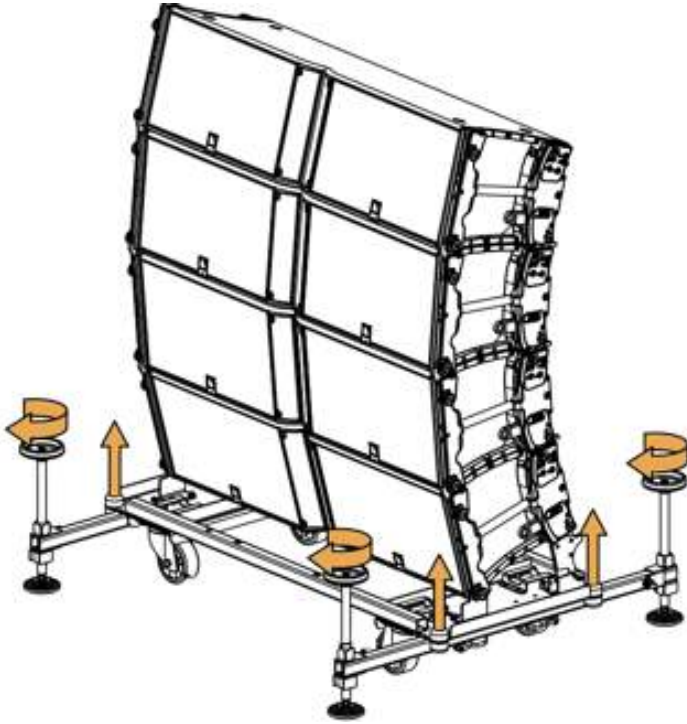


5. Rotate the feet clockwise to raise the K2-CHARIOT off the ground.
Stop raising the stack as soon as the wheels get off the ground.



D - Changing the position of the K2-CHARIOT rear rigging arm

min number of operators	2
-------------------------	---

Procedure

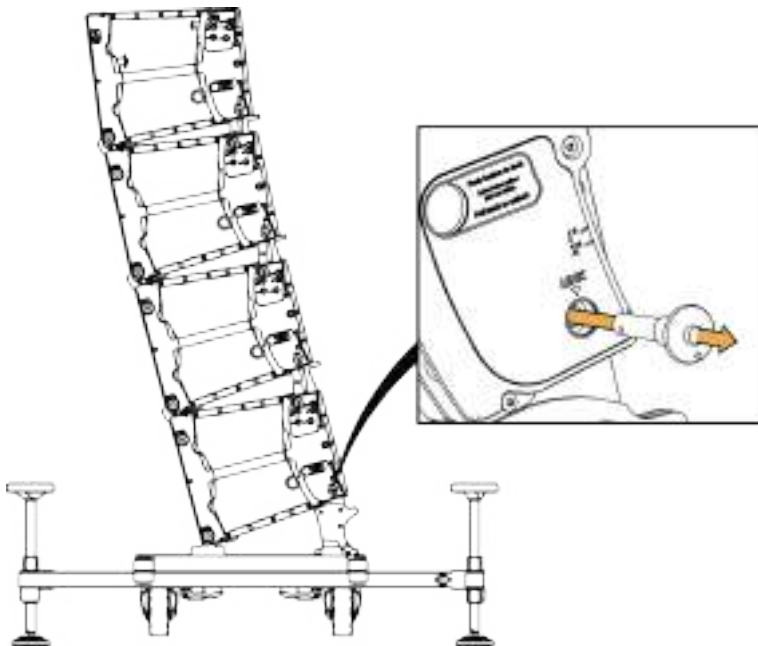


Tipping hazard

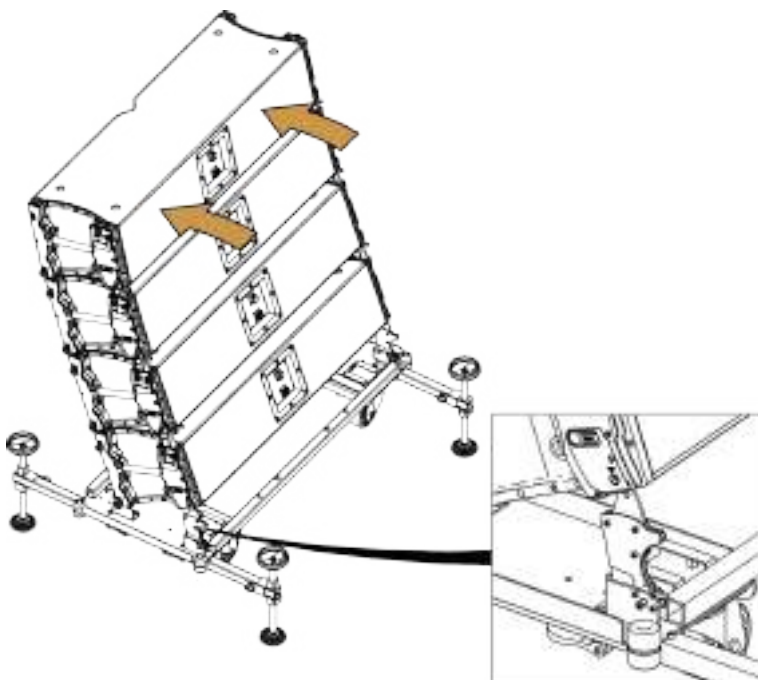
When the rear rigging arms are unpinned, hold the enclosures on both sides.



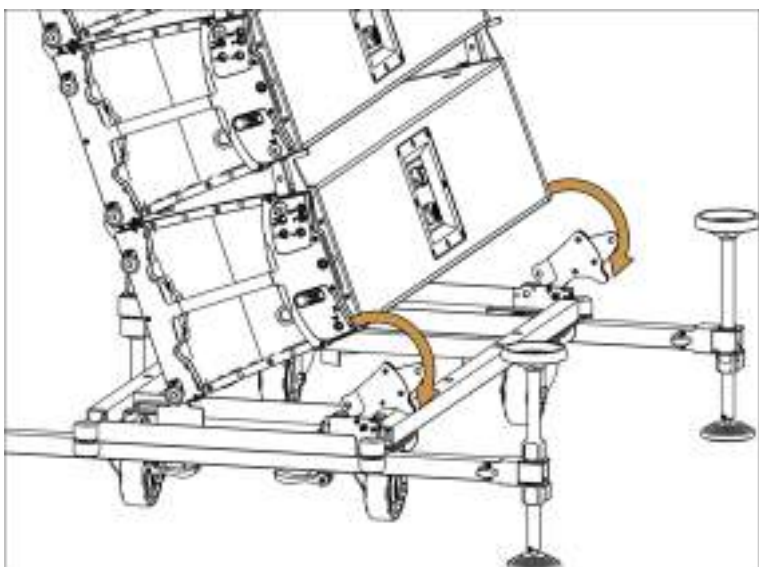
1. On both sides, remove the rear rigging arm pin.



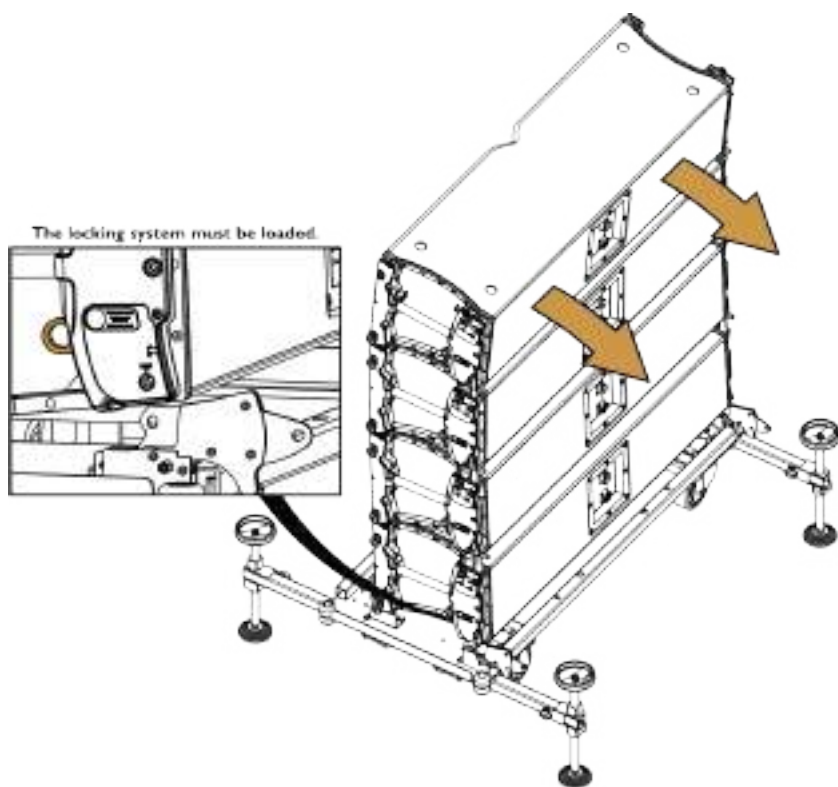
2. Push the enclosures to free both arms.



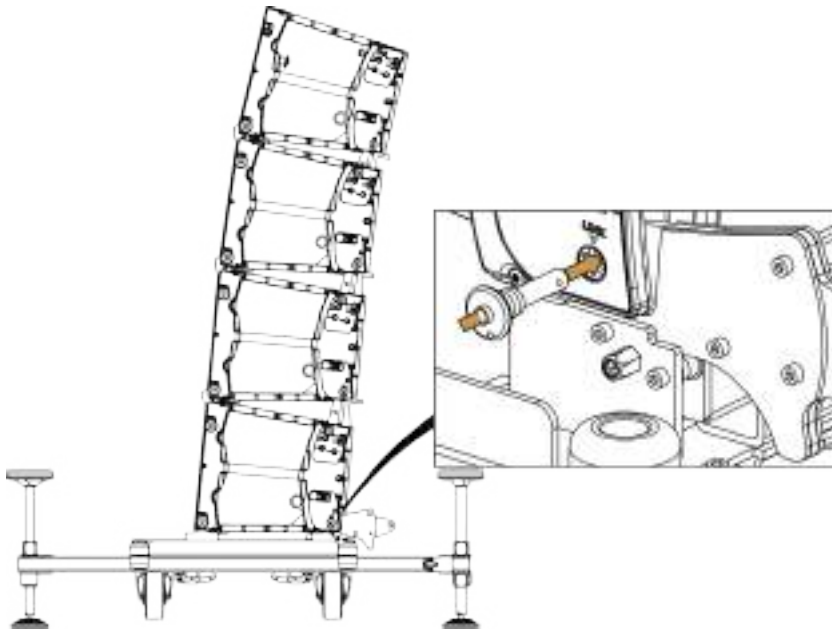
3. Use your foot to move up or move down the rear rigging arms.



4. Guide the enclosures back on the arms.



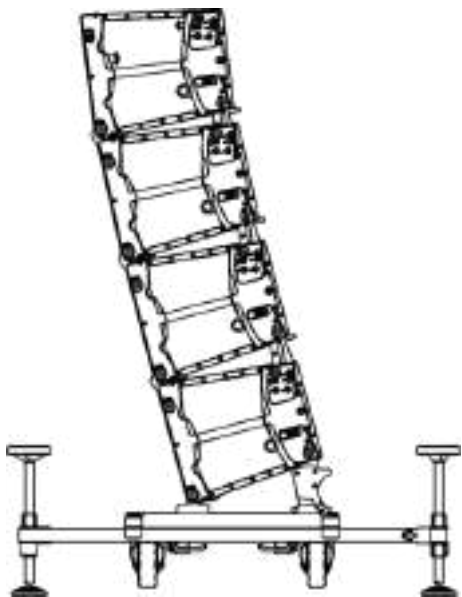
5. Pin the arms.



E - Adjusting the K2-CHARIOT site angle

Procedure

1. Verify the wheels are as close as possible to the ground without touching it.

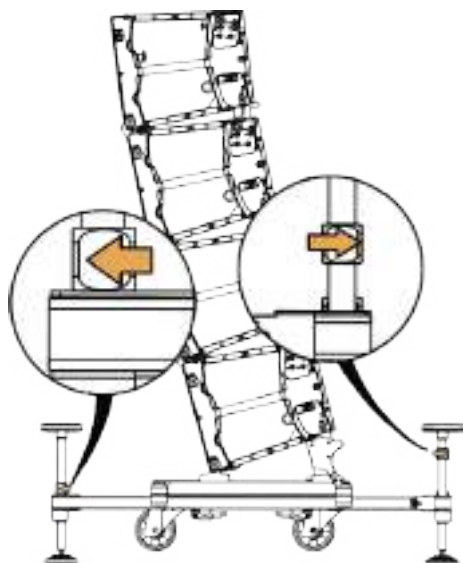


2. Loosen one stabilizer bolt and tighten the other one depending of the target site angle.

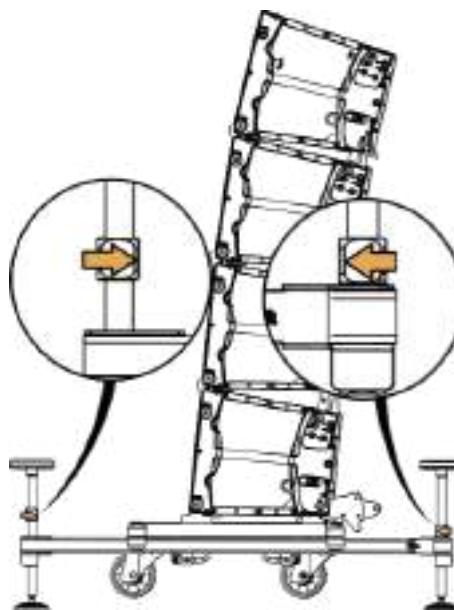


Tighten the bolt by hand only.

Negative site angle



Positive site angle



3. Adjust the site angle:

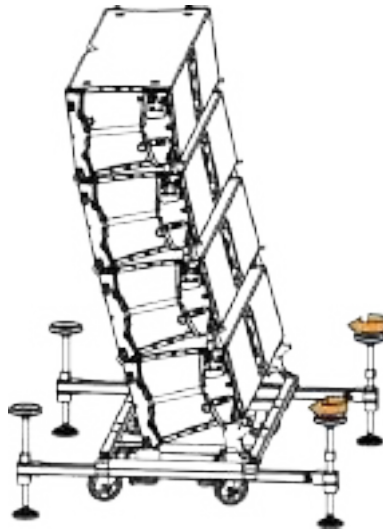


Tipping hazard

Adjust either the stabilizer at the front or at the back of the stack. Do not adjust both the front and back of the stack.



With the front screw jacks for a positive site angle.

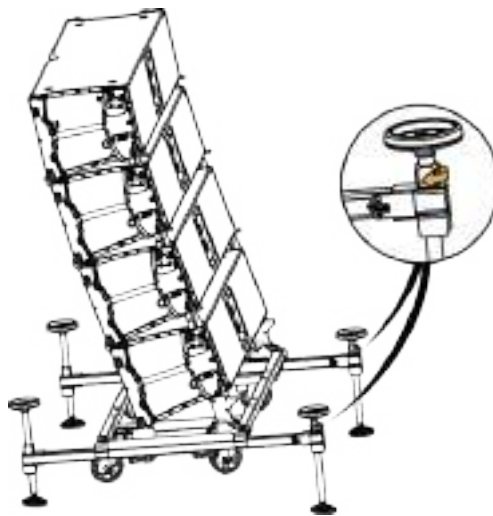


With the back screw jacks for a negative site angle.

4. Tighten the front or back bolts depending on the site angle.



Tighten the bolt by hand only.

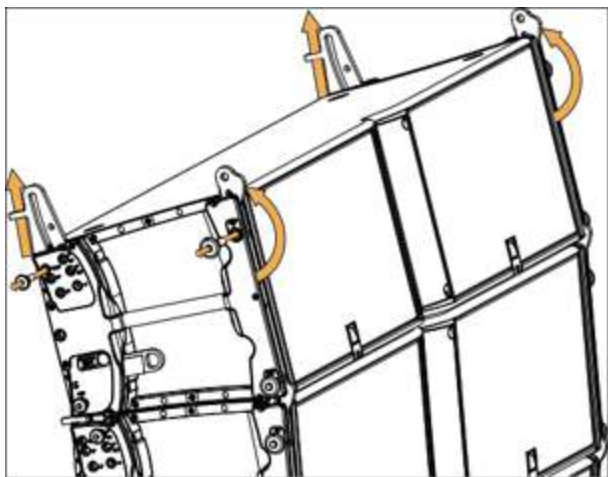


F - Stacking K2 on K2-BUMP

min number of operators	2
--------------------------------	---

Procedure

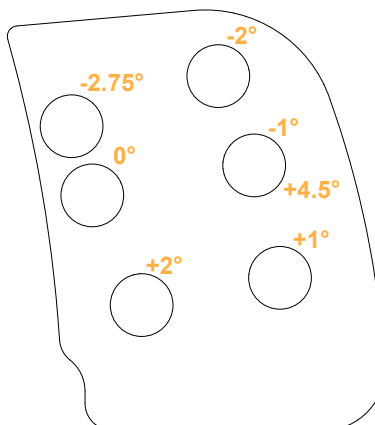
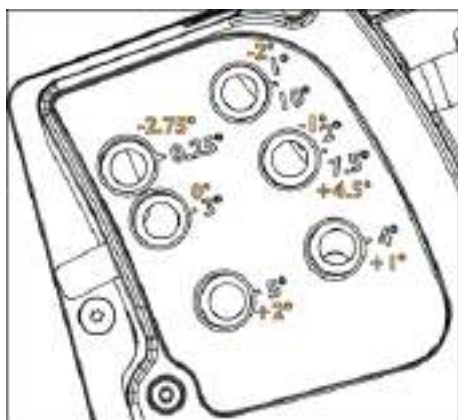
1. Prepare a block of 4 K2. Refer to [A - Preparing a block of 4 K2](#) (p.71).
2. Preset the inter-enclosure angles. Refer to [B - Preset the inter-enclosure angles](#) (p.75).
3. Prepare the K2 block top enclosure:
 - a) Take out and lock the rear and front rigging arms.



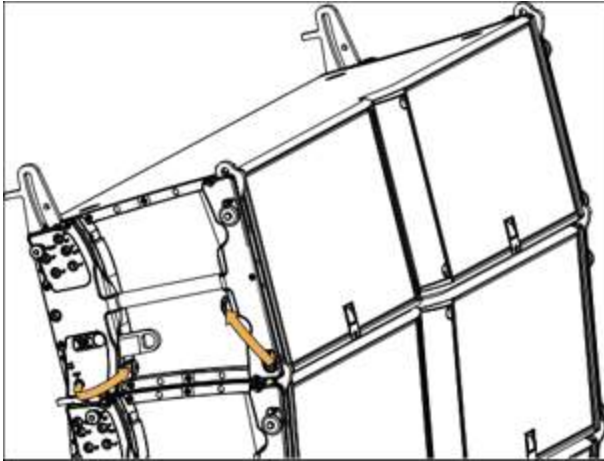
- b) Define the K2 stack site angle with the rear rigging arm.
 For the top enclosure of the stack, select a value between 0.25 and 7.5 and subtract 3 to obtain the final site angle. For the other enclosures, select the angle normally.

Final site angle for top enclosure

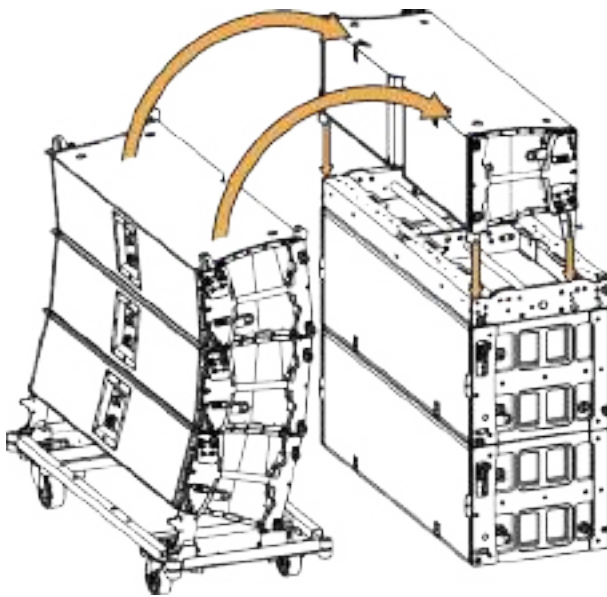
authorized angles	final site angles
0.25°	-2.75°
1°	-2°
2°	-1°
7.5°	4.5°
3°	0°
4°	1°
5°	2°



4. Remove the lower rear and front pins.



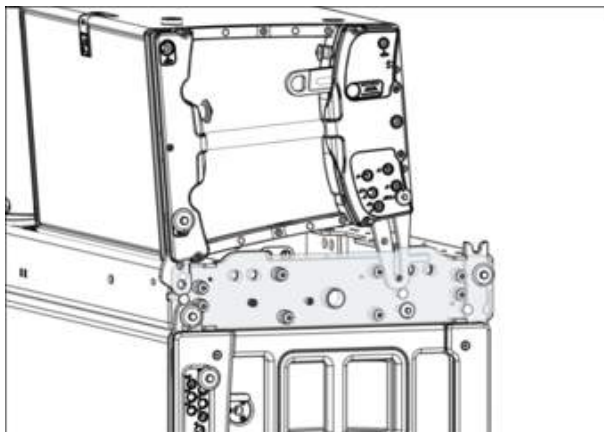
5. Turn the enclosure upside down on the K2-BUMP:



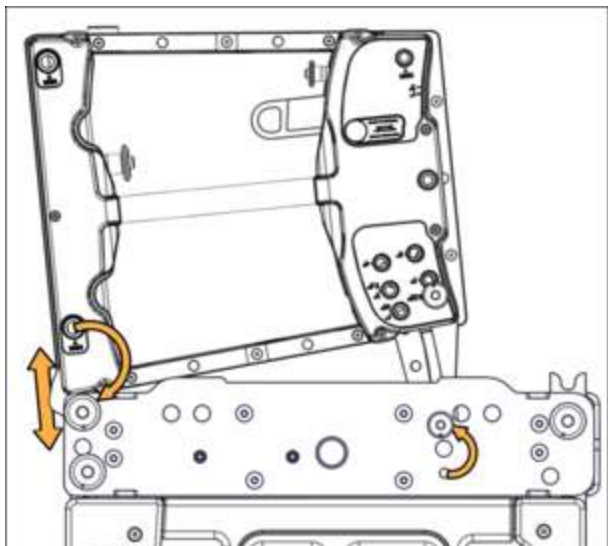
- a) Attach the K2 enclosure upside down on the K2-BUMP.

i The rigging arms should rest on the K2-BUMP spacers.

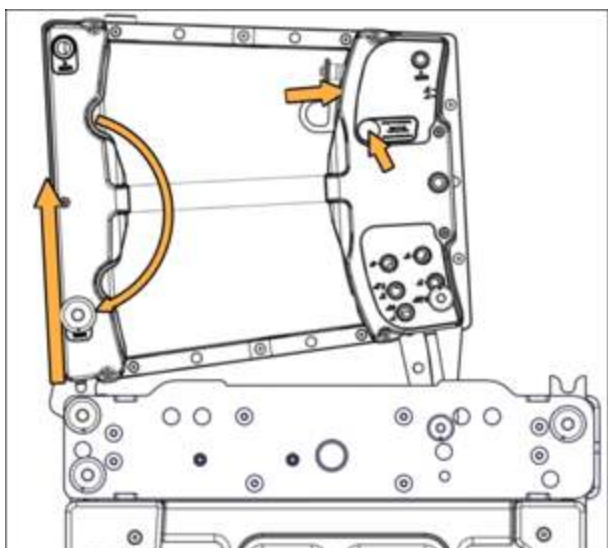
- b) Secure the rear arm to the K2-BUMP.



- c) Slide the front arm up and down to align the holes and secure it. Attach the front arm to the K2-BUMP.

