCS® FOCUS 5 ARCS® WIDE 5 ARCS® WIDE 6 ARCS® WIDE	3 ARCS® FOCUS 3 ARCS® WIDE 5 ARCS® FOCUS 5 ARCS® FOCUS 5 ARCS® WIDE 6 ARCS® WIE WIFOLIFTBAR Tilt WIFOLIFTBAR Tilt WIFOLIFTBAR Tilt WIFOLIFTBAR Tilt WIFOLIFTBAR Tilt WIFOLIFTBAR HOLE Angle HOLE HOLE Angle HOLE HOLE Angle HOLE HOLE Angle HOLE HOLE	3 ARCS® WIDE 5 ARCS® WIDE 5 ARCS® WIDE 6 ARCS® WIDE WIFOLIFTBAR Tilt WIFOLIFTBAR Tilt WIFOLIFTBAR Tilt WIFOLIFTBAR HOLE HOLE angle HOLE angle HOLE HOLE 2 26.5° 2 35.3° I 34.7°	3 ARCS® WIDE5 ARCS® FOCUS5 ARCS® WIDE6 ARCS® WIDEWIFOLIFTBAR HOLETilt angleWIFOLIFTBAR HOLETilt angleWIFOLIFTBAR HOLETilt angleWIFOLIFTBAR HOLETilt angleWIFOLIFTBAR HOLETilt angleWIFOLIFTBAR HOLETilt angleWIFOLIFTBAR HOLETilt angleWIFOLIFTBAR HOLETilt angleWIFOLIFTBAR HOLETilt angleWIFOLIFTBAR HOLETilt angleWIFOLIFTBAR HOLETilt angleWIFOLIFTBAR HOLETilt angleWIFOLIFTBAR HOLETilt angleWIFOLIFTBAR HOLETilt angleWIFOLIFTBAR HOLETilt angleWIFOLIFTBAR 	3 ARCS® WIDE 5 ARCS® FOCUS 5 ARCS® FOCUS 5 ARCS® WIDE 6 ARCS® WIDE GARCS® WIDE 6 ARCS® WIDE 6 ARCS® WIDE GARCS® WIDE 6 ARCS® WIDE ARCS® WIDE <th>3 ARCS® MIDE 5 ARCS® FOCUS 5 ARCS® MIDE 5 ARCS® MIDE 5 ARCS® MIDE 6 ARCS® MIDE ARCS® MIDE</th> <th>3 ARCS® MIDE 5 ARCS® FOCUS 5 ARCS® MIDE 6 ARCS® MIDE MIFOLIFTBAR TIII MIFOLIFTBAR TIII</th> <th>3 ARCS® MIDE 5 ARCS® FOCUS 5 ARCS® MIDE 5 ARCS® MIDE 5 ARCS® MIDE 6 ARCS® MIDE ARCS MIDE ARCS</th> <th>AMECS® MIDE 5 ARCS® FOCURE NOT 5 ARCS® MIDE 6 ARCS® MIDE ARCS MIDE A</th>	3 ARCS® MIDE 5 ARCS® FOCUS 5 ARCS® MIDE 5 ARCS® MIDE 5 ARCS® MIDE 6 ARCS® MIDE ARCS® MIDE	3 ARCS® MIDE 5 ARCS® FOCUS 5 ARCS® MIDE 6 ARCS® MIDE MIFOLIFTBAR TIII MIFOLIFTBAR TIII	3 ARCS® MIDE 5 ARCS® FOCUS 5 ARCS® MIDE 5 ARCS® MIDE 5 ARCS® MIDE 6 ARCS® MIDE ARCS	AMECS® MIDE 5 ARCS® FOCURE NOT 5 ARCS® MIDE 6 ARCS® MIDE ARCS MIDE A

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Tilt angle reference chart WIFOBUMP (homogeneous arrays)