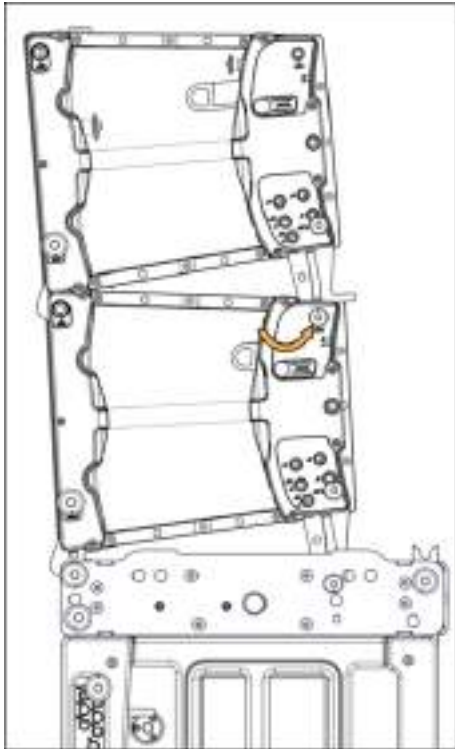


- d) Raise the top enclosure to align the holes. Secure the front rigging arm. Push the locking system button to arm the latch.

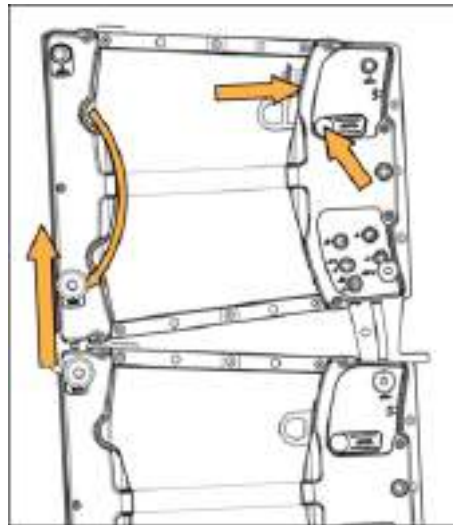
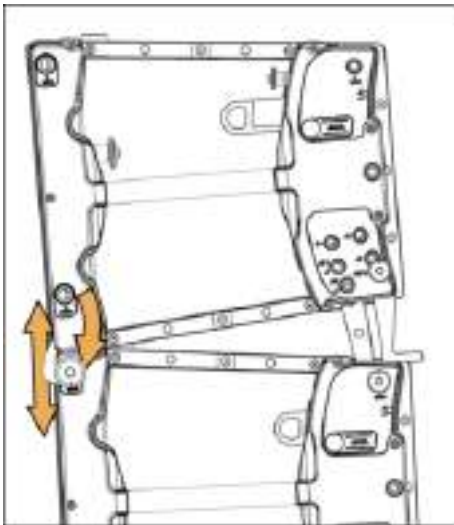


6. Attach another upside down K2 enclosure on the assembly:

- a) Secure the rear arm to the lower K2 enclosure.



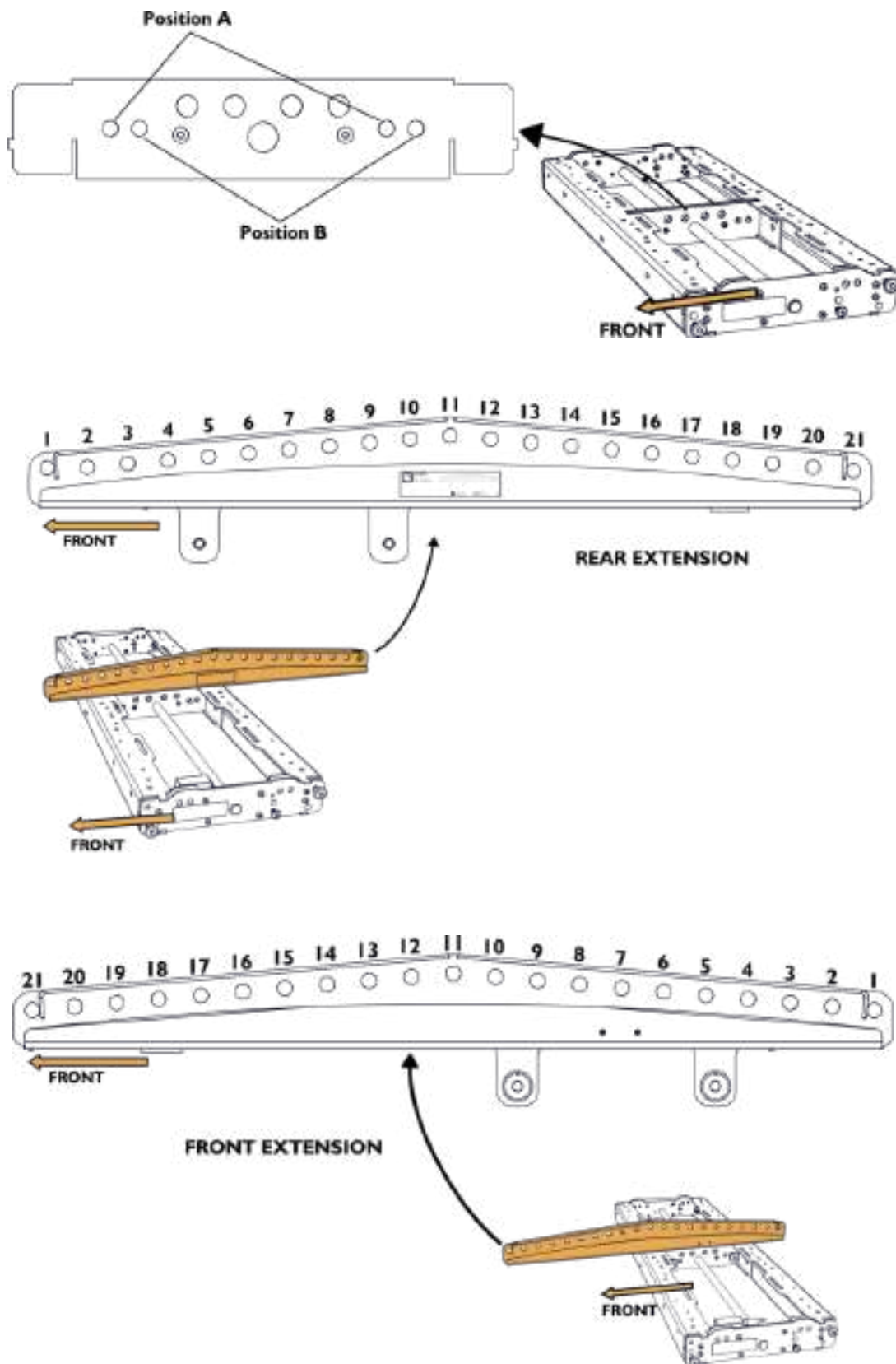
- b) Slide the front rigging arm up and down to align the holes. Attach the front arm to the lower K2 enclosure.
- c) Raise the top enclosure to align the holes. Secure the front rigging arm. Push the locking system button to arm the latch.



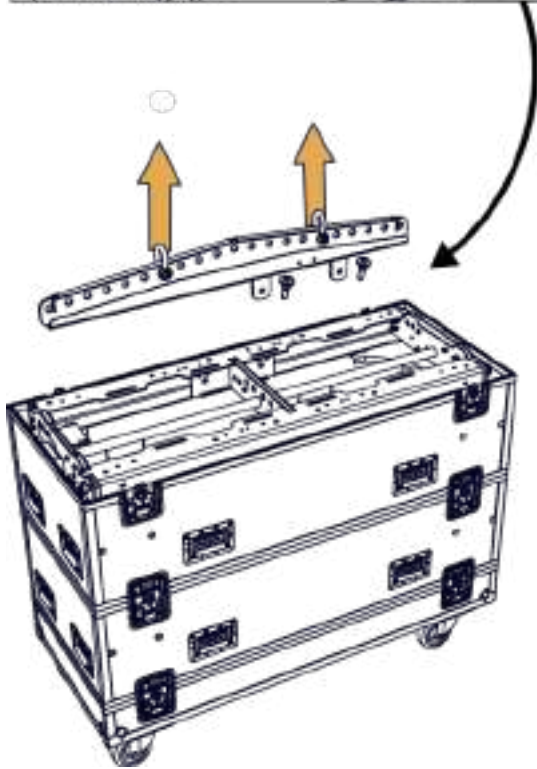
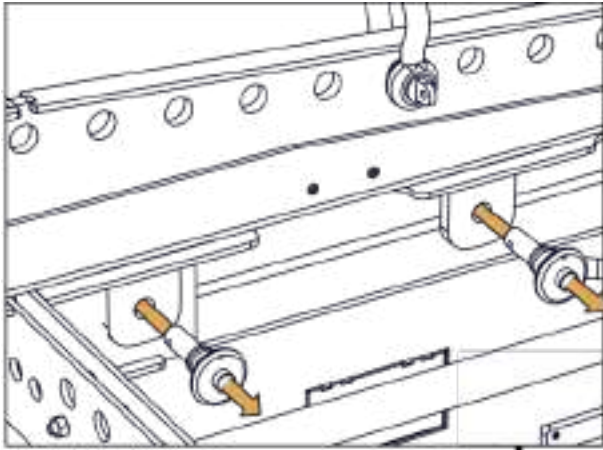
G - Attaching K2-BAR to K2-BUMP

Procedure

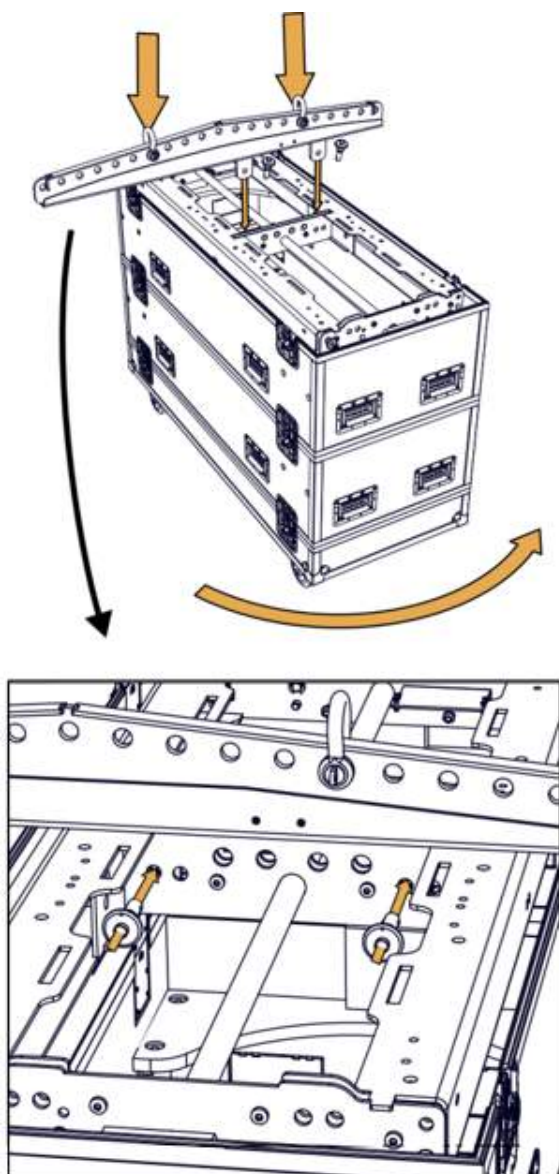
1. Refer to your Soundvision model to identify the extension and position of the bar.



2. Remove the pins and lift the K2-BAR using the motor.



3. Turn the K2BUMPFLIGHT 90°, lower K2-BAR and pin it according to the chosen flying option (position A or B, in front or rear extension).



H - Attaching a block of four K2 under K2-BUMP

min number of operators	2
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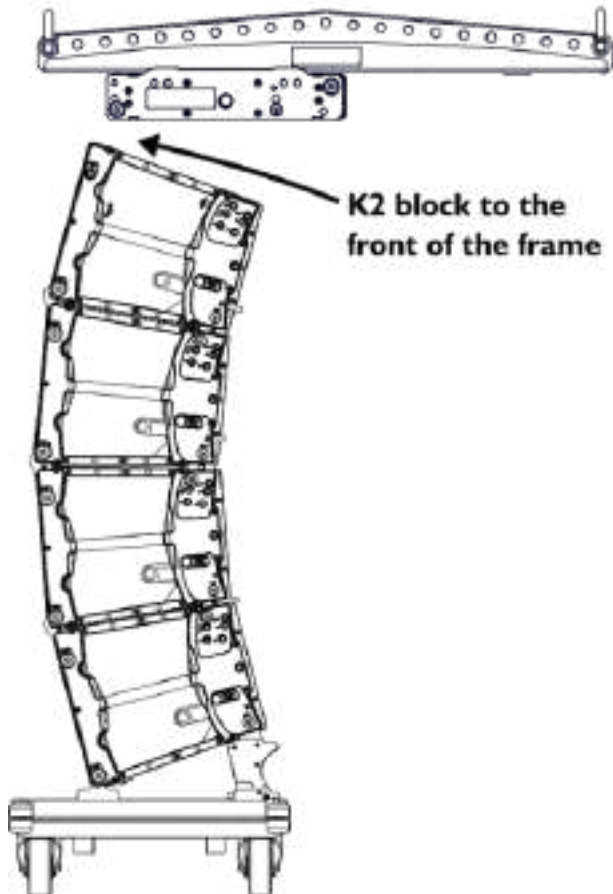
Procedure

1. Lower the K2-BUMP to allow for front connection.

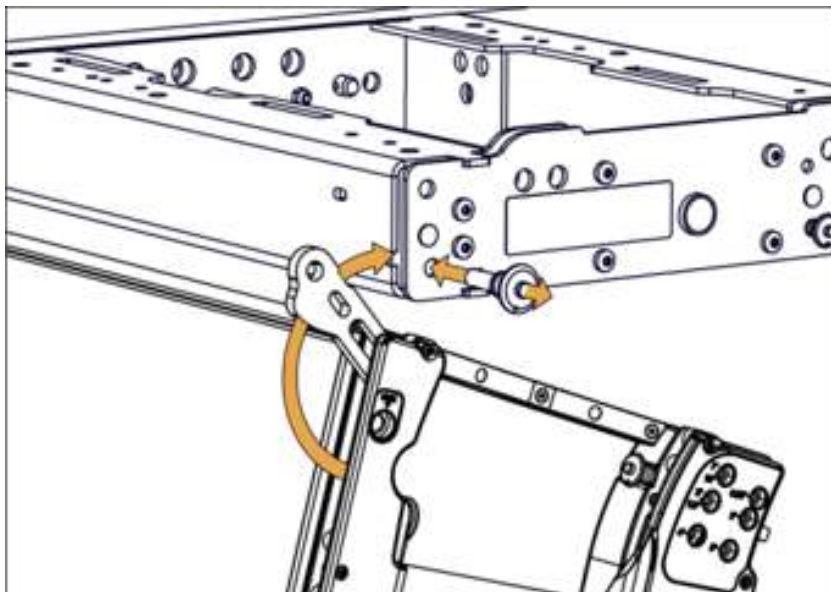


Preset inter-enclosure angles

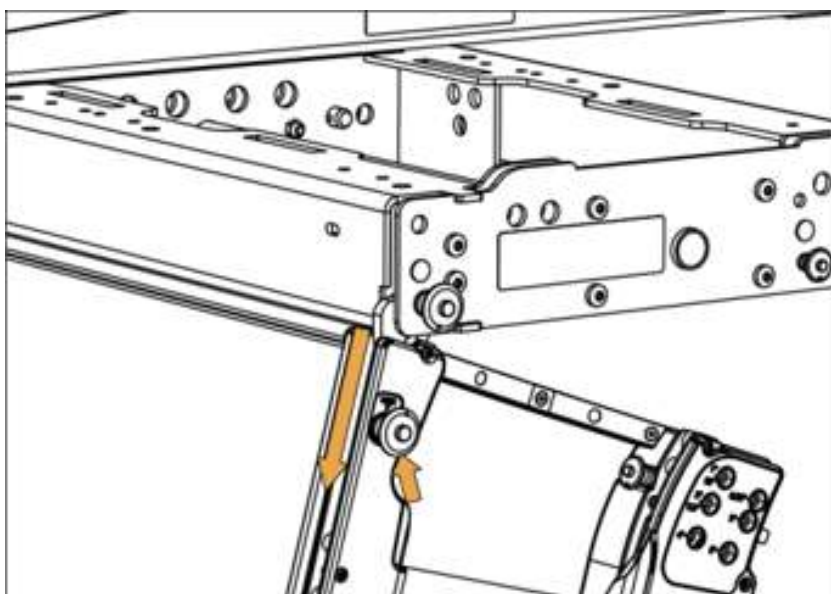
Preset the inter-enclosure angles before performing this procedure. Refer to [B - Preset the inter-enclosure angles](#) (p.75).



2. Attach the front rigging arm on both sides:
 - a) Rotate the arm and secure it with the K2-BUMP pin.



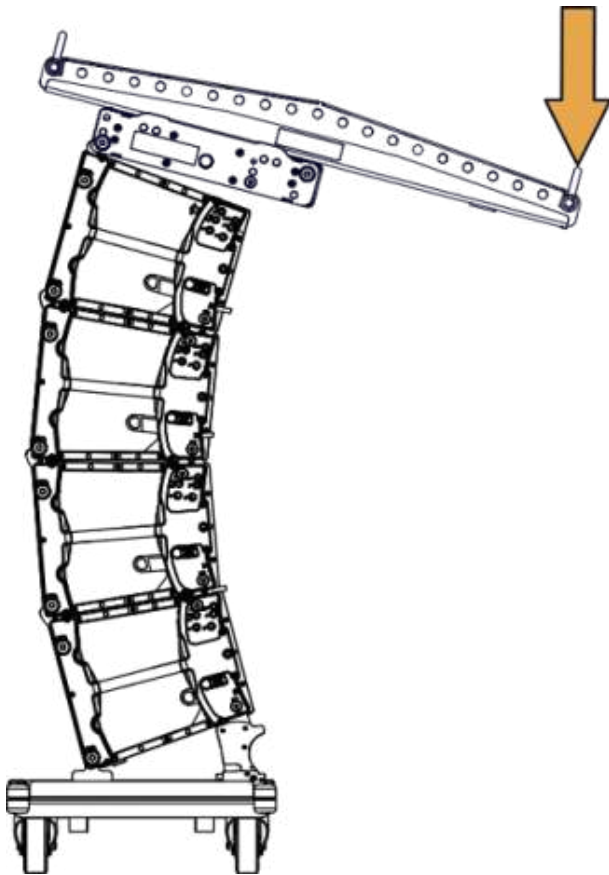
- b) Lower the K2-BUMP and secure the connection with the K2 pin.
If you cannot insert the pin, move the frame back and forth.



3. Lower the rear of the K2-BUMP.

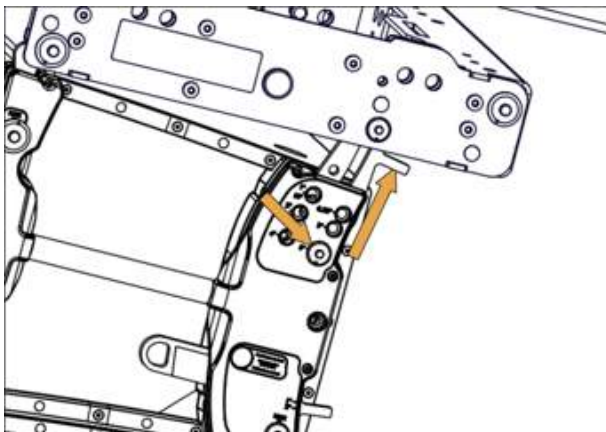


Do not lower until contact. Leave a gap allowing to slide the K2 arm to its 5° position.

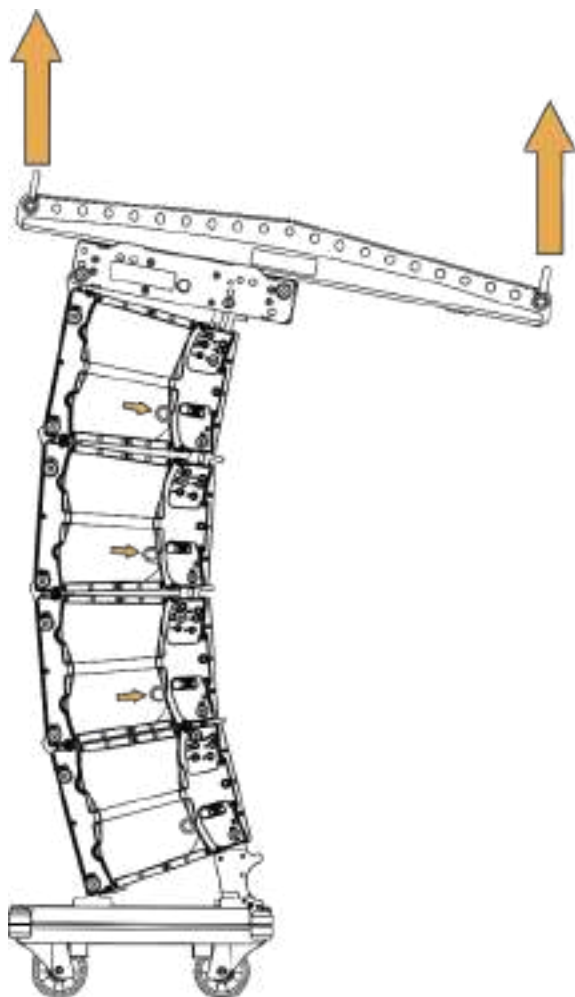


4. Attach the rear rigging arm to the frame:

- a) Slide the arm to its 5° position.
- b) Preset the angle at 5° with the enclosure pin.
- c) Secure the arm with the frame pin.

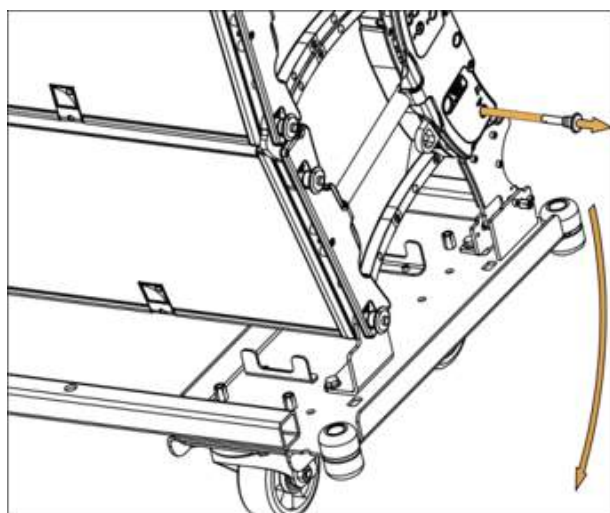


5. Raise the array to lock the inter-enclosure angles.

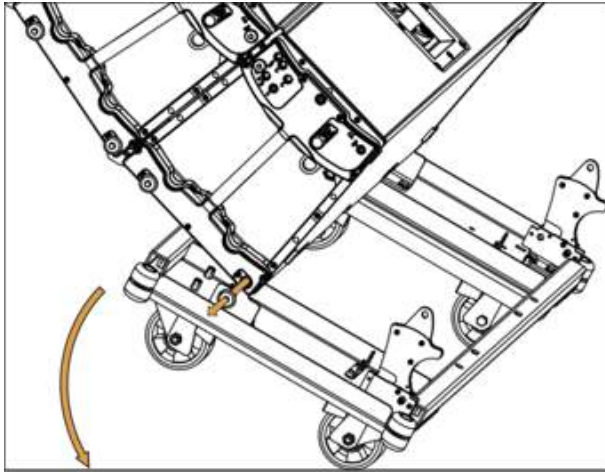


6. Remove K2-CHARIOT:

a) Hold the dolly with one hand. Remove the back pin on both sides.



b) Hold the dolly with one hand. Remove the front pin on both sides.



I - Attaching a block of four K2 under K2-RIGBAR

Procedure



Preset inter-enclosure angles

Preset the inter-enclosure angles before performing this procedure. Refer to [B - Preset the inter-enclosure angles](#) (p.75).

1. Hang the LA-SLING2T to the motor hook.



Make sure the chains are not twisted.

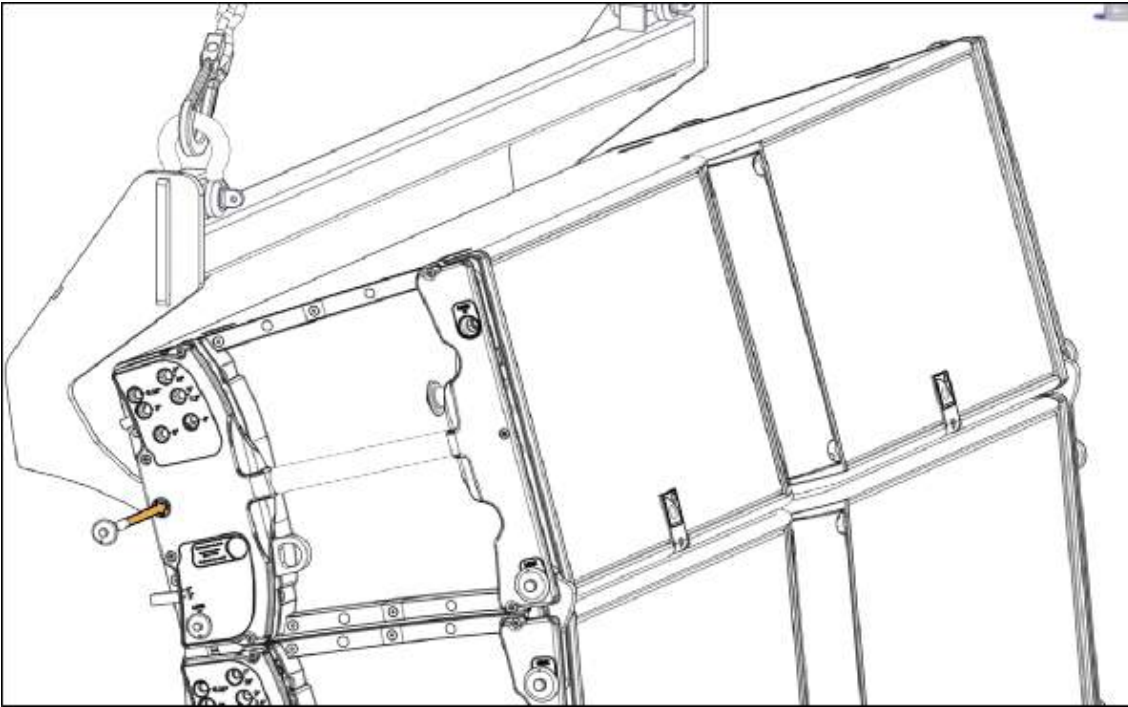
2. Attach the bar to the sling using the two 3.25 t WLL shackles. Use the interior holes of the bar.



The external holes are dedicated to safety slings.



3. Position and attach the K2 enclosures under K2-RIGBAR.
Use the rear rigging middle hole.

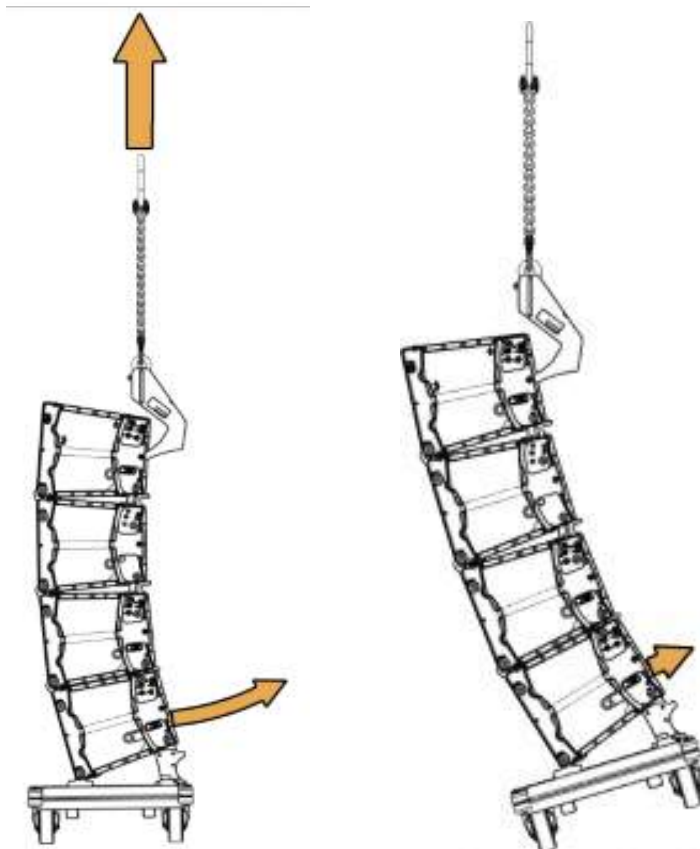


4. Raise the array to lock the inter-enclosure angles.



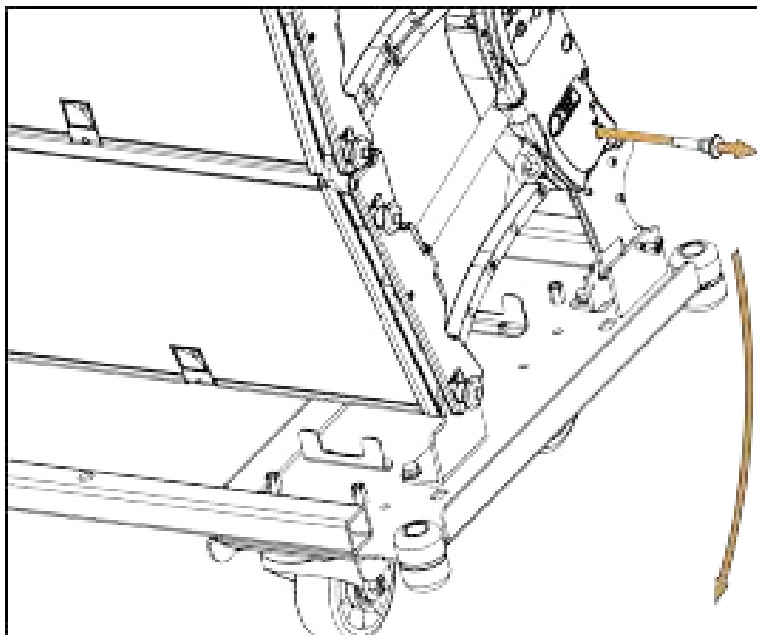
Do not stand behind the array

The array swings backwards when it is raised.

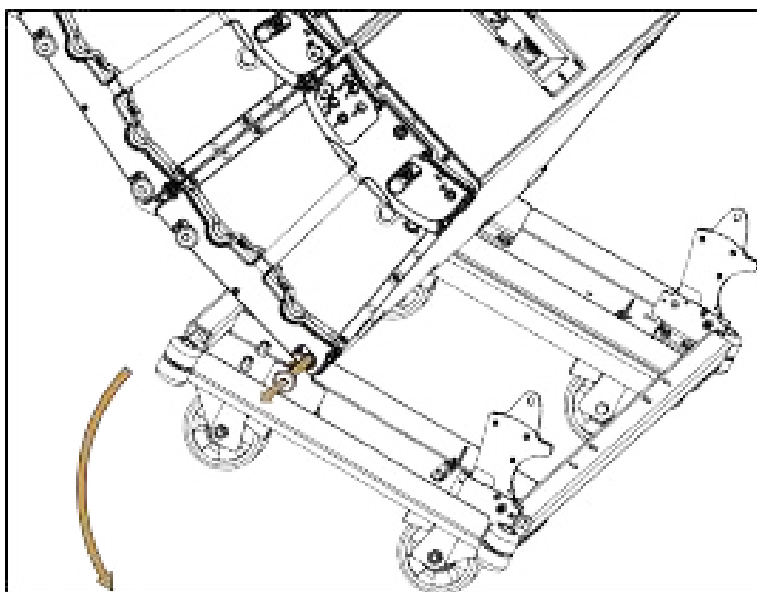


5. Remove the K2-CHARIOT:

- a) Hold the dolly with one hand. Remove the back pin on both sides.



- b) Hold the dolly with one hand. Remove the front pin on both sides.



J - Attaching a block of four K2 under K2

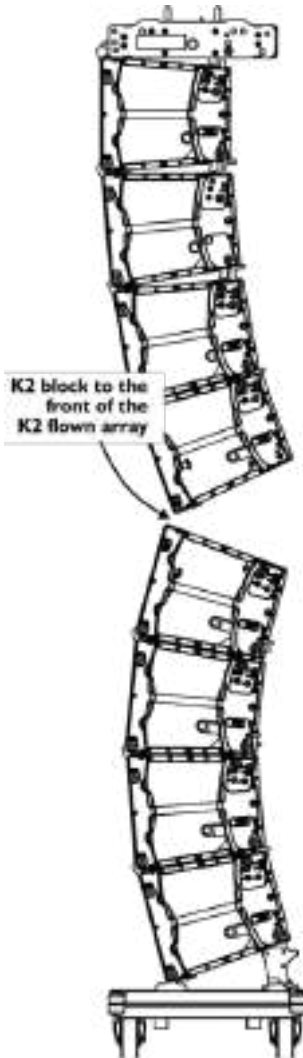
Procedure



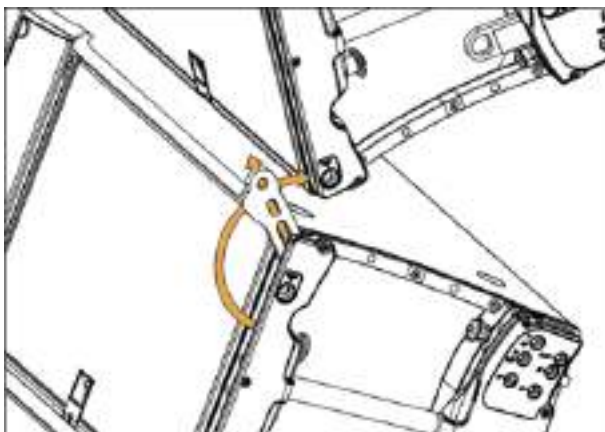
Preset inter-enclosure angles

Preset the inter-enclosure angles before performing this procedure. Refer to [B - Preset the inter-enclosure angles](#) (p.75).

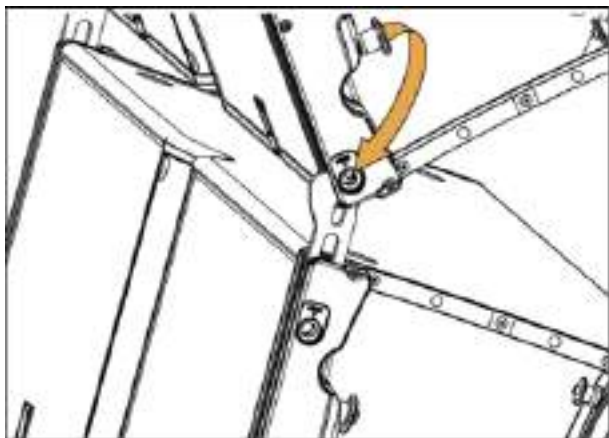
1. Attach the front rigging arm on both sides:



- a) Rotate the arm to align its hole with the K2 rigging hole.



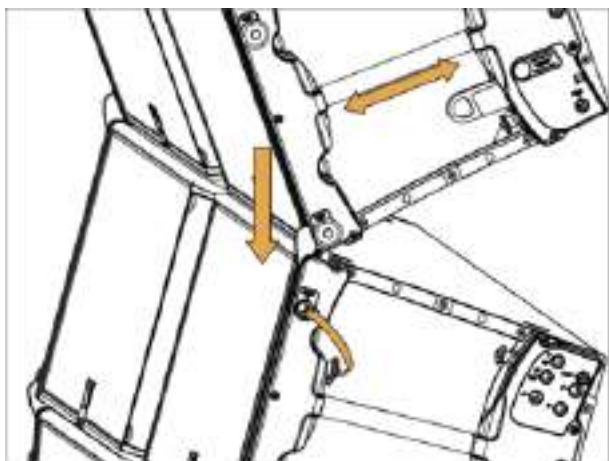
b) Pin the arm in the LINK hole of the flown array.



c) Lower the flown array and secure the assembly with the LINK pin.



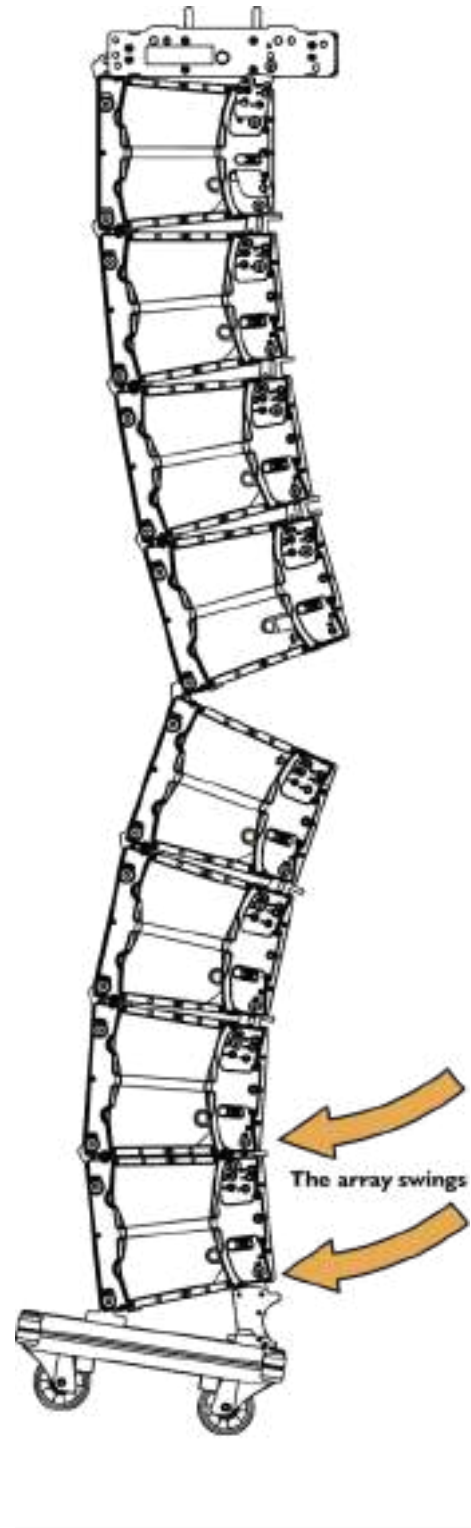
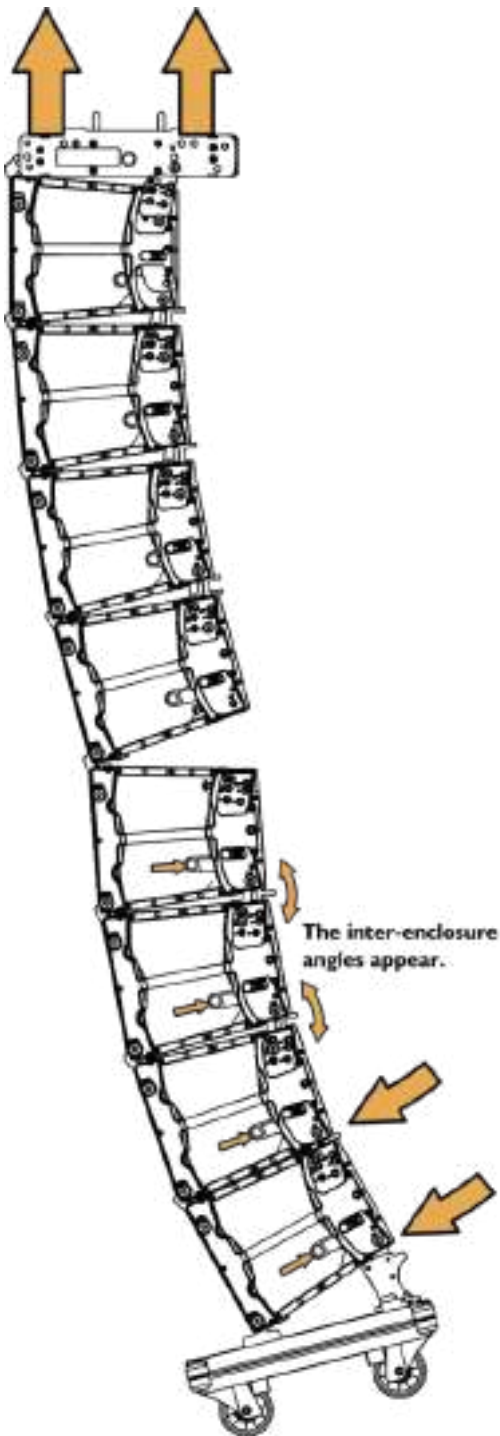
If you cannot insert the pin, move the flown array back and forth with enclosure handle.



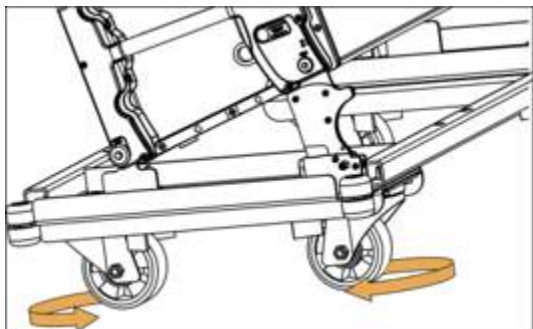
2. Lock the inter-enclosure angles of the block.

Raise the array.

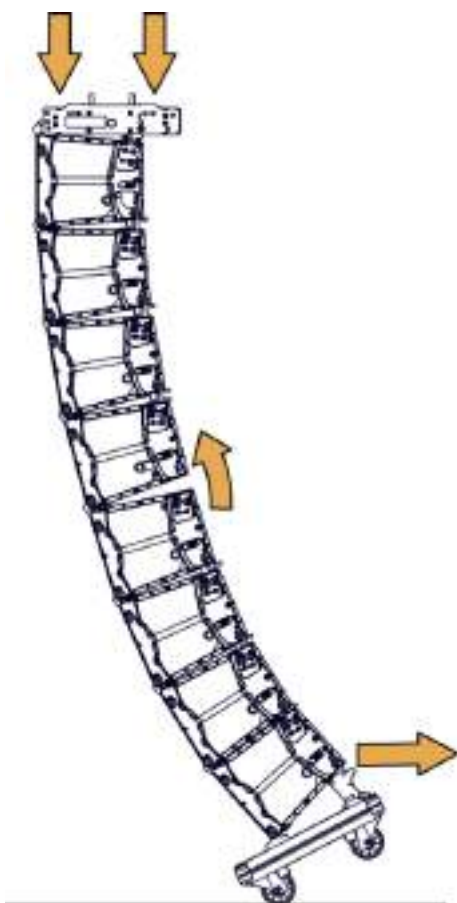
The lower K2 enclosures swing and the latches automatically lock.



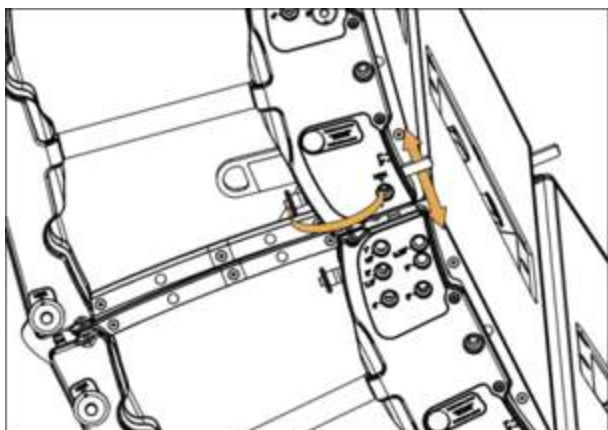
- 3.** Attach the lower K2 enclosures rear rigging arm to the back of the array:
- Turn the wheels inside the dolly.



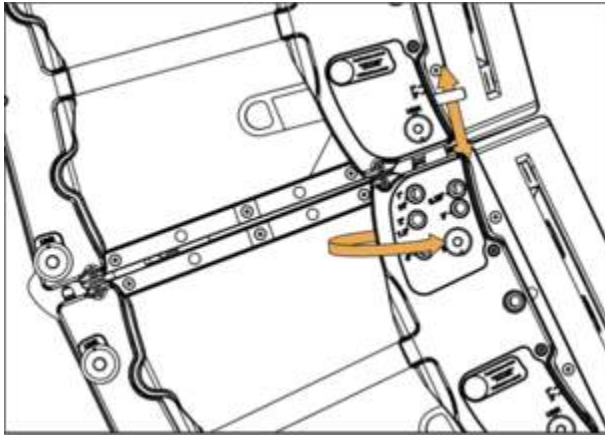
- Pull back the bottom enclosures while lowering the array until the array and the top enclosure of the block are in contact.



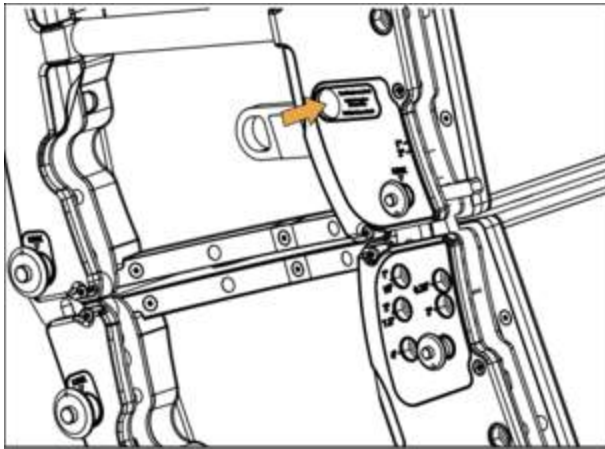
- Slide the arm upward and secure it with the pin using the LINK hole.



d) Position the pin at the entrance of the chosen angle hole and slide the rigging arm until the pin goes in.



e) Press the lock button.

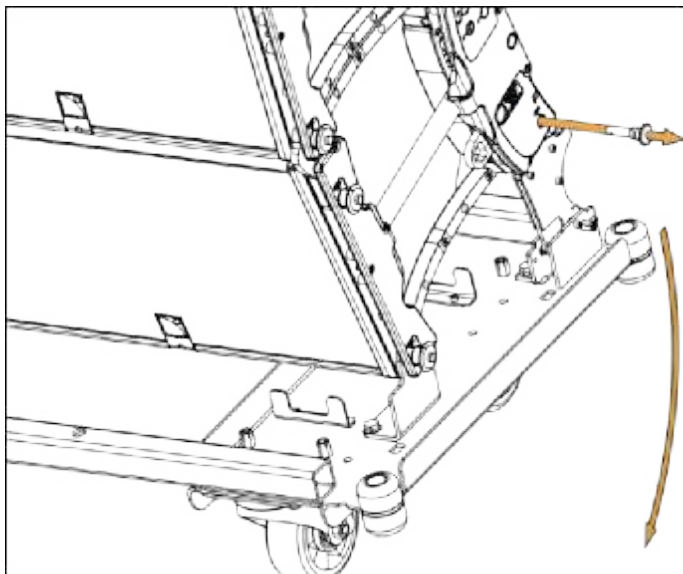


4. Raise the array to lock the inter-enclosure angle.
The latches automatically lock.

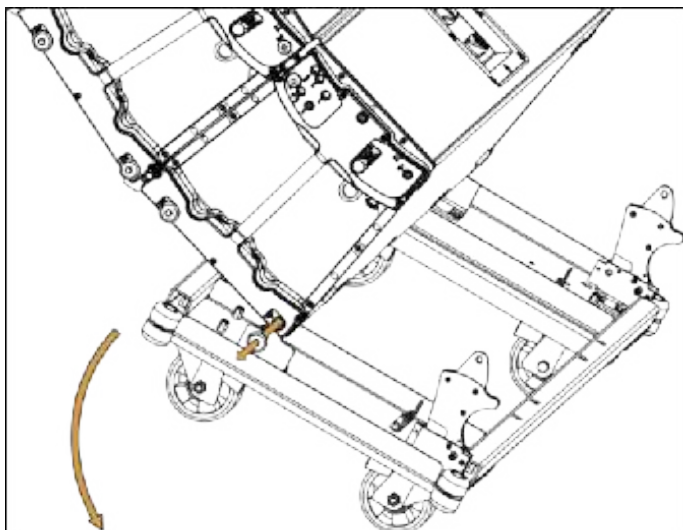


5. Remove the K2-CHARIOT:

- a) Hold the dolly with one hand. Remove the back pin on both sides.