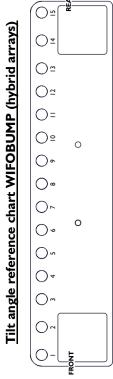


WIFOBUMP hole	I ARCS® FOCUS	I ARCS® WIDE	2 ARCS® FOCUS	2 ARCS® WIDE	4 ARCS® FOCUS	4 ARCS® WIDE	6 ARCS® FOCUS	6ARCS® WIDE	8 ARCS® FOCUS	8 ARCS® WIDE
_	47,9°	51,4°	35,4°	43,0°	32,3°	48,1°	°0,08	°0,06	43,8°	71,8°
2	43,0°	46,6°	31,6°	39,3°	30,1°	46,0°	58,7°	58,7°	42,7°	71,1°
3	37,1°	40,7°	27,4°	35,2°	27,8°	43,8°	57,4°	57,4°	41,6°	70,3°
4	31,5°	34,9°	23,8°	31,4°	25,8°	41,8°	56,2°	56,2°	40,6°	°9,69
5	25, I°	28,2°	19,9°	27,2°	23,7°	39,7°	54,9°	54,9°	39,6°	68,8°
9	°6,71	20,5°	ا5,8°	22,8°	°9′112	37,5°	53,6°	53,6°	38,6°	°0,88
7	10,2°	°6'11	۱۱,5°	.0'81	°4,61	35,1°	52,2°	52,2°	37,6°	67,2°
8	2,0°	2,8°	7,1°	12,9°	17,1°	32,5°	°9′05	50,6°	36,5°	66,2°
6	-6,2°	-6,5°	2,6°	7,7°	14,8°	29,8°	49,0°	49,0°	35,4°	65,2°
01	-14,2°	-15,4°	-1,9°	2,3°	12,4°	27,0°	47,2°	47,2°	34,3°	64,1°
П	-21,7°	-23,7°	-6,4°	-3,2°	°0,01	23,9°	45,3°	45,3°	33, I°	62,9°
12	-28,4°	-31,0°	-10,8°	-8,5°	7,6°	20,8°	43,3°	43,3°	32,0°	61,7°
13	-34,5°	-37,3°	-15,1°	-13,8°	5,1°	17,5°	41,1°	41,1°	30,7°	60,2°
4	-40,7°	-43,8°	-20, I°	-19,8°	2,1°	13,4°	38,3°	38,3°	29,2°	58,4°
15	-46,0°	-49,1°	-24,7°	-25,4°	°0,1-	6'ا،	35,3°	35,3°	27,6°	56,3°

= not applicable with the CLAMP250

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	2 SB18m and 4 ARCS® FOCUS	ARCS® FOCUS	2 SB18m and 4 ARCS® WIDE	ARCS® WIDE	I SB18m and 2 ARCS® FOCUS	ARCS® FOCUS	I SB18m and 2 ARCS® WIDE	ARCS® WIDE
WIFOBUMP hole	Front position	Rear position	Front position	Rear position	Front position	Rear position	Front position	Rear position
-	ا 6,8 °	4,5°	20,7°	7,3°	24, I°	0,9°	26,6°	2,4°
2	15,4°	3,0°	ا6'ا°	5,6°	21,5°	-2, I °	24,0°	-0,8°
ε	14,0°	۱,4°	°9′.	3,9°	18,9°	-5,0°	21,3°	-3,9°
4	12,8°	0,1°	،8,3°	$2,4^{\circ}$	16,7°	-7,5°	°0,61	-6,6°
5	11,5°	۰۱٬۱۰	°0,51	1,0°	14,4°	-9,9°	16,6°	-9,1°
9	10,3°	-2,4°	13,6°	-0,4°	12,1°	-12,2°	14,2°	-11,7°
4	°0,9	-3,7°	12,3°	-1,8°	9,7°	-14,6°	11,7°	-14,2°
8	7,8°	-5,0°	°6'0I	-3,3°	7,3°	-16,9°	9,1°	-16,6°
6	6,5°	-6,3°	9,5°	-4,7°	4,8°	-19,1°	6,5°	°0,91-
01	5,3°	-7,5°	8,1°	-6, I°	2,4°	-21,3°	3,9°	-21,3°
Ш	4,0°	°8,8-	6,7°	-7,5°	-0,1°	-23,4°	1,3°	-23,6°
12	2,7°	°0,01-	5,3°	-8,9°	-2,6°	-25,4°	-1,3°	-25,8°
13	۱,4°	-11,3°	3,9°	-10,3°	°0′5-	-27,4°	-3,9°	-27,9°
4	-0,1°	-12,7°	2,1°	-12,0°	-8,0°	-29,7°	-7,1°	-30,3°
15	-1,7°	-14,2°	0,4°	-13,6°	-10,9°	-31,9°	-10,2°	-32,6°