- b) Hold the dolly with one hand. Remove the front pin on both sides.



K - Attaching a block of four K2 under a K1 system element

Procedure



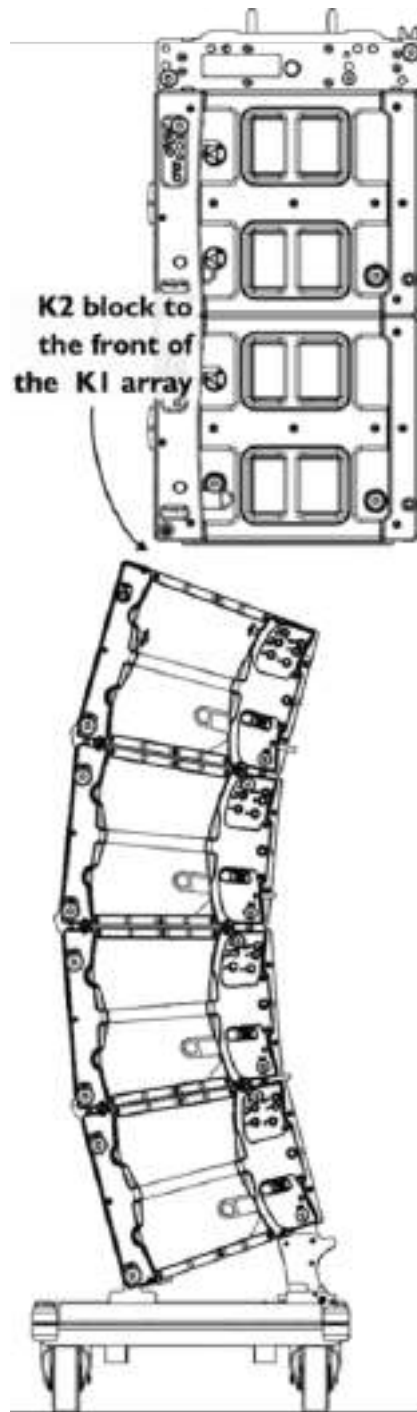
K1 / K1-SB must always be on top of a K2 array.



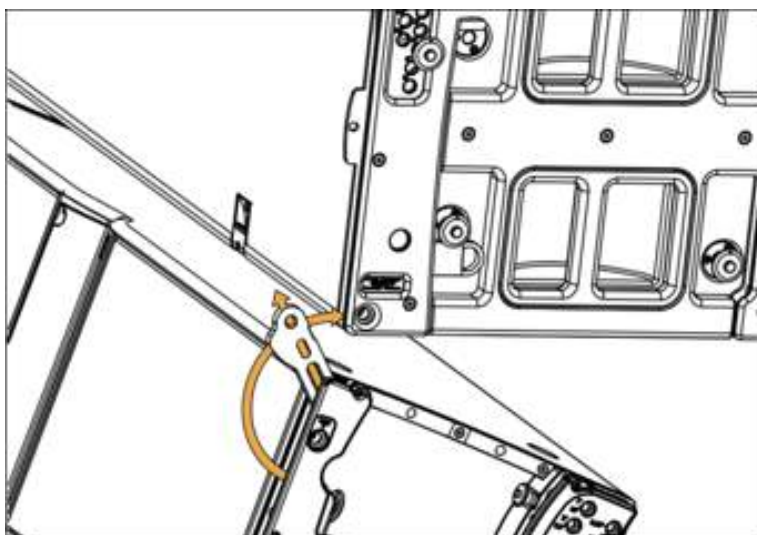
Preset inter-enclosure angles

Preset the inter-enclosure angles before performing this procedure. Refer to [B - Preset the inter-enclosure angles](#) (p.75).

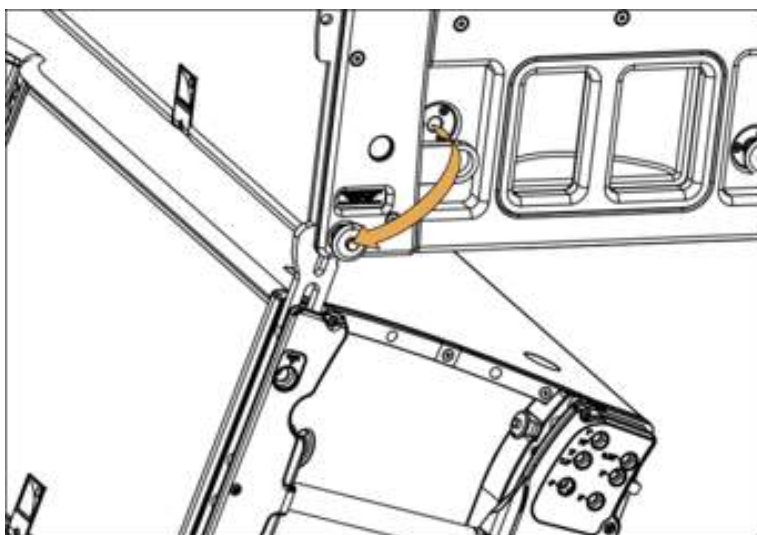
1. Attach the front rigging arm on both sides:



- a) Rotate the arm to align its hole with the K1/K1-SB rigging hole.



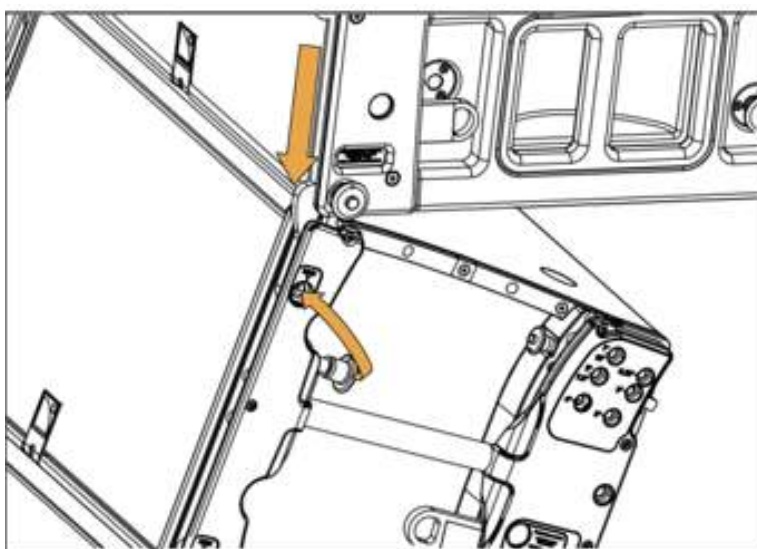
- b) Pin the arm on the flown array.



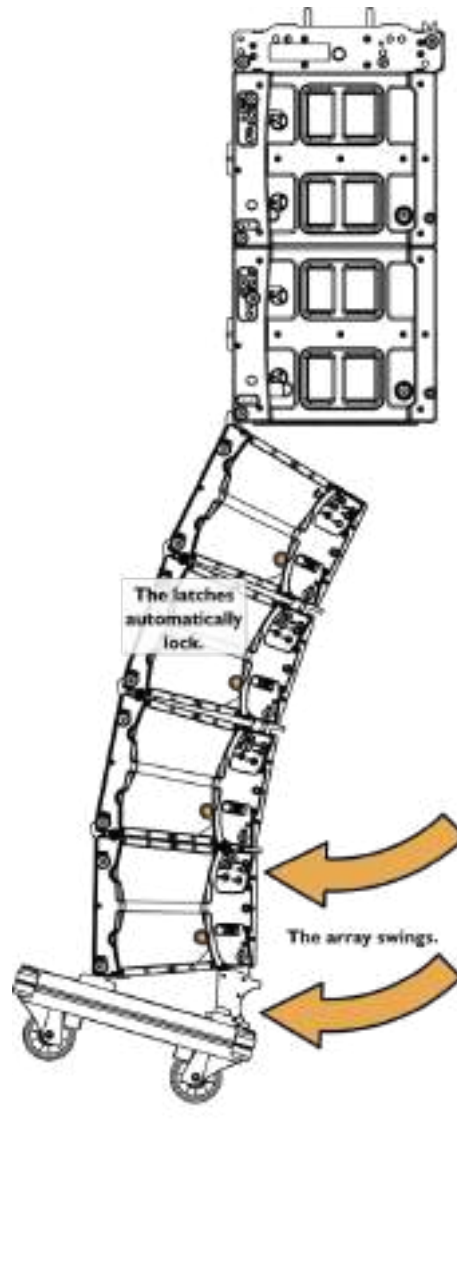
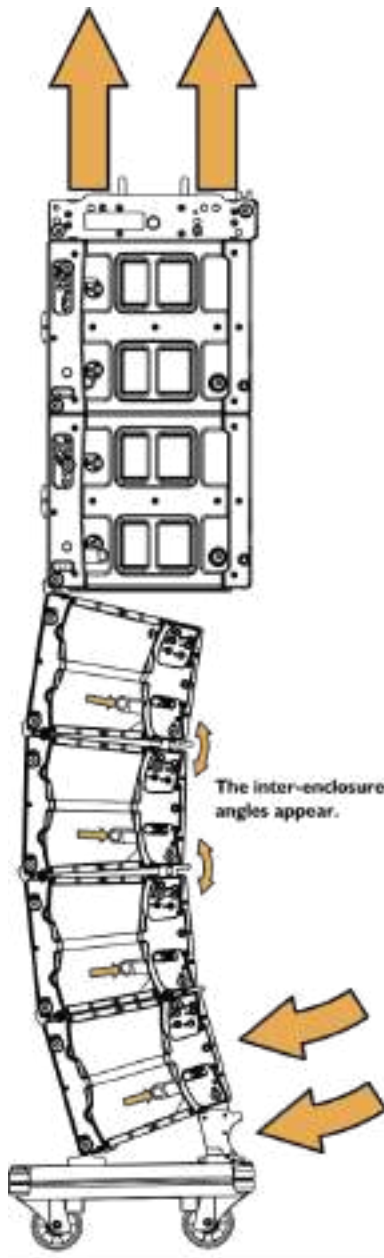
- c) Lower the flown array and secure the assembly with the LINK pin.



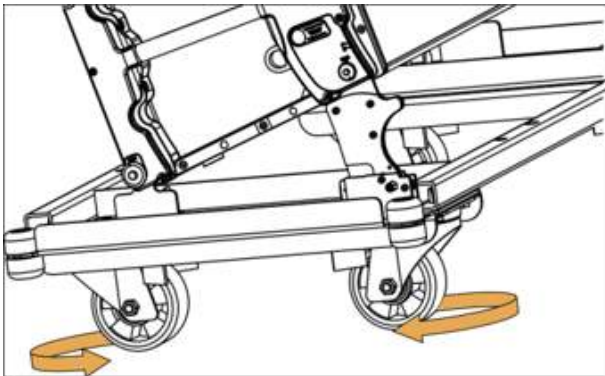
If you cannot insert the pin, move the flown array back and forth with enclosure handle.



2. Raise the array to lock the inter-enclosure angles.



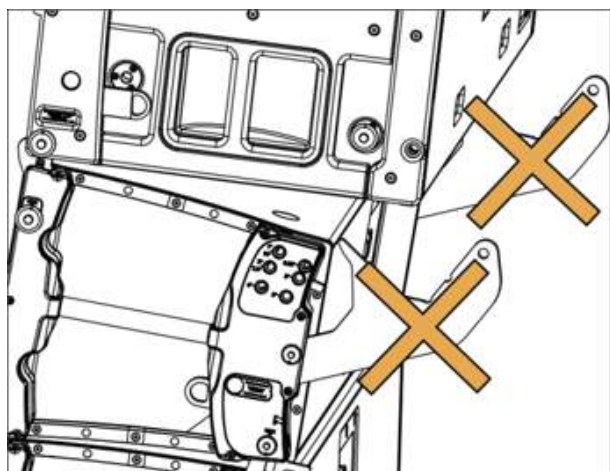
3. Turn the wheels inside the dolly.



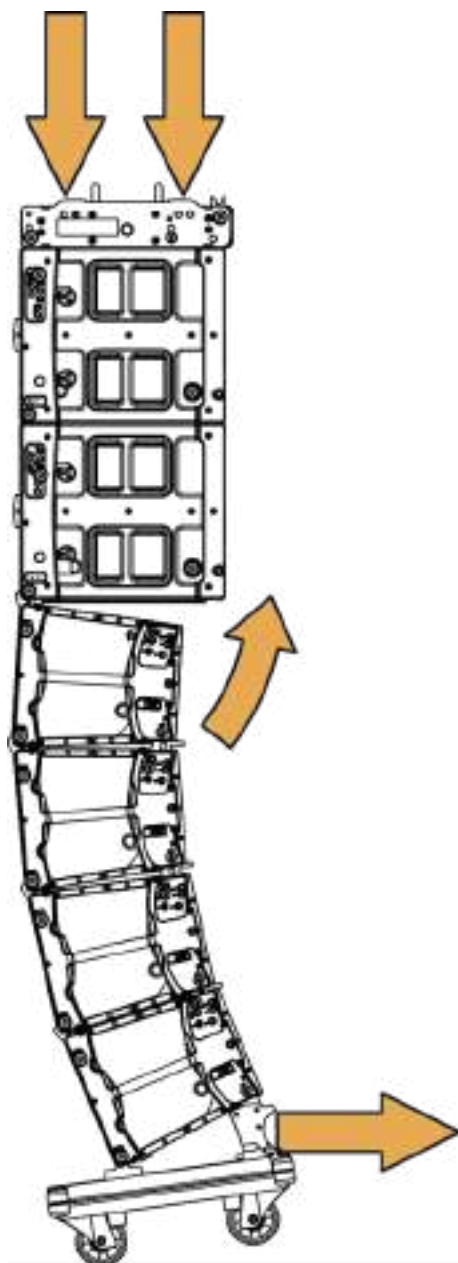
4. Connect the rear of the K1/K1-SB array to the rear of the K2 array with the K2-LINK interfaces:
 - a) On both sides, attach a K2-LINK at the back of the K1-SB enclosure.



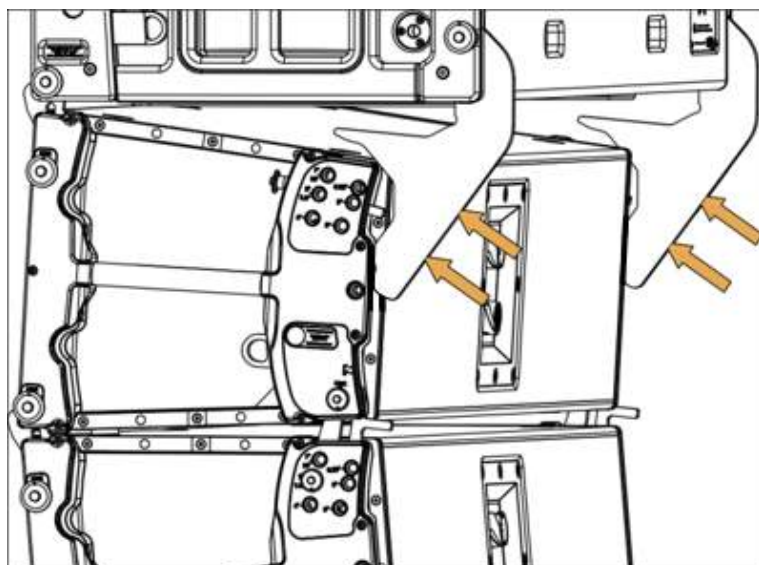
Do not pin K2-LINK on K2.



b) Pull back the bottom enclosures while lowering the array until only the front wheel touches the ground.



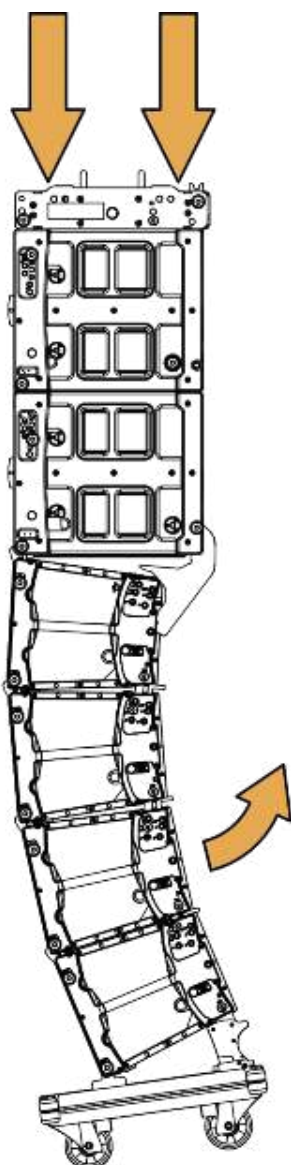
c) Push the K2-LINK into the K2 rear rigging.



5. Lower the array until the hole of K2-LINK matches the K2 rigging middle hole.

**Risk of pinching**

Do not touch the K2-LINK while lowering the array.

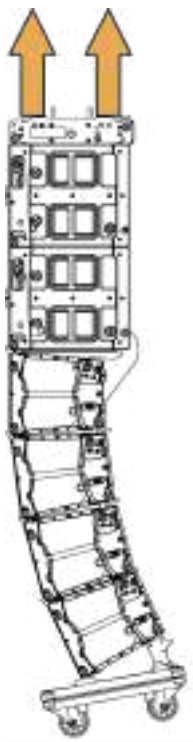


6. Secure the K2-LINK on the K2 rigging middle hole.

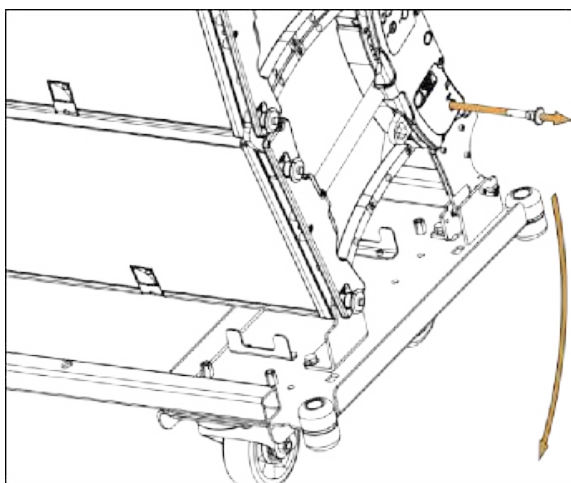


7. Remove the K2-CHARIOT:

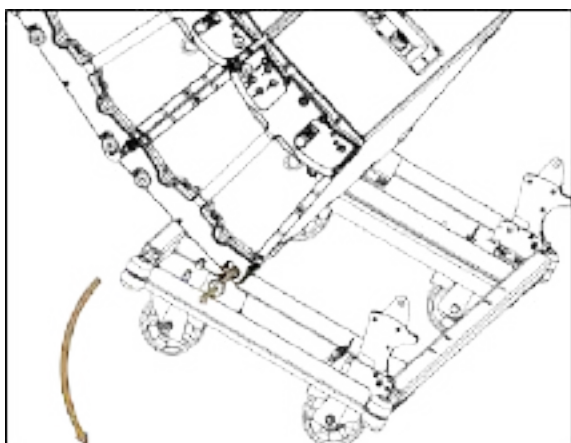
a) Raise the array.



b) Hold the dolly with one hand. Remove the back pin on both sides.



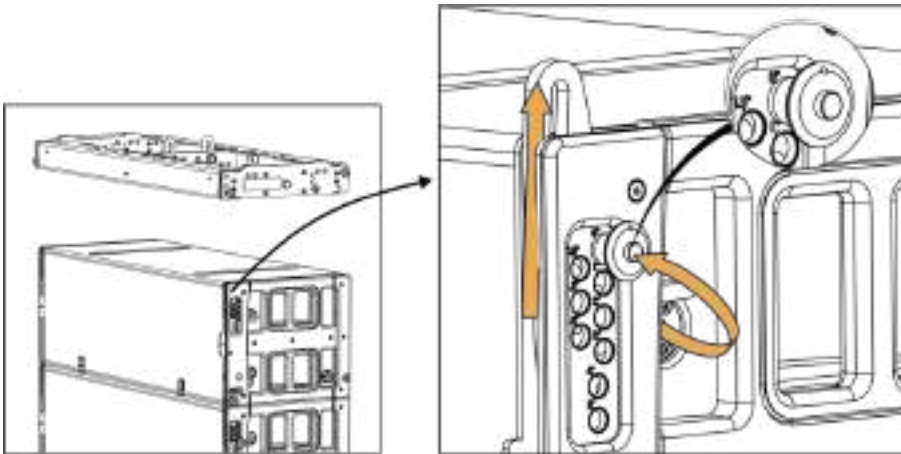
c) Hold the dolly with one hand. Remove the front pin on both sides.



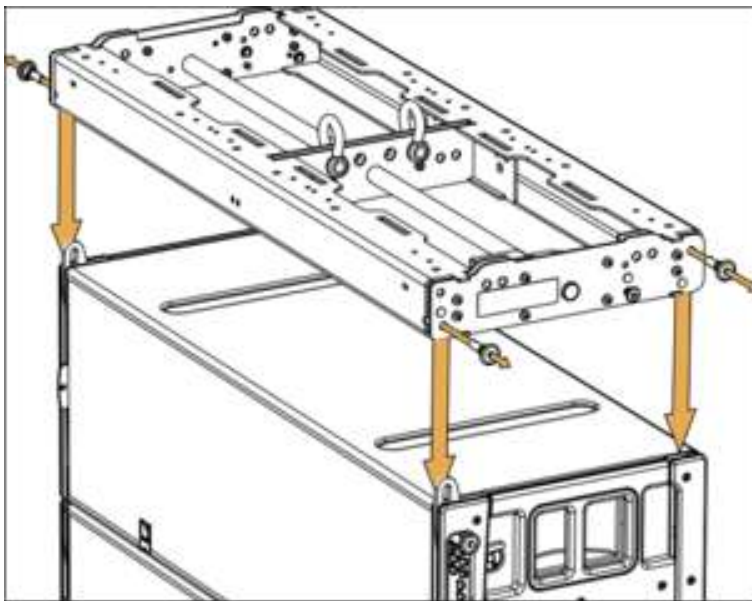
L - Attaching K1 or K1-SB under K2-BUMP

Procedure

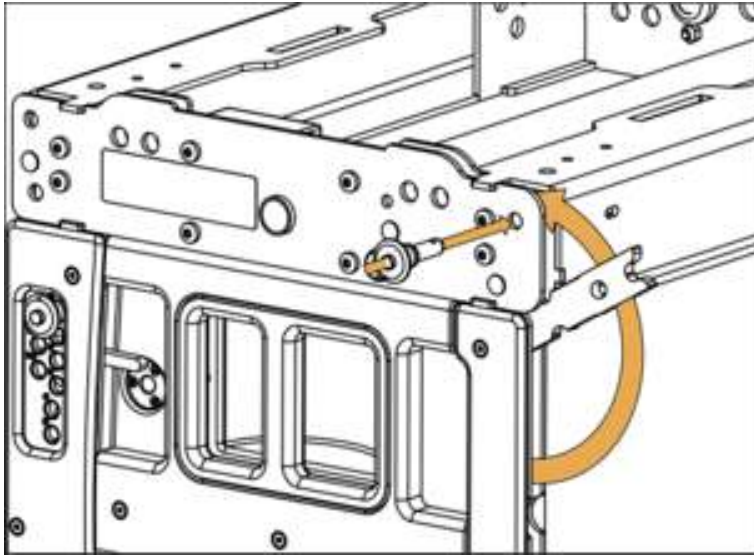
1. Slide out K1-SB front rigging arm and pin it at 0° on both sides.



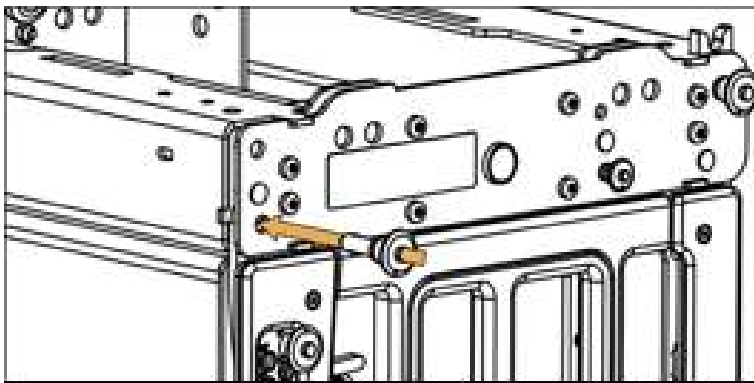
2. Attach the K2-BUMP to the K1 elements block:
 - a) Remove the K2-BUMP rear and front pins on both sides. Lower the K2-BUMP so it rests on the topmost enclosure.



b) Rotate the rear rigging arm and pin it on the frame.



c) Pin the front rigging arm on the frame.



M - Mounting LA-RAK/LA-RAK II on K2-BUMP

rigging accessory

K2-BUMP / LA-RAK/LA-RAK II

K2-RAKMOUNT (2 rails for 1 LA-RAK/LA-RAK II)

tools

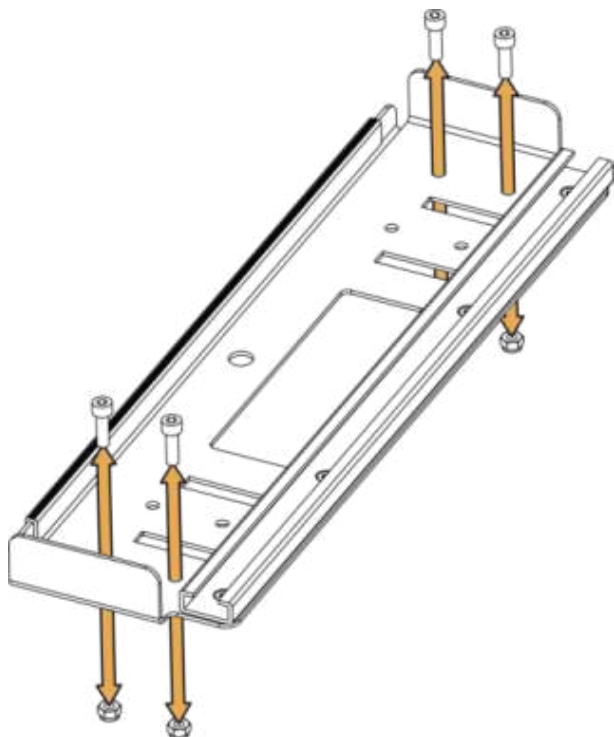
electric screwdriver with torque selector

6 mm hex bit

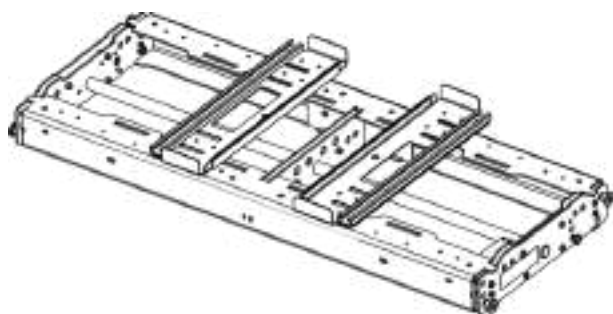
13 mm wrench

Procedure

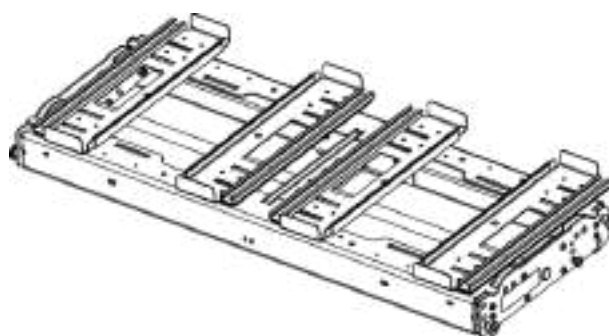
1. Remove the nuts and bolts from the K2-RAKMOUNT rails.



2. Position and secure as many rails as necessary on the K2-BUMP.



1 LA-RAK/LA-RAK II



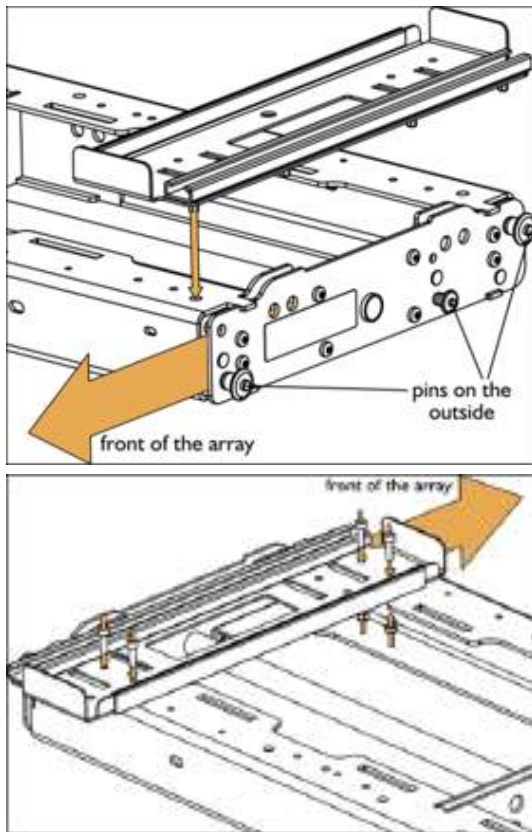
2 LA-RAK/LA-RAK II

3. Secure the rails on the K2-BUMP.

Set the torque to 5 N.m.



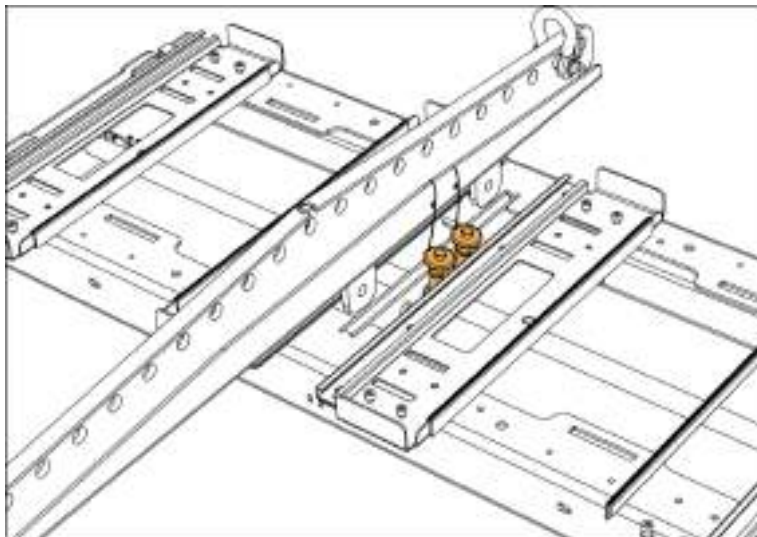
Before securing the side rails, make sure the frame pins are on the outside.



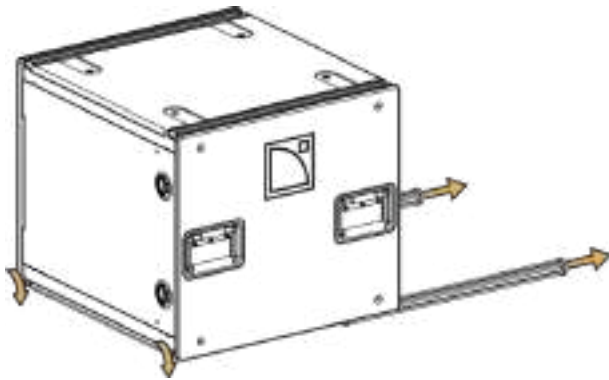
4. Install as many K2-BAR as necessary.



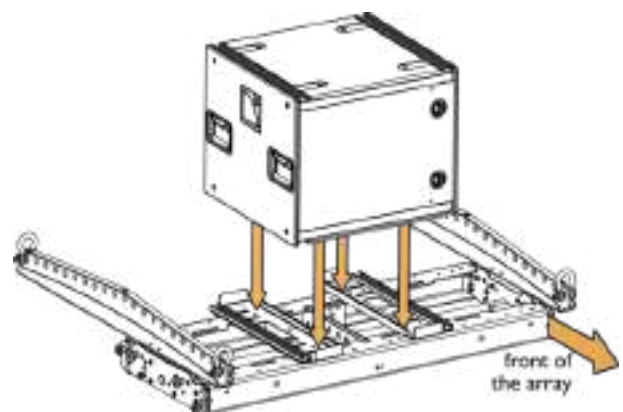
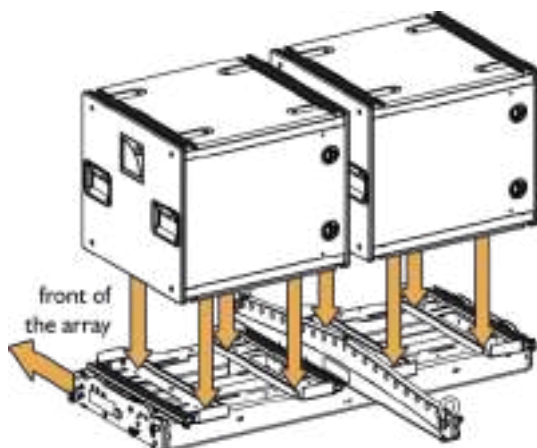
When installing a single K2-BAR at the center of the frame, make sure the pins are inserted between the central bar of the frame and the closest rail.



5. Remove the LA-RAK/LA-RAK II coupling bars:
- Turn the bars to release the spring-loaded safety and slide them out.



- Position the LA-RAK/LA-RAK II on the rails.



Coupling bars

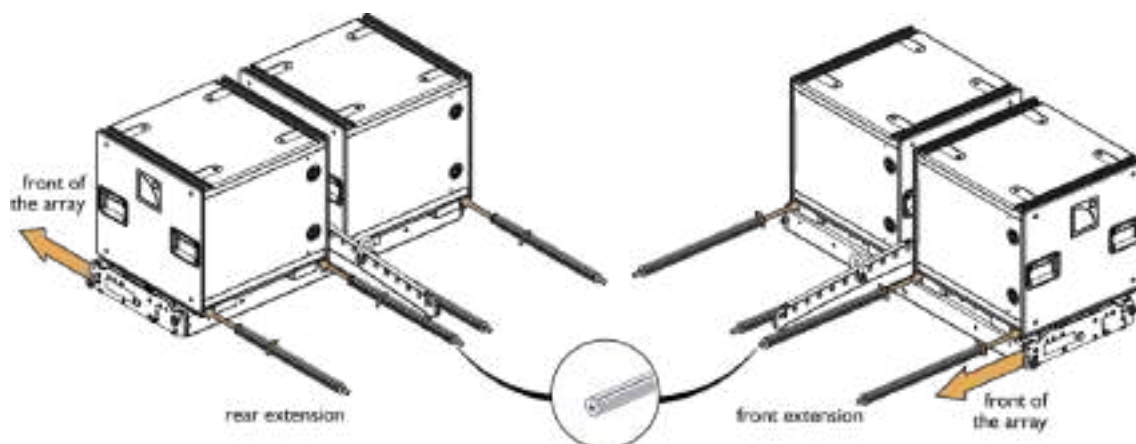
Insert the coupling bars:

- from the back for a negative angle (rear extension)
- from the front for a positive angle (front extension)

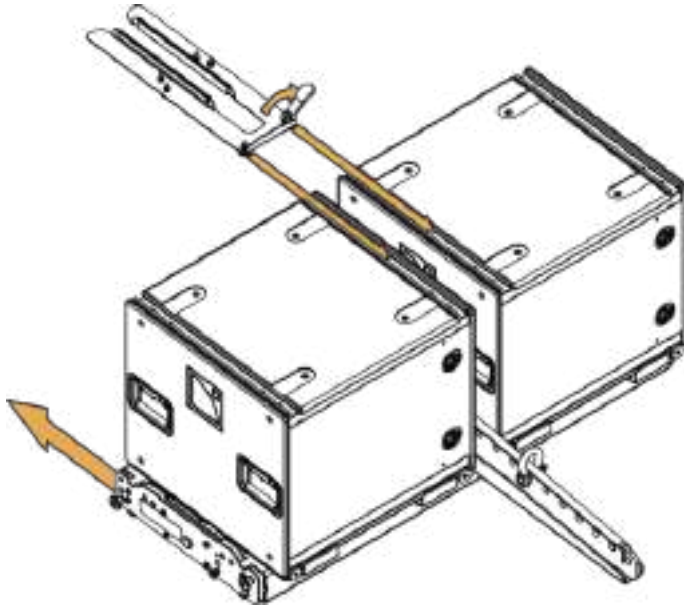
Always insert so the metallic safety is pointed upward (depending on the tilt angle).

- Secure the LA-RAK/LA-RAK II with the coupling bars.

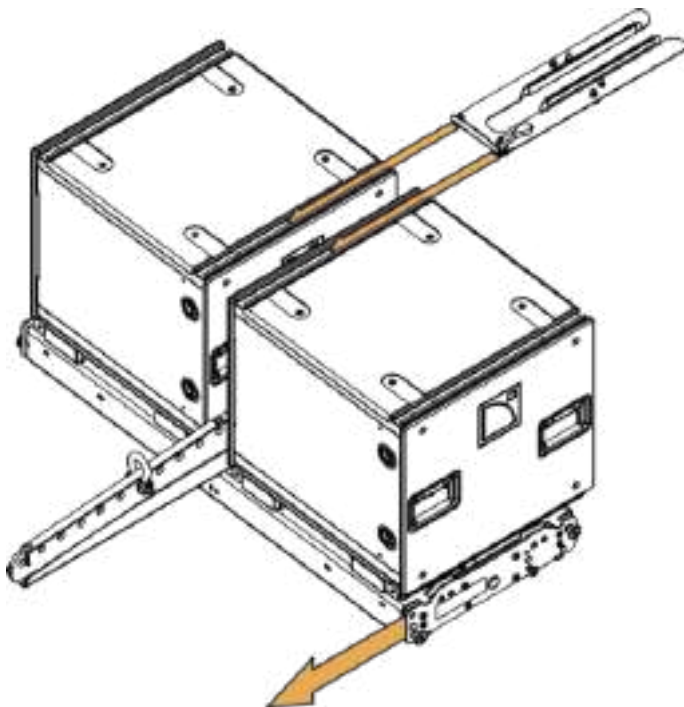
Insert the spring-loaded safety in the LA-RAK/LA-RAK II rails, give a quarter turn and slide the bar until the safety locks into place.



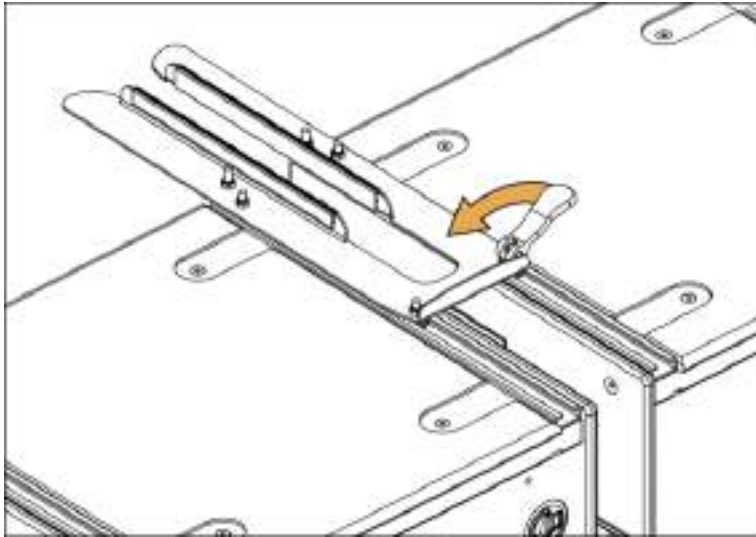
- 6.** If you are stacking 2 LA-RAK/LA-RAK II side-by-side on K2-BUMP, then insert the stabilizer between the two racks:
- a) Release the locking system by raising and turning the handle. Insert the stabilizer on the side opposite to the K2-BAR:
- From the front with a negative site angle (rear extension).



- From the rear with a positive site angle (front extension).



b) Secure the stabilizer by locking the handle.



N - Using a K2-RIGBAR to implement a pullback

Space between linking points

The space between the two linking points used for this configuration must be aligned with the array pickup points. The deployment load-bearing lines must be parallel to each other.

under K2-RIGBAR



under K2-BAR



Procedure

1. Hang the LA-SLING2T to the hook.



Make sure the chains are not twisted.

2. Attach the bar to the sling using the two 3.25 t WLL shackles. Use the interior holes of the bar.



The external holes are dedicated to additional safety.

The additional safety must either be:

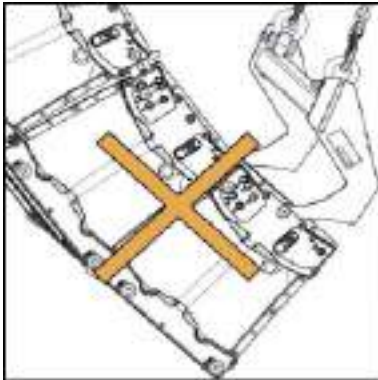


A two-leg bridle sling with a pickup point higher than the LA-SLING2T.

Two safety slings.



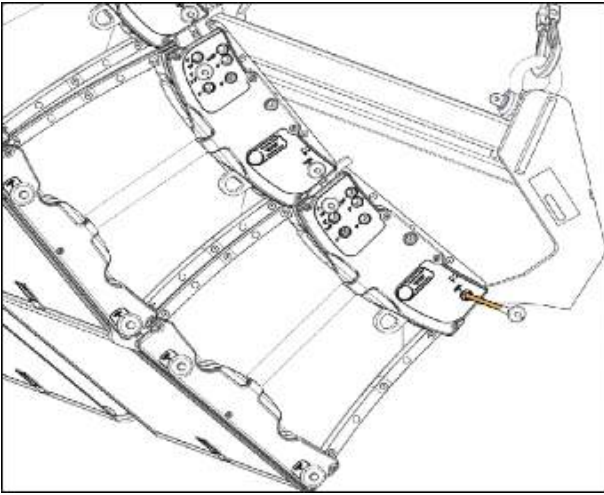
Do not use the rear rigging middle hole.



3. Attach the K2-RIGBAR to the bottom enclosure.



Use the rear rigging bottom hole.



4. Adjust the height of the pickup-point.



Do not raise the rear pick-up point above the front pick-up point.
The chains must be as vertical as possible.



Under K2-RIGBAR



Under K2-BAR

O - Rigging a Kara II downfill array under a K2 array

Type of deployment	flown array
Rigging accessories	KARADOWNK2
Min number of operators	2

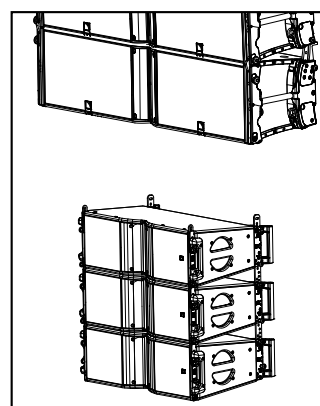
Assembly

About this task

! Reference rigging manuals

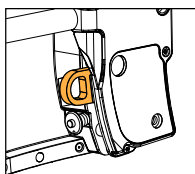
This procedure is complementary to the rigging instructions available in the main system rigging manuals. Refer to **the Kara II owner's manual** for more details.

Prerequisite



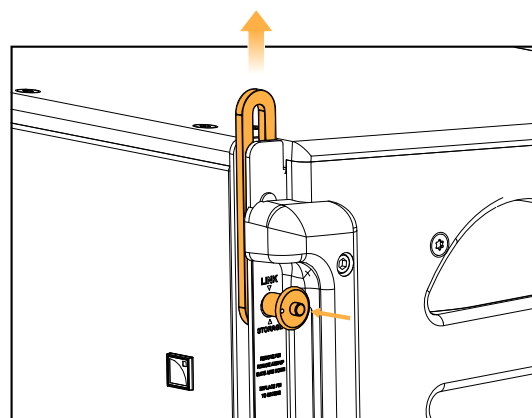
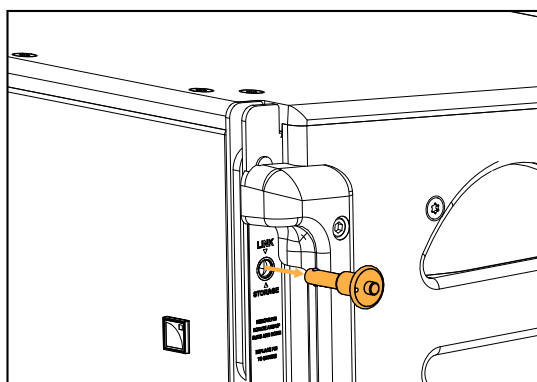
- Prepare and raise a K2 array. Refer to [A - Preparing a block of 4 K2](#) (p.71).
- Prepare an array of three Kara II with 0° inter-enclosure angles.
- Position the Kara II array under the K2 array.

! Make sure the latches on the bottom K2 are in storage position.

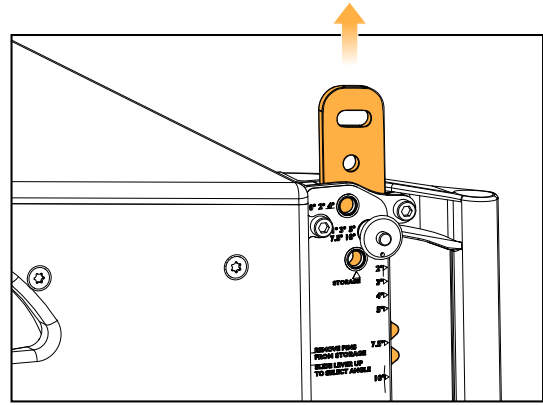
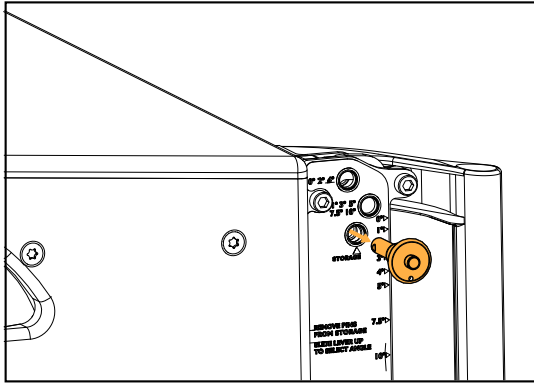


Procedure

1. Take out the four rigging arms on the top Kara II enclosure:
 - a) Lock the front rigging arms in linking position.



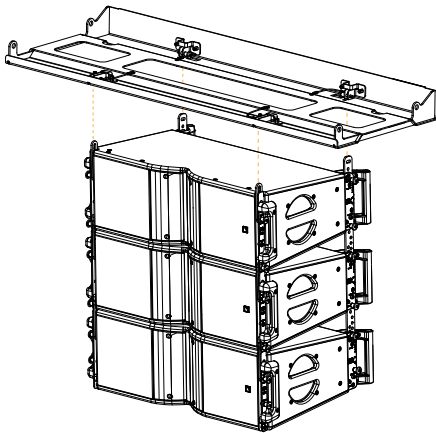
b) Slide up the rear rigging arms and select the same inter-element angle, from 0° to 10°.