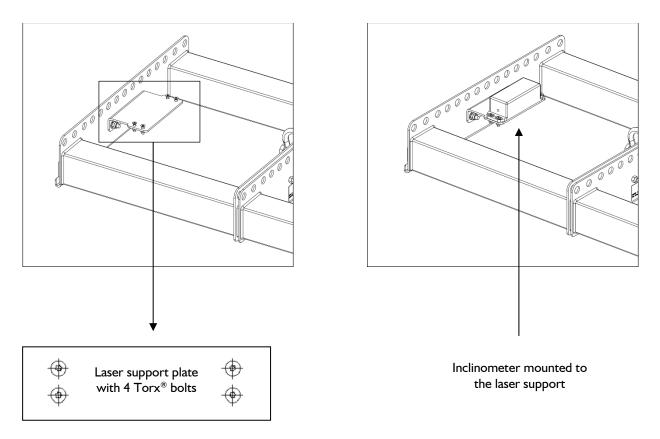
APPENDIX C INCLINOMETER MOUNTING

A laser support plate has been integrated inside the WIFOBUMP for optional inclinometer/laser device mounting. It is compatible with three inclinometer models: TEQSAS® LAP-TEQ PLUS (part of the **L-ACOUSTICS® TECH TOOLCASE** - refer to the TECH TOOLCASE Product spec sheet), TEQSAS® LAP-TEQ (legacy model) and KSG® RECLINE Compact.



LAP-TEQ / LAP-TEQ PLUS sensor and display compatibility

The legacy LAP-TEQ sensors are compatible with the new TEQSAS® LAP-TEQ PLUS displays. Conversely, the new sensors are **not** compatible with the legacy displays.



Laser support plate with LAP-TEQ inclinometer

Sensor mounting procedure

Required tools

- handheld inclinometer (available in the TECH TOOLCASE)
- electric screwdriver with torque selector (N.m or in.lbf)
- T20 Torx® bit
- 7 mm hex key
- XLR cable

Procedure

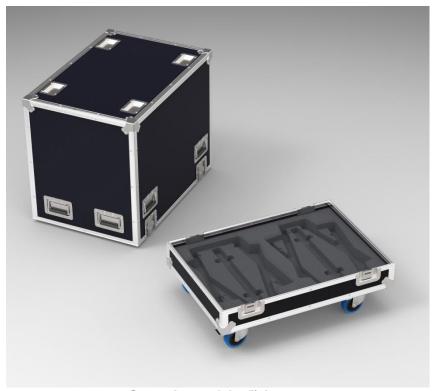
- I Place the WIFOBUMP on a flat horizontal surface (use the handheld inclinometer).
- 2 Unscrew the four Torx® bolts from the laser support plate (T20 bit, 7 mm hex key).
- 3 Mount the sensor on the laser support plate with laser lens towards the M-BUMP slits.
- 4 Screw the 4 Torx® bolts to the sensor and plate (T20 bit, 7 mm hex key, 3 N.m / 27 in.lbf).
- 5 Connect an XLR cable to the sensor.
- 6 Calibrate the sensor by following the manufacturer's recommendations.

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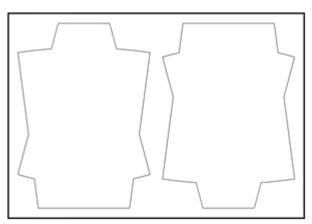
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APPENDIX D RECOMMENDED FLIGHT-CASE

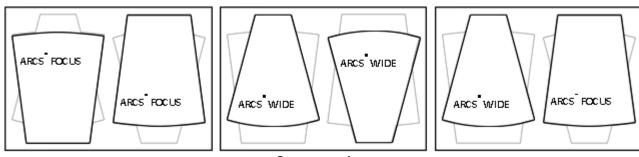
It is recommended to use a dedicated flight-case capable to fit 2 ARCS® WIDE/FOCUS enclosures in vertical position. Both the tray and cap should feature a foam insert cut according to the pattern illustrated below. This one allows for the different enclosure combinations: 2 ARCS® WIDE, 2 ARCS® FOCUS or I ARCS® WIDE / I ARCS® FOCUS.