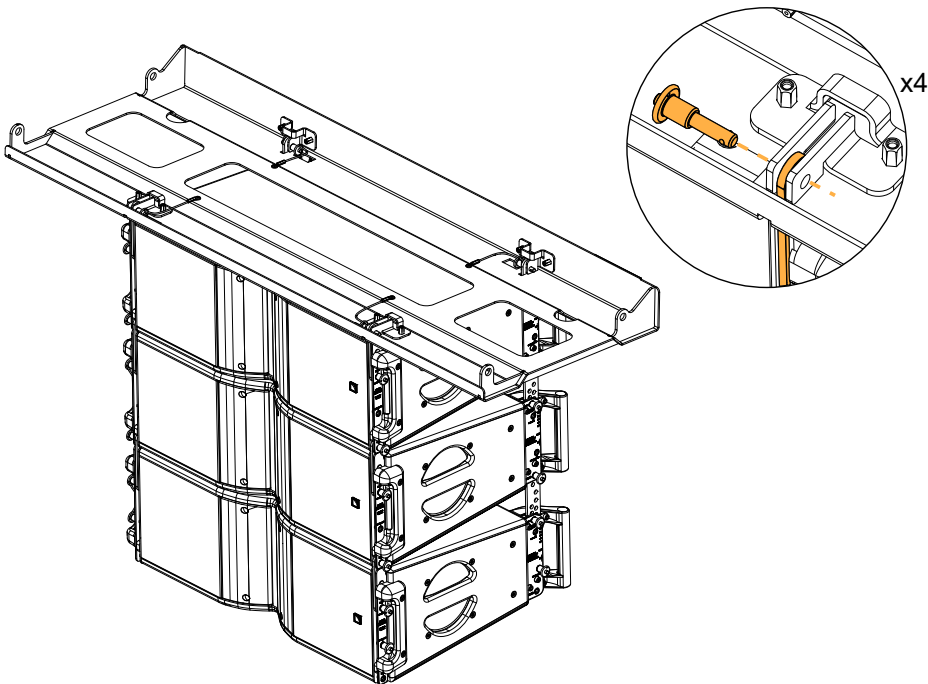
2. Secure a KARADOWNK2 on top of the Kara II array.



Position the higher ledge at the rear.

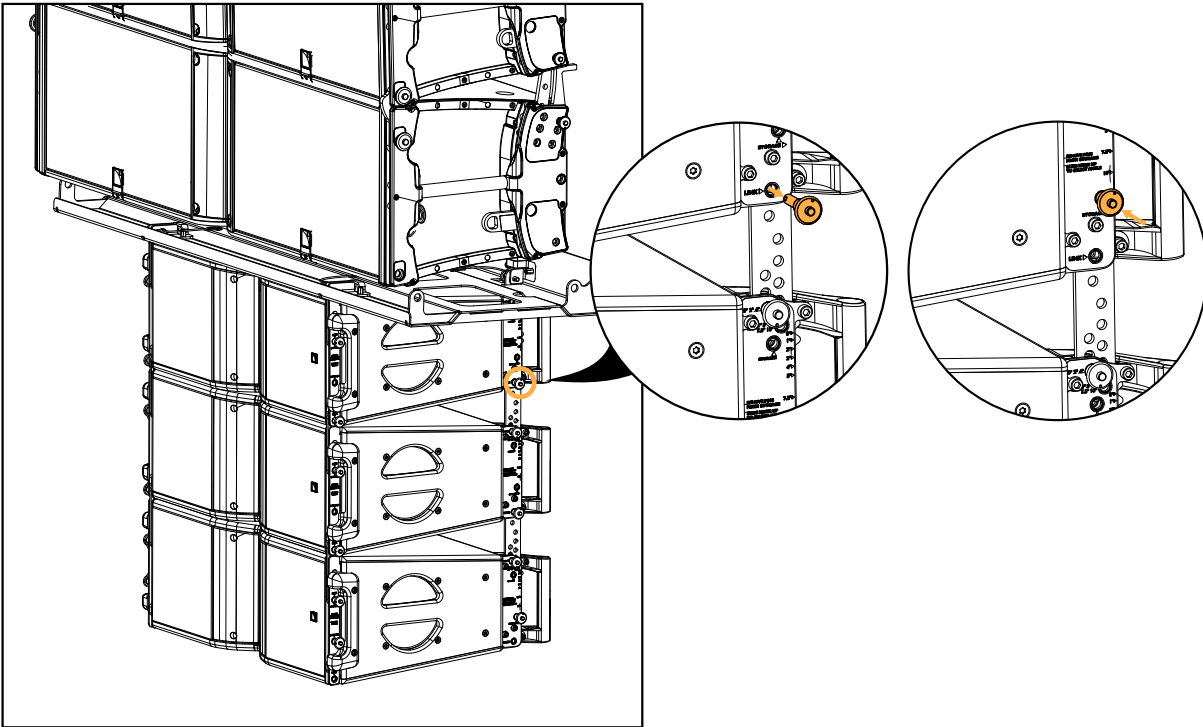


Secure the Kara II rigging arms inside the slits with the ball-locking pins.



3. Lower the K2 array as close as possible to the assembly without resting on it.

4. Disconnect the rear rigging between the two top Kara II enclosures.



Risk of crushing injury.

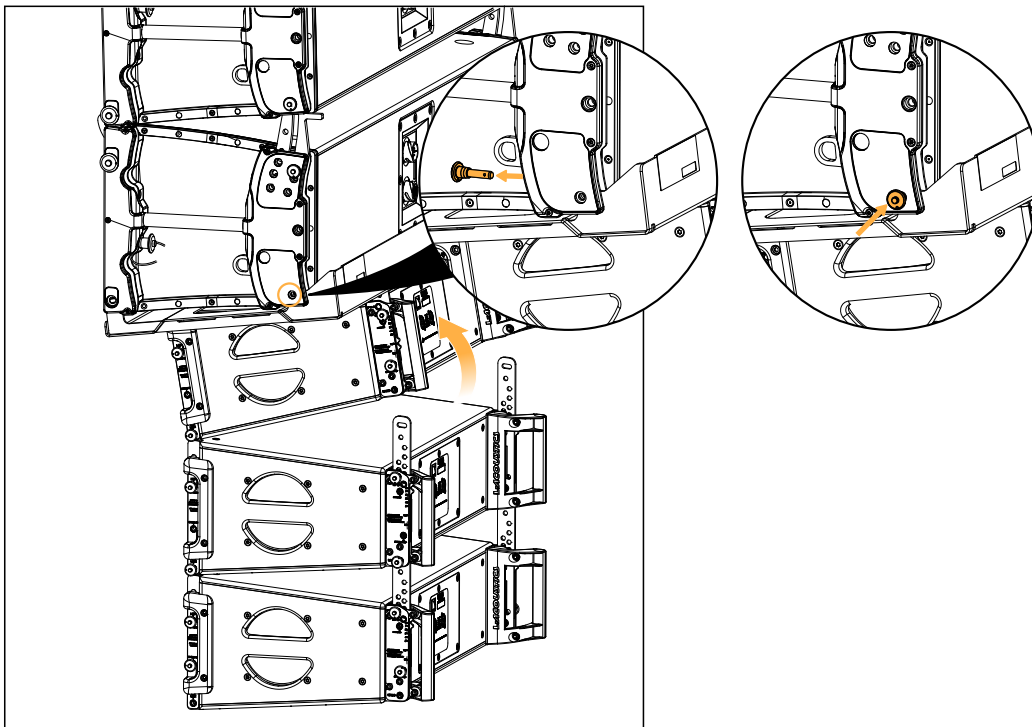
Keep fingers away from the contact area between the ledge and the cabinet.



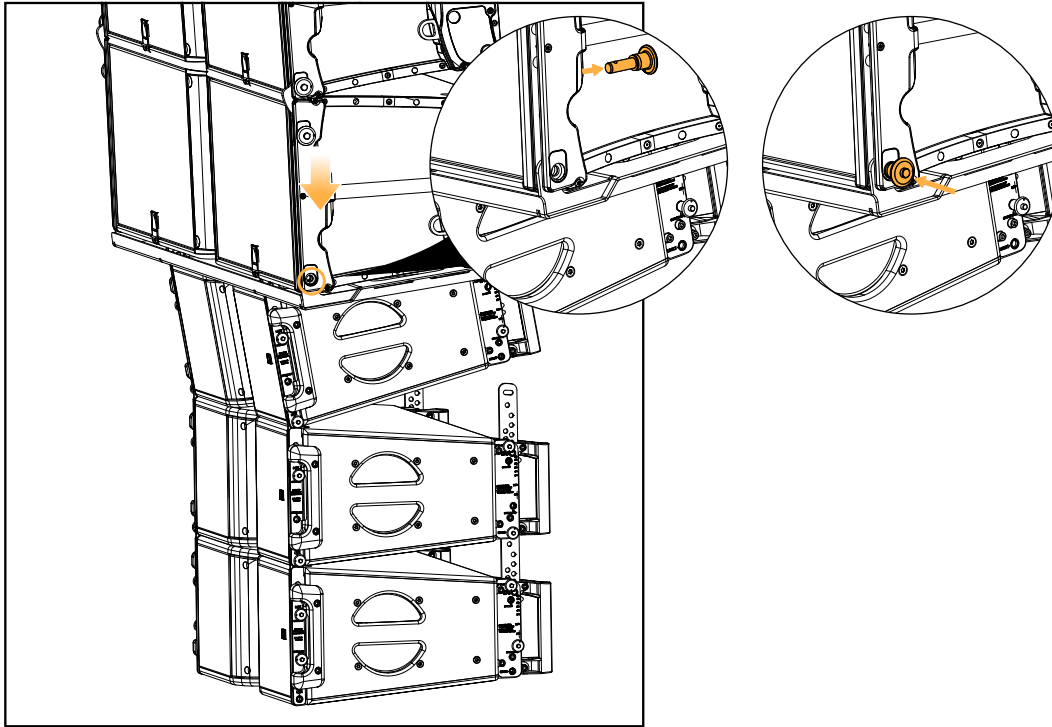
Risk of cable damage.

Disconnect any cable from the K2 bottom connector.

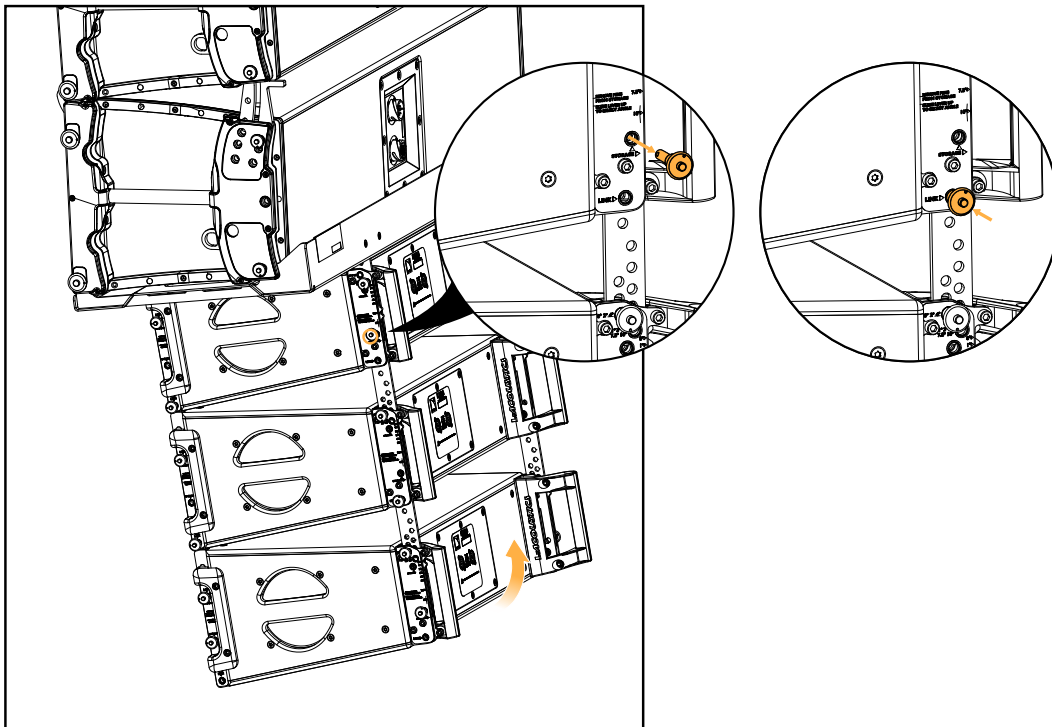
5. Connect KARADOWNK2 to the bottom of the K2 array:
 a) Rotate the top Kara II upwards and secure the rear KARADOWNK2 tabs to the K2 rigging.



- b) Secure the front KARADOWNK2 tabs to the K2 rigging.
Slightly lower the K2 array if necessary.



- c) Reconnect the top Kara II at the rear to the assembly.



6. Raise the array.



Do not implement a pullback on a K2 array with a Kara II downfill.

7. Set the inter-enclosure angles.



Refer to the **Kara II owner's manual**.

Connection to LA amplified controllers

! Refer to the **Amplification reference** technical bulletin for the latest information on compatibility with amplified controllers and cabling schemes for all enclosure types.

Enclosure drive capacity per amplified controller

Make sure the total number of connected enclosures does not exceed the maximum number of enclosures per controller (refer to the footnotes).

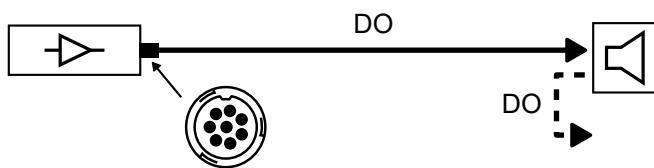
	LA4X	LA12X
	per output[*] / total	per output[*] / total
K2	1 / 1	3 / 3
Kara II	2 / 4	3 / 6
K1-SB	-	1 / 4

Cabling scheme for K2

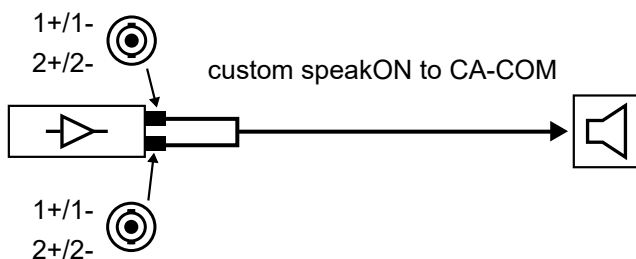
Refer to the cabling schemes to connect the enclosures to different types of output connectors.

i L-Acoustics does not supply the speakON-to-PA-COM interface. It must be built with two 4-point speakON connectors and a female 8-point PA-COM connector (no cable clamp).

Four-channel CA-COM output



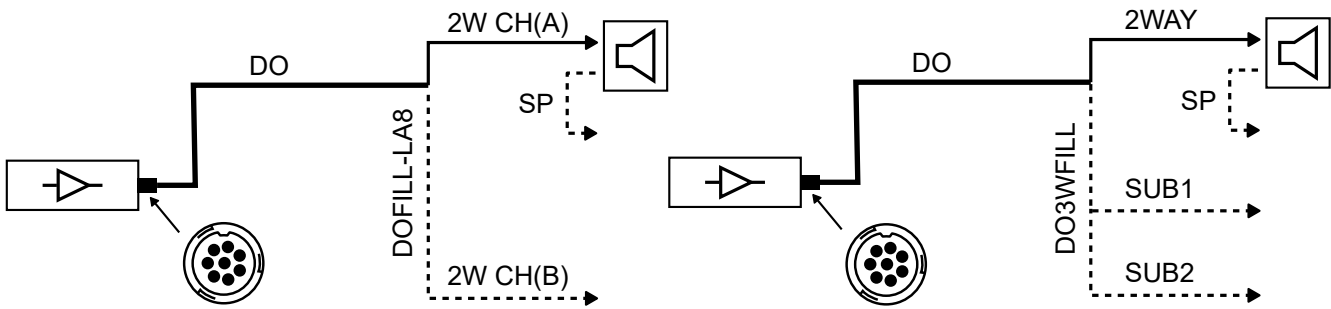
2 x Two-channel speakON output



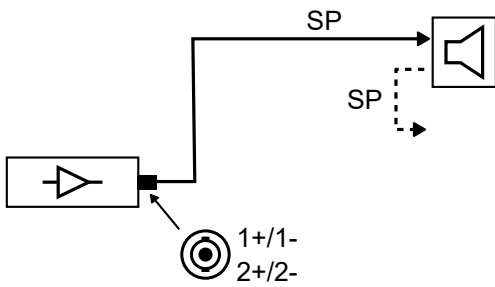
* For passive loudspeakers, the value corresponds to the number of enclosures in parallel on the output. For active loudspeakers, the value corresponds to the number of sections in parallel on the output.

Cabling scheme for Kara II

Four-channel CA-COM output

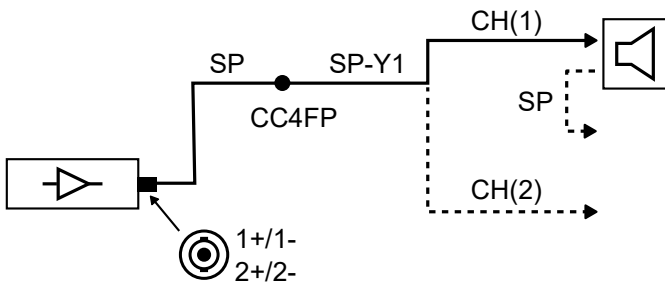


Two-channel speakON output

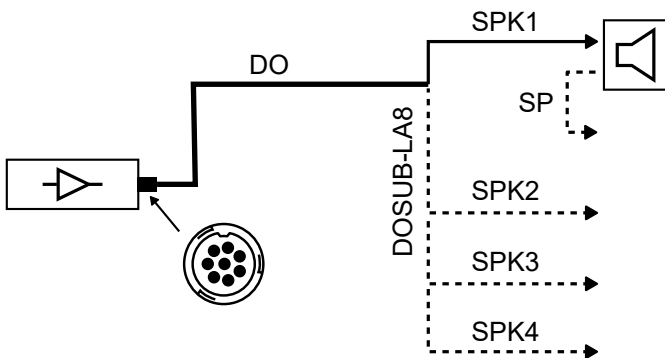


Cabling schemes for K1-SB

Two-channel speakON output



Four-channel CA-COM output



Corrective maintenance



Kara II and KS28

Refer to the **Kara II owner's manual** and the **KS28 owner's manual** for more information on the corrective maintenance.

Introduction

This section contains the following maintenance procedures:

K2

- [D/R - Grill](#) (p.134)
- [D/R - Variable directivity fins](#) (p.138)
- [D/R - LF speaker](#) (p.143)
- [D/R - MF speaker](#) (p.144)
- [D/R - Connector plate](#) (p.145)
- [D/R - HF driver](#) (p.148)
- [D/R - HF driver diaphragm](#) (p.151)
- [Temporary measure for K2 rear and front rigging pins](#) (p.153)

K1-SB

- [D/R - Grill](#) (p.156)
- [D/R - LF speaker](#) (p.157)

For advanced maintenance, contact your L-Acoustics representative.

Tools and consumables

Before performing maintenance on this product, make sure all the tools listed are available. References are given for FACOM® products in this table. Other manufacturers can be used.

name	reference	distributor
torque screwdriver (2 - 10 N.m) *	A.404	FACOM
set of 6-point 1/4" sockets *	RL.NANO1 / R.360NANO	FACOM
screwdriver extension *	-	-
4 mm hex bit - spherical head *	ETS.104	FACOM
3 mm hex wrench	-	-
flat screwdriver *	AEF.3X75	FACOM
blue threadlocker **	-	-
flat plastic tool	-	-
double face adhesive tape	-	-
compressed air blower	-	-



* included in the L-Acoustics Maintenance Toolcase.




** in repair kit KR LOCKBLUE.

Maintenance Toolcase

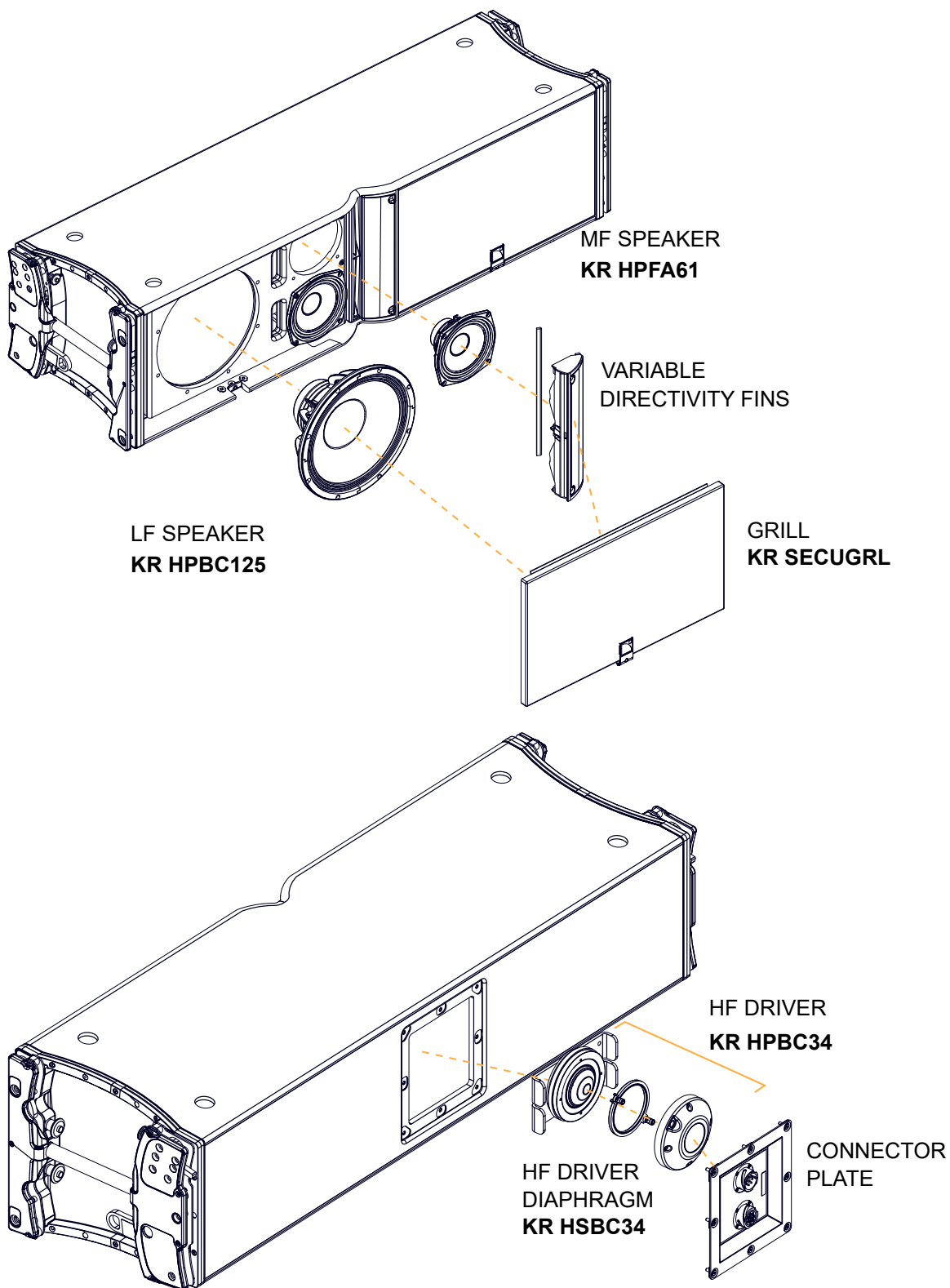
The Maintenance Toolcase is a carry-on suitcase that includes all the tools required to perform maintenance on L-Acoustics products. This toolcase is aimed at Certified Providers.

The Maintenance Toolcase uses a Peli™ 1510 Protector case that features three pre-cut layers of foam to safely fit the tools. The Maintenance Toolcase includes tools manufactured by FACOM®, Fluke®, Tohnichi, ABUS, and Würth.

 All third-party trademarks, registered trademarks, or product names are the property of their respective owners.

K2**Exploded views**

In order to operate, follow the order outlined here.



D/R - Grill

Tools

- torque screwdriver
- 4 mm hex bit
- grill safety tool (provided)
- flat screwdriver

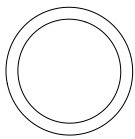
Consumables

- blue threadlocker

Repair kit

KR SECUGRL

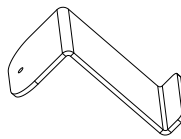
Kit 100 safety O-rings for front grill



x100

100557

grill safety O-ring



x1

100226

grill safety tool

Prerequisite

The enclosure is placed on its top.

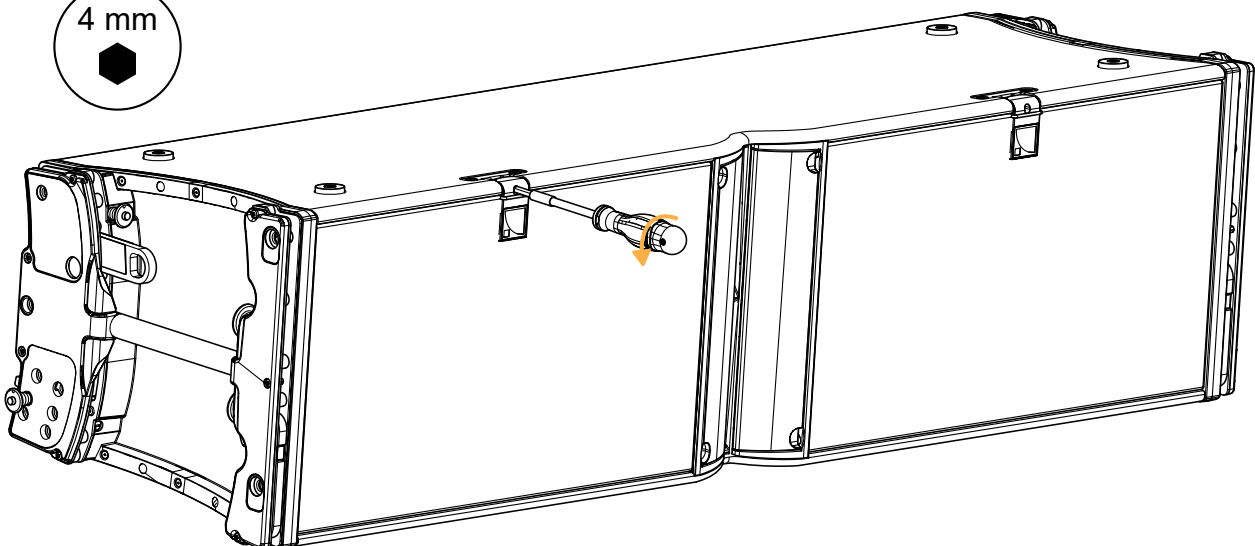
Disassembly

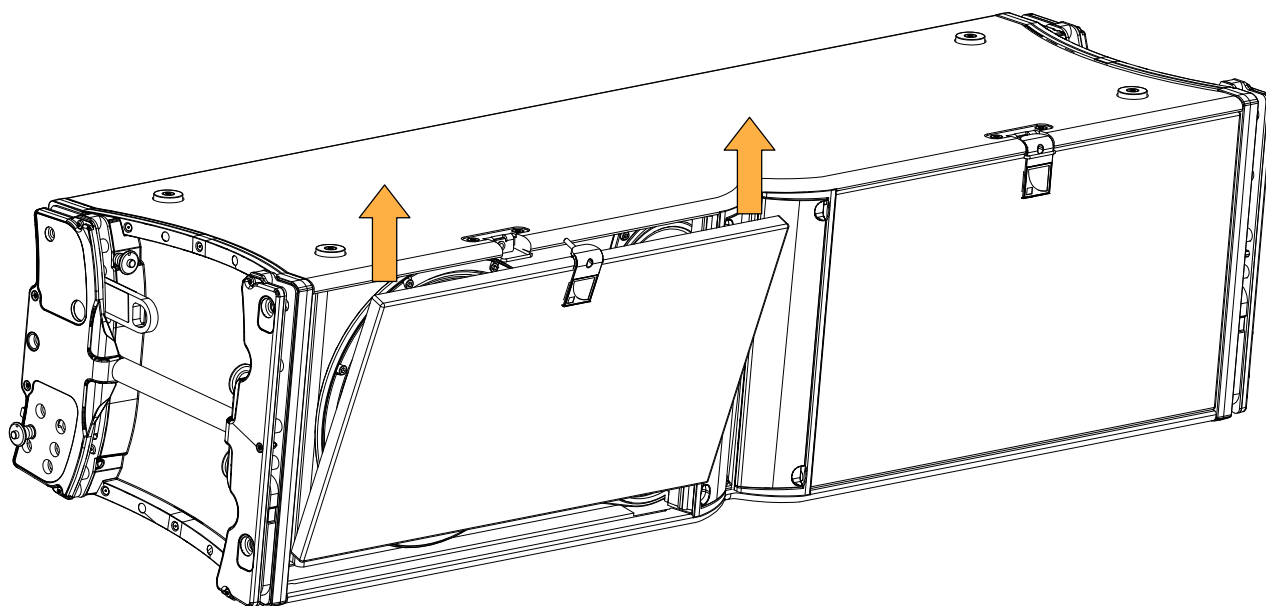
Procedure



If the grill is secured with an O-ring, pull it down before removing the grill.

1. Loosen the captive screw of the grill mounting bracket.



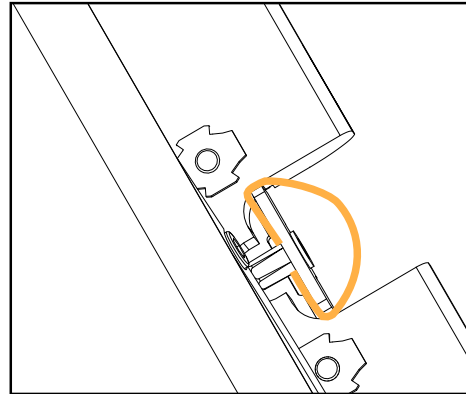
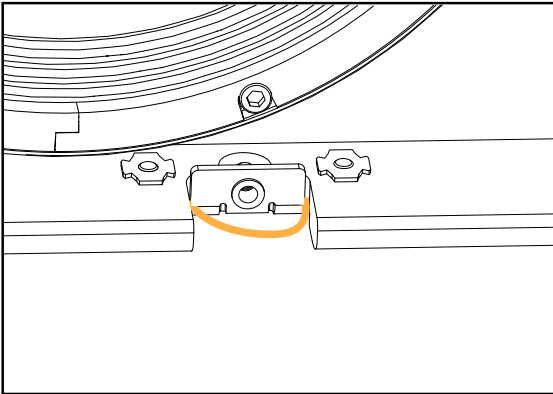
2. Remove the grill.

Reassembly

Procedure

1. Slide the O-ring under the captive screw insert.

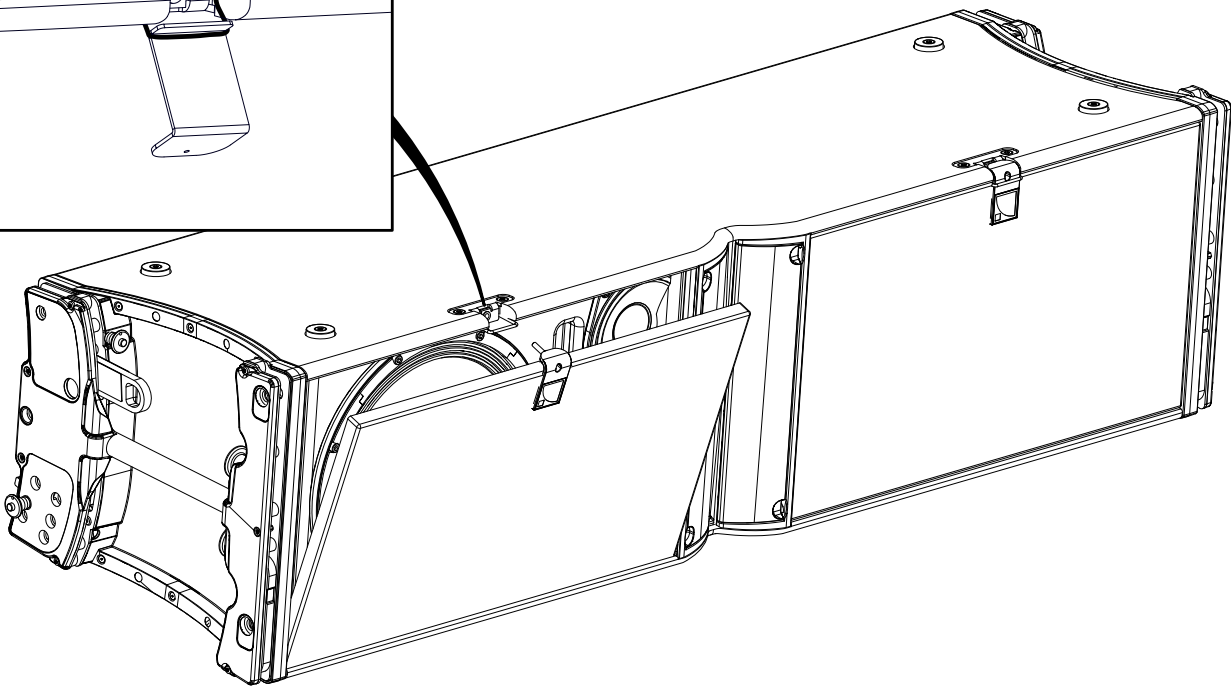
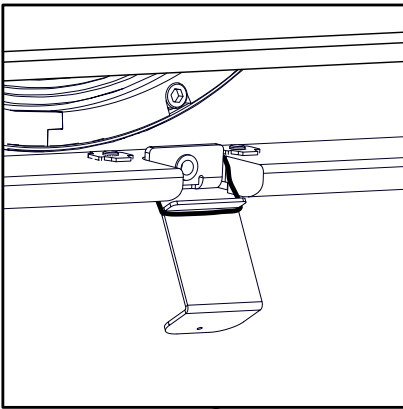
Use a flat screwdriver to push the O-ring under the insert.



2. Apply blue threadlocker on the captive screw.

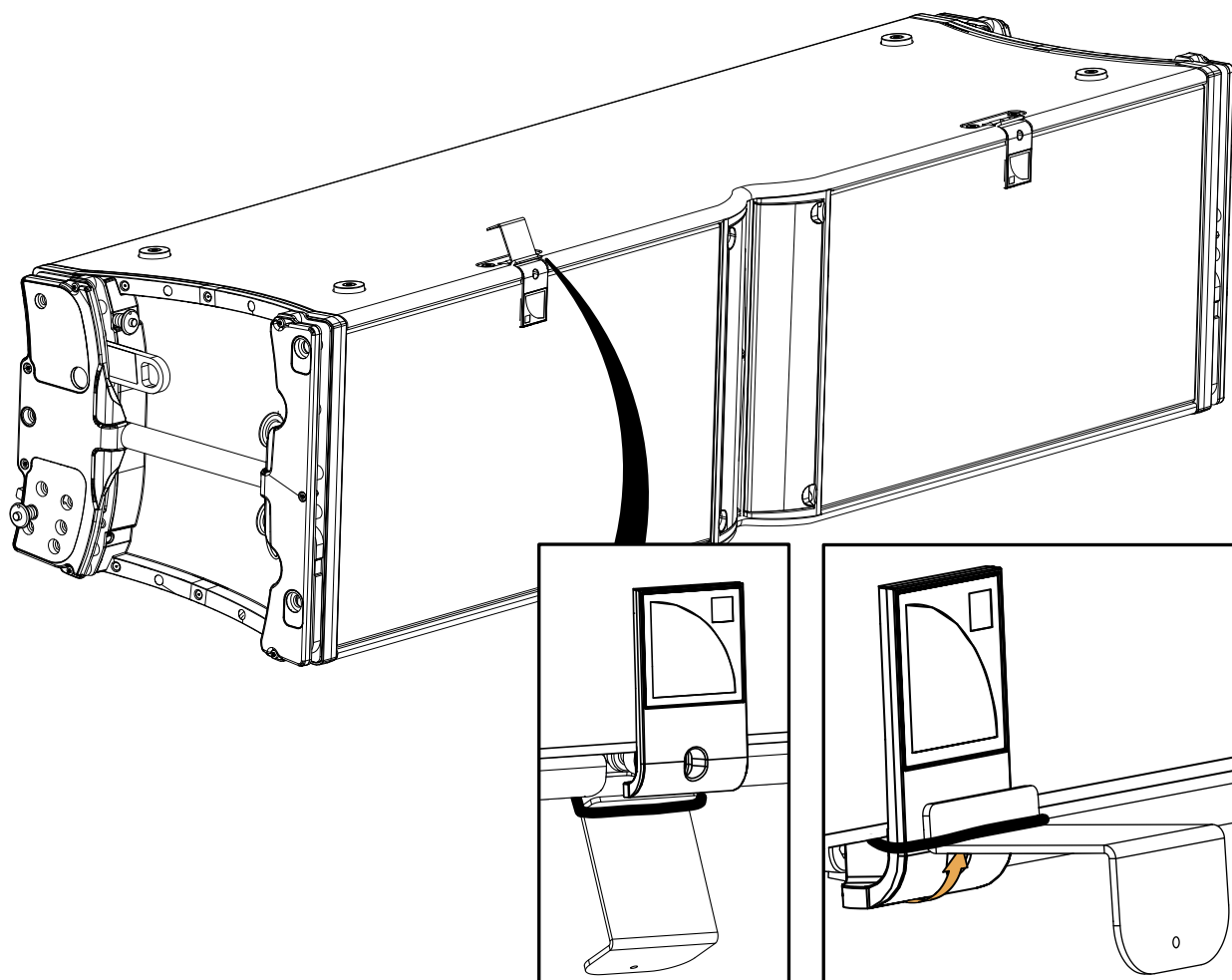
3. Insert the top of the grill.

Stretch the O-ring with the tool provided in the KR.

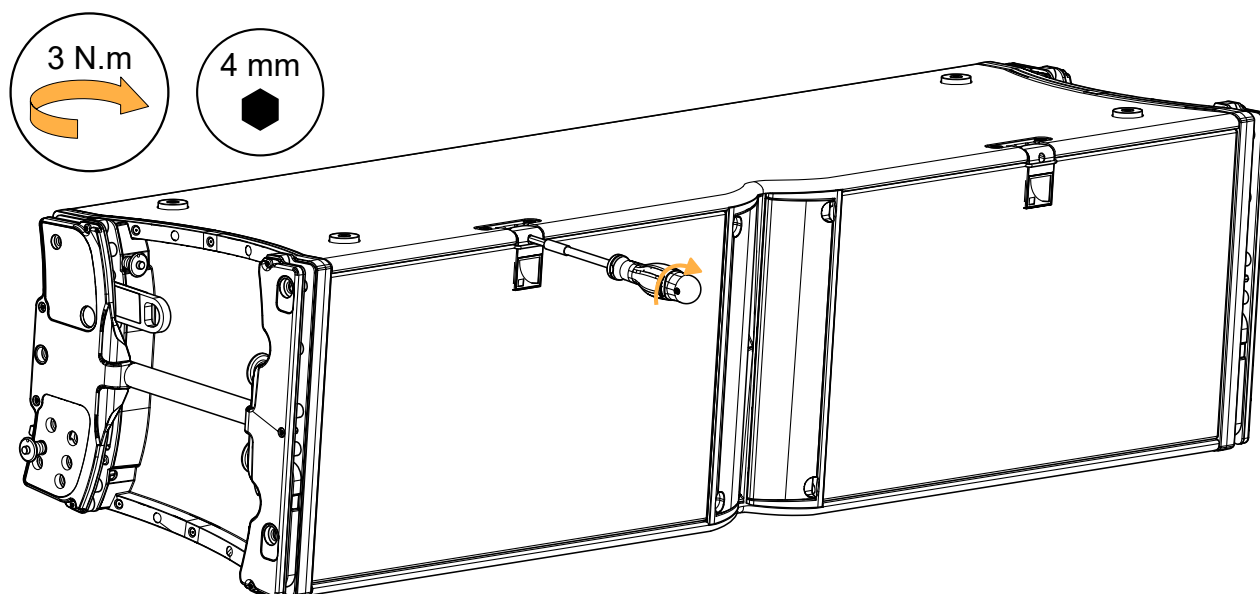


4. Close the grill.

Pull the O-ring so it goes around the grill logo and above the captive screw.

**5.** Secure the grill with the captive screw.

Use the 4 mm hex bit and set the torque to 3 N.m.



D/R - Variable directivity fins

Tools

- torque screwdriver
- screwdriver extension
- 4 mm hex bit - spherical head
- flat plastic tool

Repair kit

KR HPFA61

Kit HP FA61 Driver 6.5" - 8 ohms



x4

S100108

M5x45 hex



x4

S321

washer with gasket



x1

1396

dust cover gasket

Prerequisite

Grill removed.

See [D/R - Grill](#) (p.134).

Disassembly

About this task

! Use a flat tool made of **smooth plastic** to avoid scratching the fins.

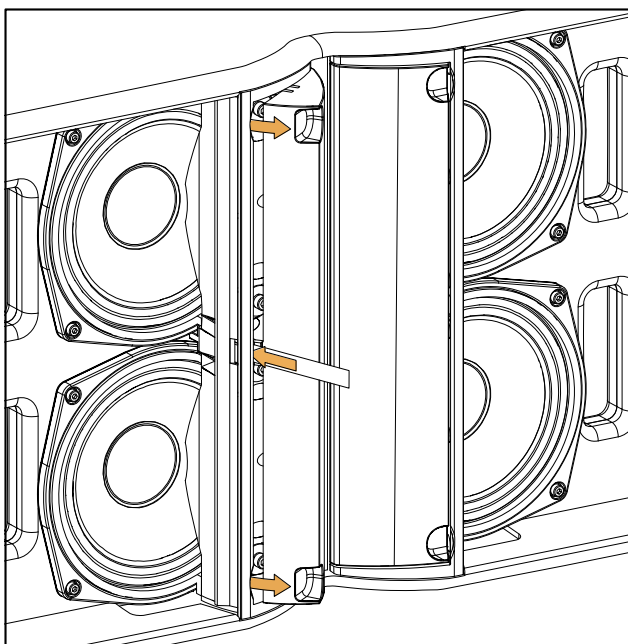
Procedure

! Risk of breaking the fin hook

Always use a flat tool to unhook the fin hook.

If there is resistance, check the fin hook again, and do not force the fin open.

1. Unhook the fin center hook with a flat plastic tool to open the fin.

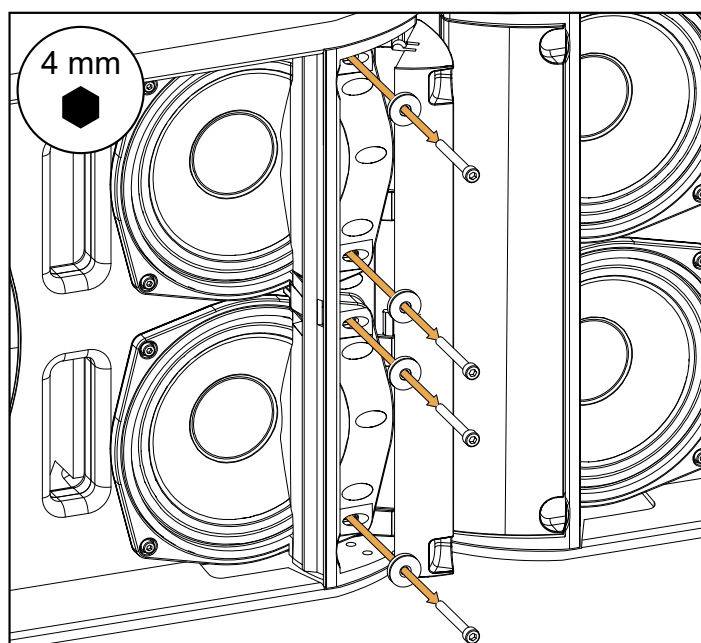


! Risk of breaking the fin hinge

Carefully open the fin to access the screws. Stop when there is resistance.

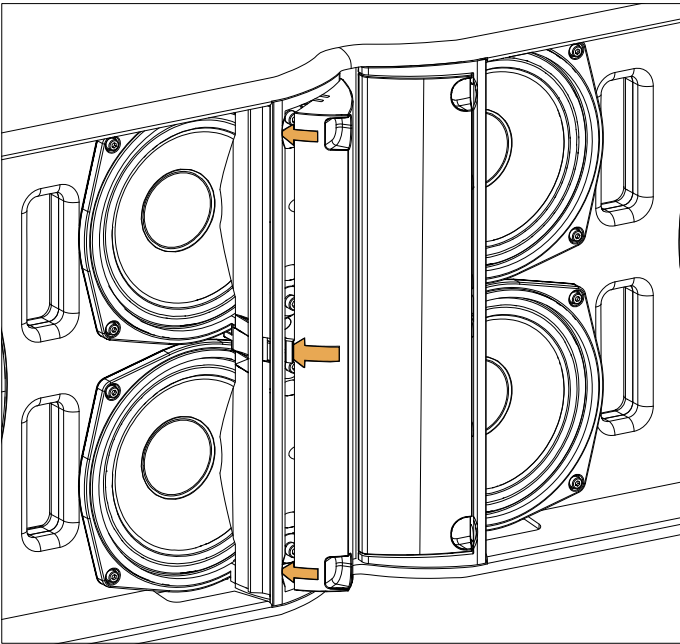
2. Remove the four screws and washers.

Use a screwdriver extension and a 4 mm spherical head bit to access the screws through the opening.



! Close the fin before handling it to protect the fin hinge.

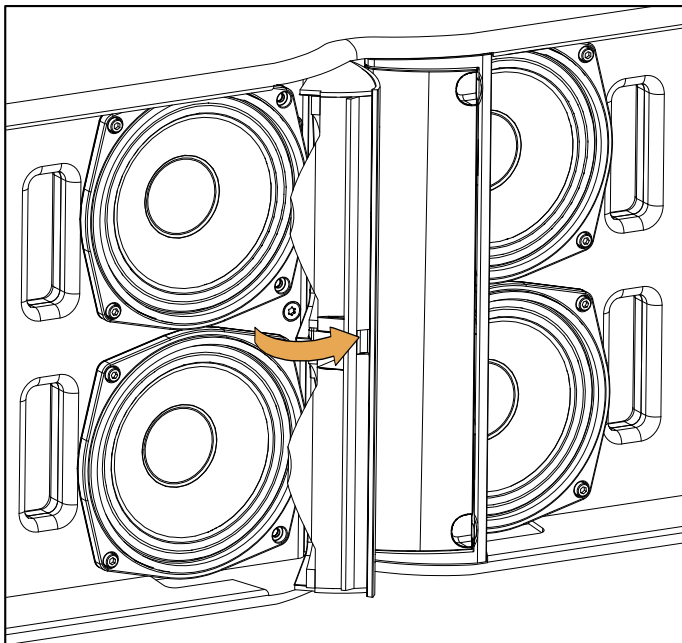
3. Close the fin by applying pressure toward the center hook.



4. Push firmly or tap on the fin to retract it.

At this point, the medium driver can be accessed without removing the fin completely, to avoid damaging the fin gasket.

a) Carefully rotate the fin while keeping the edge pressed on the dust cover.



b) Refer to [D/R - MF speaker](#) (p.144) to replace the medium speaker.