Cap and tray of the flight-case



Pattern of the foam insert for the cap and the tray



Storage options



APPENDIX E SPECIFICATIONS

ARCS® FOCUS

Description	2-way passive enclosure, amplified by LA4 / LA4X / LA8 / LA12X		
Usable bandwidth (-10 dB)	55 Hz - 20 kHz ([ARCS_WIFO] preset)		
Maximum SPL ¹	I 39 dB ([ARCS_WIFO] preset)		
Coverage angle (-6 dB)	15° × 90°		
	LF I \times 3" diaphragm compression driver, DOSC $^{\otimes}$ waveguide.		
Transducers	HF I \times I2", weather-resistant, bass-reflex.		
Nominal impedance	$LF = 8 \Omega$		
RMS power handling	450 W		
Connectors	IN: I × 4-point SpeakOn® LINK: I × 4-point SpeakOn®		
Rigging components	Rigging rails and WIFORIG rigging bars.		
Dimensions 252 mm / 9.9 in 365 mm / 14.4 in Weight (net): 38 kg / 84 lb			
Cabinet: Finish: Front:			
	on Rating: IP45		
	component: High strength steel with anti-corrosion coating		

Rigging component: High strength steel with anti-corrosion coating

1 Peak level measured at 1 m under free field conditions using pink noise with crest factor 4 (preset specified in brackets).

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ARCS® WIDE

Description	2-way passi	ve enclosure, amplified by LA4 / LA4X / LA8 / LA12X		
Usable bandwidth (kHz ([ARCS WIFO] preset)		
Maximum SPL ¹	· · · · · · · · · · · · · · · · · · ·	RCS WIFO] preset)		
Coverage angle (-6	`-			
	LF I × 3" di	LF I × 3" diaphragm compression driver, DOSC® waveguide.		
Transducers	HF I × I2"	HF I × I2" , weather-resistant, bass-reflex.		
Nominal impedance	8 Ω			
RMS power handlin	g 450 W	450 W		
Connectors		IN: I × 4-point SpeakOn [®] LINK: I × 4-point SpeakOn [®]		
Rigging component		Rigging rails and WIFORIG rigging bars.		
Dimensions	759 mm / 29.9 Weight (net):	140 mm / 5.5 in 365 mm / 14.4 in		
Physical data	Cabinet: Finish: Front:	Baltic birch plywood. Grey brown RAL 8019® or Pure white RAL 9010® Steel grill with anti-corrosion coating, Airnet® fabric		
		IP45		
	Protection Rating:	5		
	Rigging component:	g pink noise with crest factor 4 (preset specified in brackets).		

Peak level measured at 1 m under free field conditions using pink noise with crest factor 4 (preset specified in brackets).



SB18m

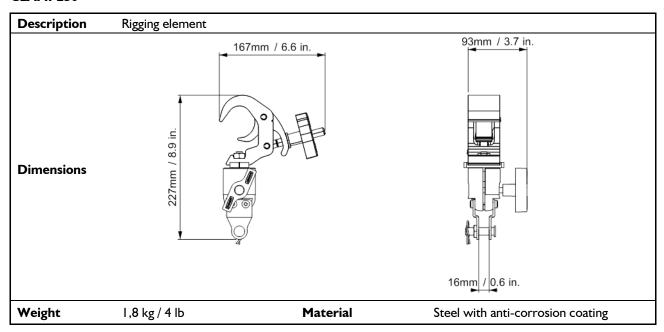
Description		Subwoofer enclosure, amplified b	y LA4 / LA4X / LA8 / LA12X	
Low frequency limit (-10 dB)		32 Hz ([SB18_100] preset)		
Maximum SPL ¹		138 dB ([SB18] preset)		
RMS power handling		700 W		
Transducers		$I \times I8$ " weather resistant, dual ba	ass-reflex	
Nominal impedance		8 Ω		
Connectors		IN: I × 4-point SpeakOn® LINK: I × 4-point SpeakOn®		
Rigging components		Rigging rails and two SB18RIG rig	ging bars.	
Dimensions		759 mm / 29.9 in BOTTOM	717 mm / 28.2 in	
	* 	FRONT	SIDE	
Physical data	Weight (net)	: 62 kg/137 lbs		
	Cabinet:	Baltic birch plywood		
	Finish:	Grey brown, RAL 80 RAL code on special	19® or Pure white, RAL 9010®	
	Front:	Steel grill with anti-co Airnet® acoustically r	orrosion coating	
	Protection R			
	Rigging com	oonent: High strength steel		
Peak level measured at 1 m under free field conditions using pink noise with crest factor 4 (preset specified in brackets).				

Peak level measured at 1 m under free field conditions using pink noise with crest factor 4 (preset specified in brackets).

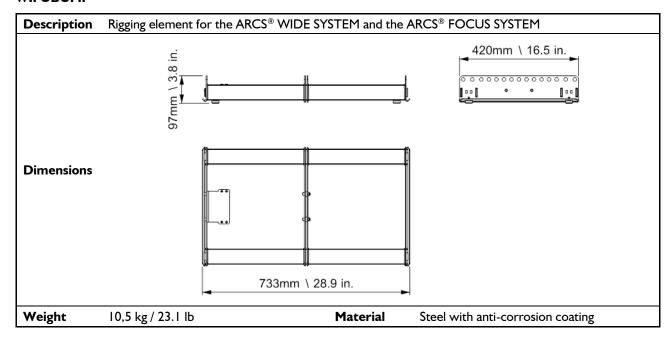
RIGGING MANUAL

VERSION 8.0

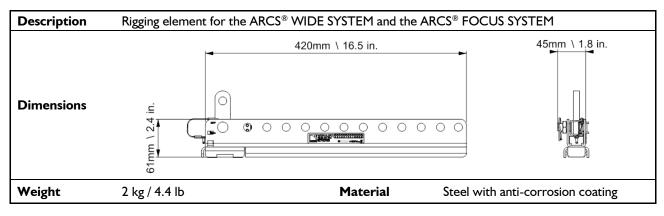
CLAMP250



WIFOBUMP

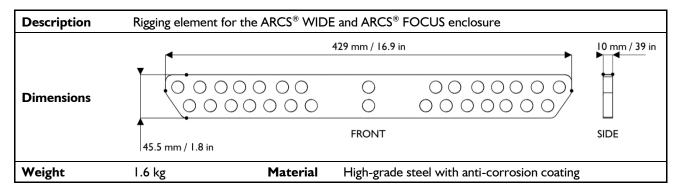


WIFOLIFT

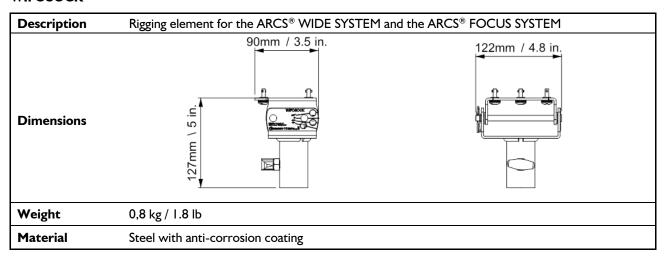




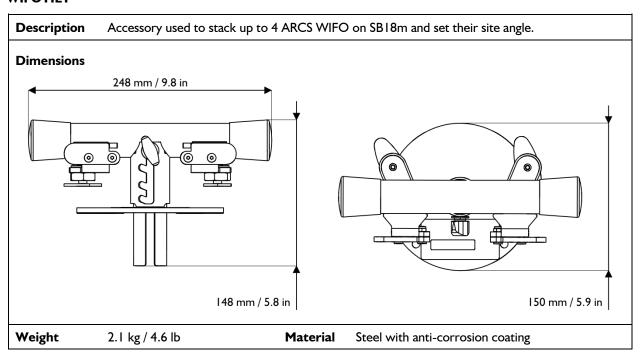
WIFOLIFTBAR



WIFOSOCK



WIFOTILT





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