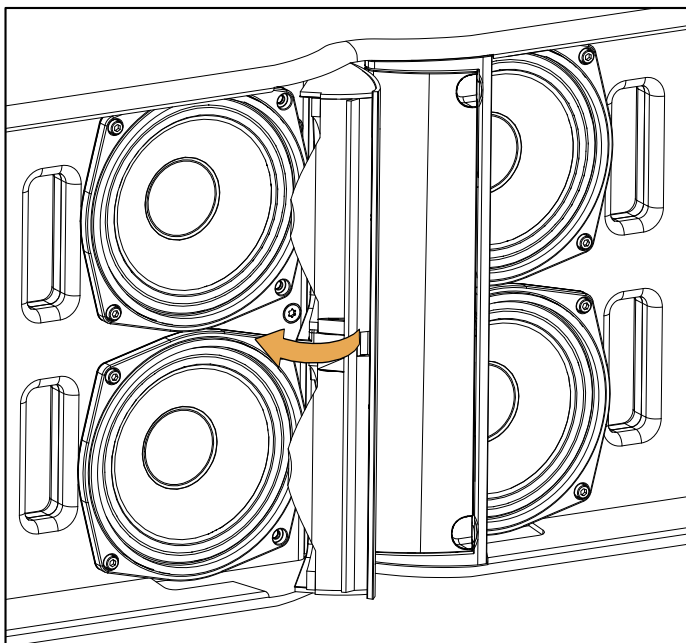
Reassembly

About this task

- !** For safety reasons, always use the new screws and spare parts provided in the KR.
If no new screws are available, use blue threadlocker.

Procedure

1. Position the closed and retracted fin on the cabinet.
Make sure both ends of the fin are flush with the cabinet.

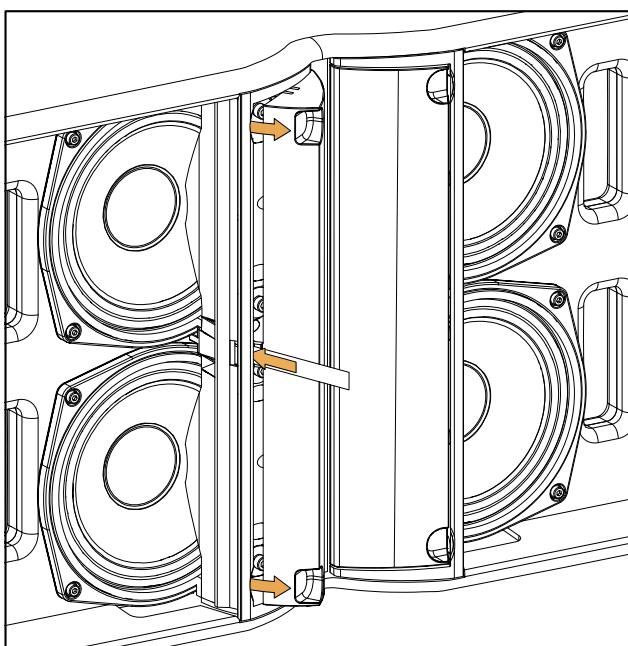


! **Risk of breaking the fin hook**

Always use a flat tool to unhook the fin hook.

If there is resistance, check the fin hook again, and do not force the fin open.

2. Unhook the fin center hook with a flat plastic tool to open the fin.



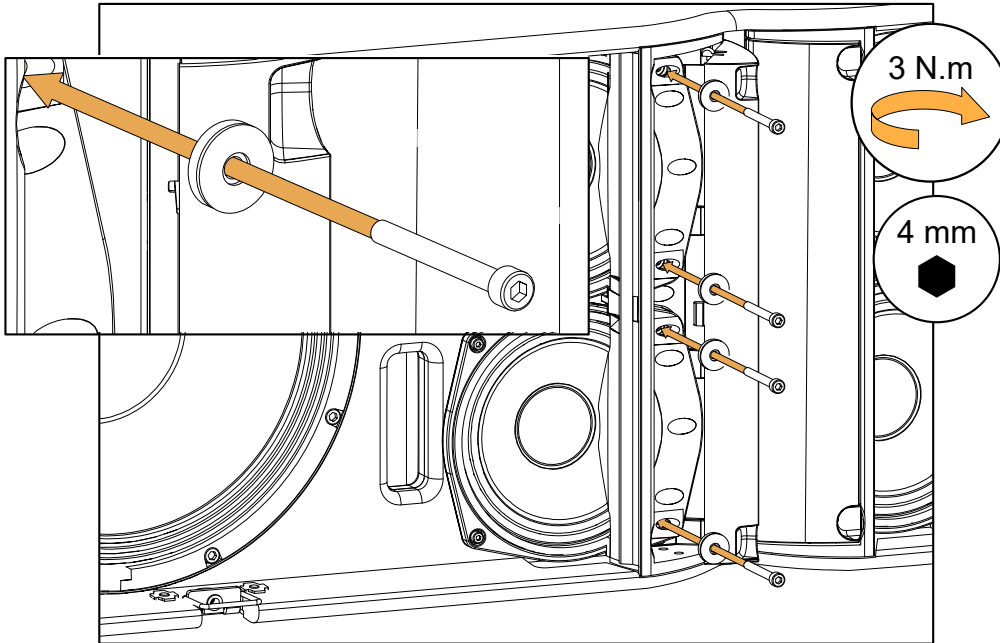


Risk of breaking the fin hinge

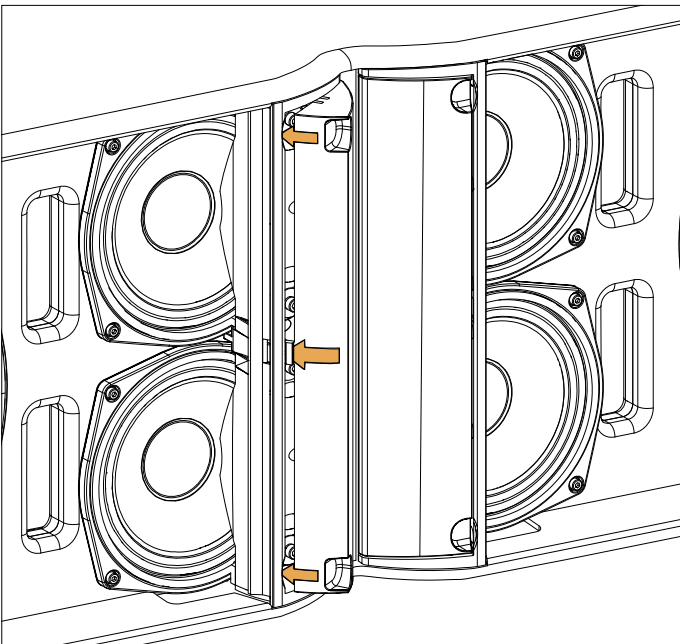
Carefully open the fin to access the screws. Stop when there is resistance.

- Secure the fin with the provided screws and washers.

Use a screwdriver extension and a 4 mm spherical head bit to access the screws through the opening.



- Close the fin by applying pressure toward the center hook.



What to do next

Perform the [Adjustable fins check](#) (p.57).

D/R - LF speaker

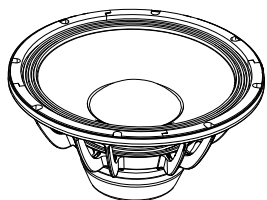
Tools

- torque screwdriver
- 5 mm hex bit

Repair kit

KR HPBC125

Kit 12" speaker - 8 ohms



x1

18177

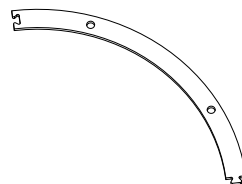
12" LF speaker



x8

S100036

M6x25 hex



x4

1250

12" speaker gasket

Prerequisite

Grill removed.

See [D/R - Grill](#) (p.134).

Exploded view



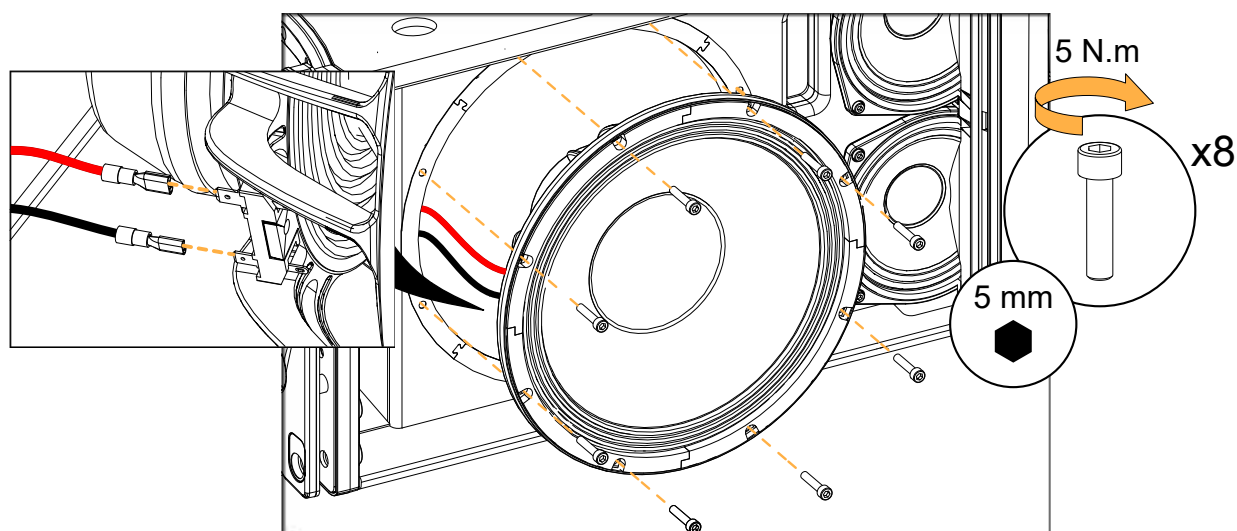
For safety reasons, always use the new screws and spare parts provided in the KR.



If the speaker gasket is damaged, remove and replace it.



Gradually tighten the screws following a star pattern.



What to do next

Perform the [Acoustical check](#) (p.59) procedures.

D/R - MF speaker

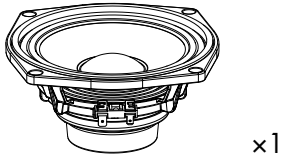
Tools

- torque screwdriver
- 4 mm hex bit

Repair kit

KR HPFA61

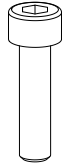
Kit HP FA61 Driver 6.5" - 8 ohms



x1

1278

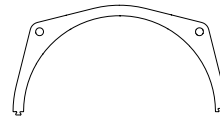
6.5" MF speaker



x2

S342

M5x20 hex



x2

1513

6.5" speaker gasket

Prerequisite

Grill removed.

Fins disassembled.

See [D/R - Grill](#) (p.134).

See [D/R - Variable directivity fins](#) (p.138).

Exploded view



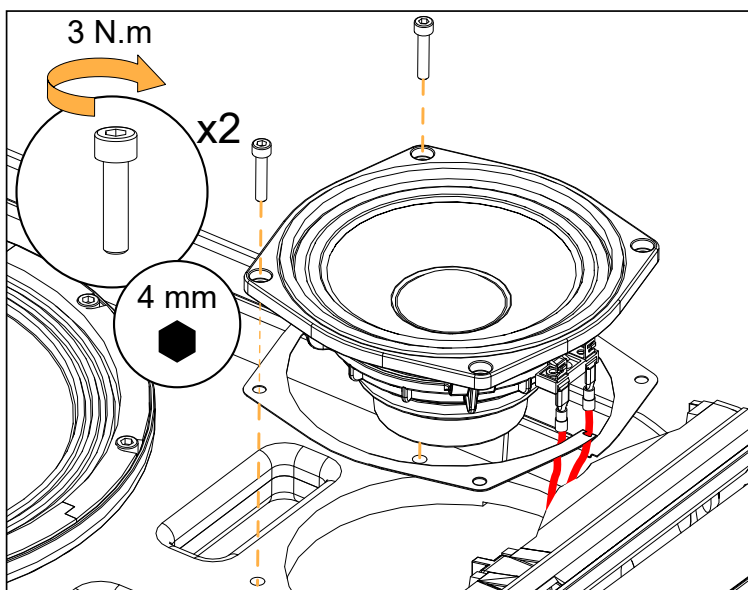
For safety reasons, always use the new screws and spare parts provided in the KR.



Gradually tighten the screws following a star pattern.



If the speaker gasket is damaged, remove and replace it.



Position the connectors toward the fins.

What to do next

Perform the [Acoustical check](#) (p.59) procedures.

D/R - Connector plate

Tools

- torque screwdriver
- T15 Torx bit

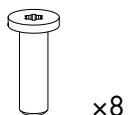
Consumables

- blue threadlocker

Repair kit

KR HPBC34

KR HP BC34 Driver 3 - 8 ohms



S100035

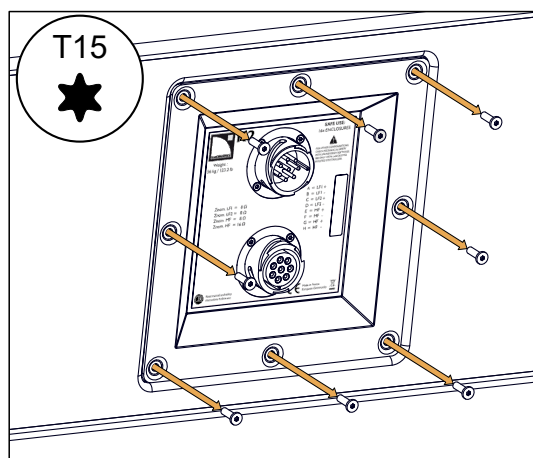
M5x16 Torx

Disassembly

Procedure

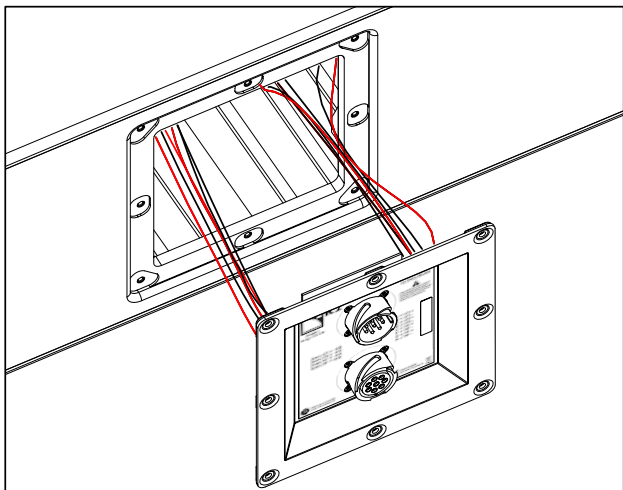
1. Remove the eight screws securing the connector plate.

! Save the screws for reassembly.



2. Remove the connector plate using a lever.

Avoid straining the speaker cables.



3. Disconnect the cables.

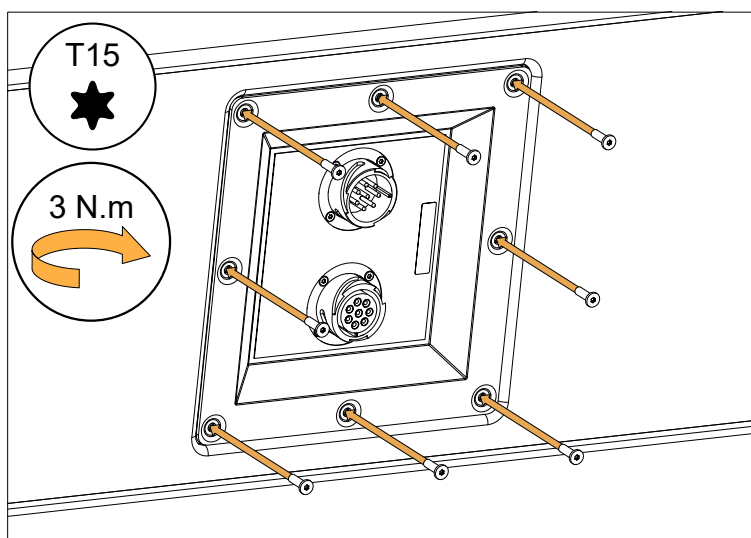
Reassembly

About this task

- ! For safety reasons, always use the new screws and spare parts provided in the KR. If no new screws are available, use blue threadlocker.

Procedure

1. Connect the cables.
2. Position the connector plate using the label as a reference.
 - ! Gradually tighten the screws following a star pattern.
 - i Put blue threadlocker on the screws.
3. Secure the connector plate.



D/R - HF driver

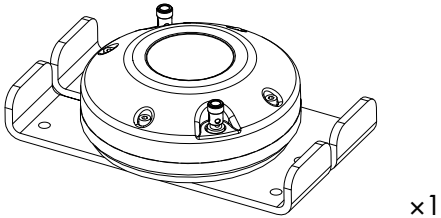
Tools

- torque screwdriver
- 5 mm hex bit

Repair kit

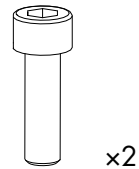
KR HPBC34

KR HP BC34 Driver 3 - 8 ohms



G199

3" HF driver - 8 ohms assembly



S100105

M6x20 hex

Prerequisite

Connector plate removed.

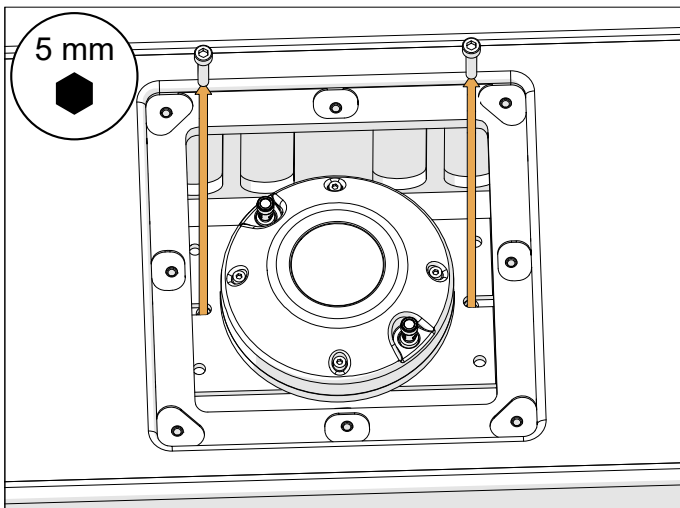
See [D/R - Connector plate](#) (p.145).

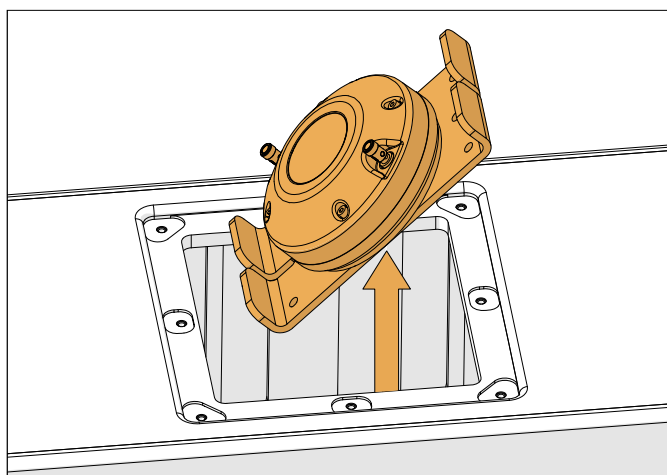
Disassembly

Procedure

1. Remove the HF driver cables.
Free the cables by pressing the driver push-buttons.
2. Remove the two screws securing the assembly.

! Save the screws for reassembly.



3. Remove the HF driver assembly.

Reassembly

About this task

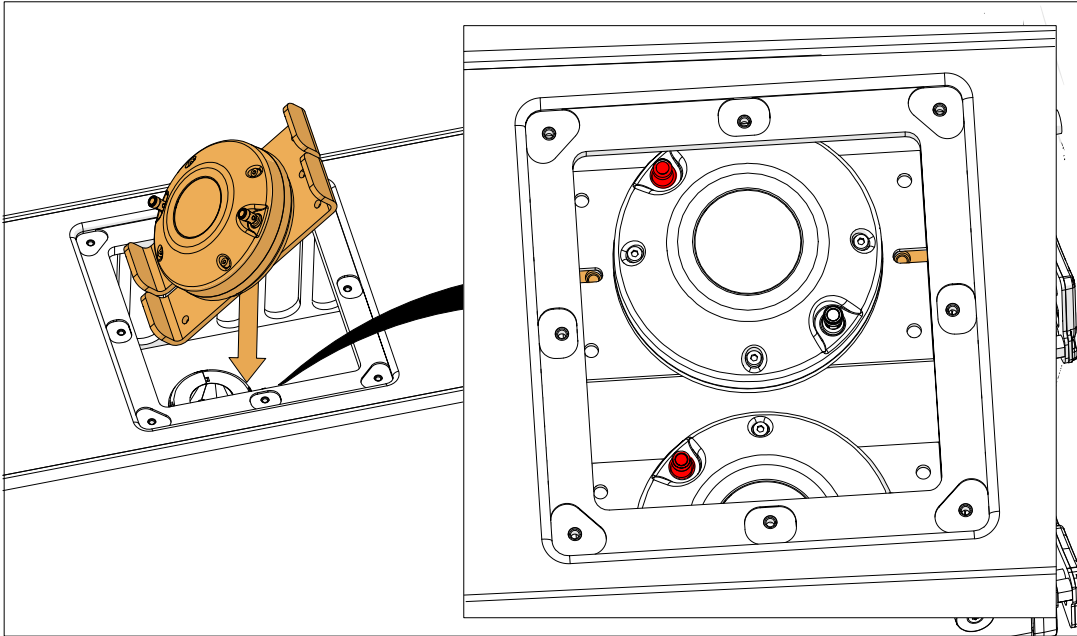


For safety reasons, always use the new screws and spare parts provided in the KR.

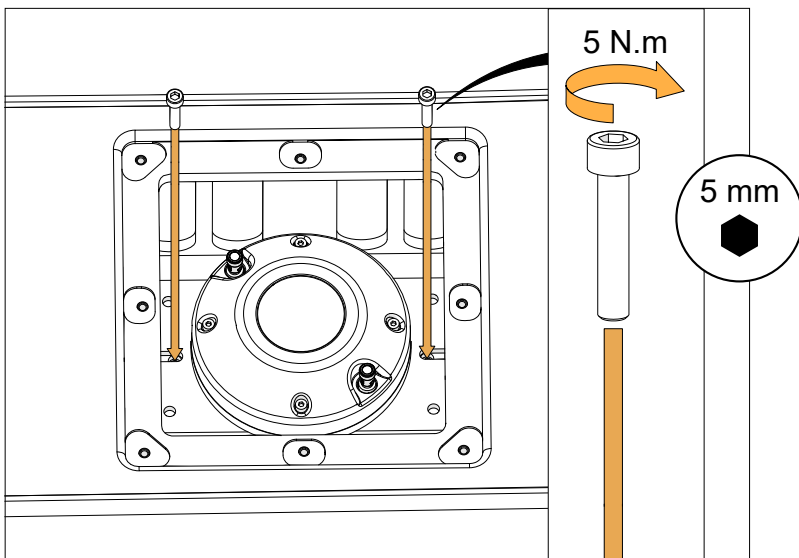
Procedure

1. Position the HF driver assembly in the cabinet.

Align the plate with the cabinet inserts and position the red connector on the left.



2. Secure the assembly.



3. Connect the corresponding speaker cables to the high-frequency driver.

D/R - HF driver diaphragm

Tools

- torque screwdriver
- 3 mm hex bit
- 3 mm hex wrench

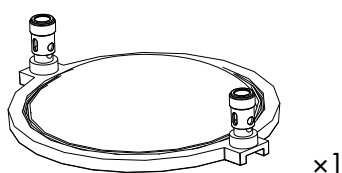
Consumables

- double face adhesive tape

Repair kit

KR HSBC34

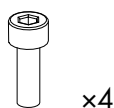
KR Diaphragm for HP BC34II (3" driver - 8 ohms)



x1

1438

diaphragm kit for 3" driver - 8 ohms (with shims)



x4

S1438

M4x14 hex

Prerequisite

Connector plate removed.

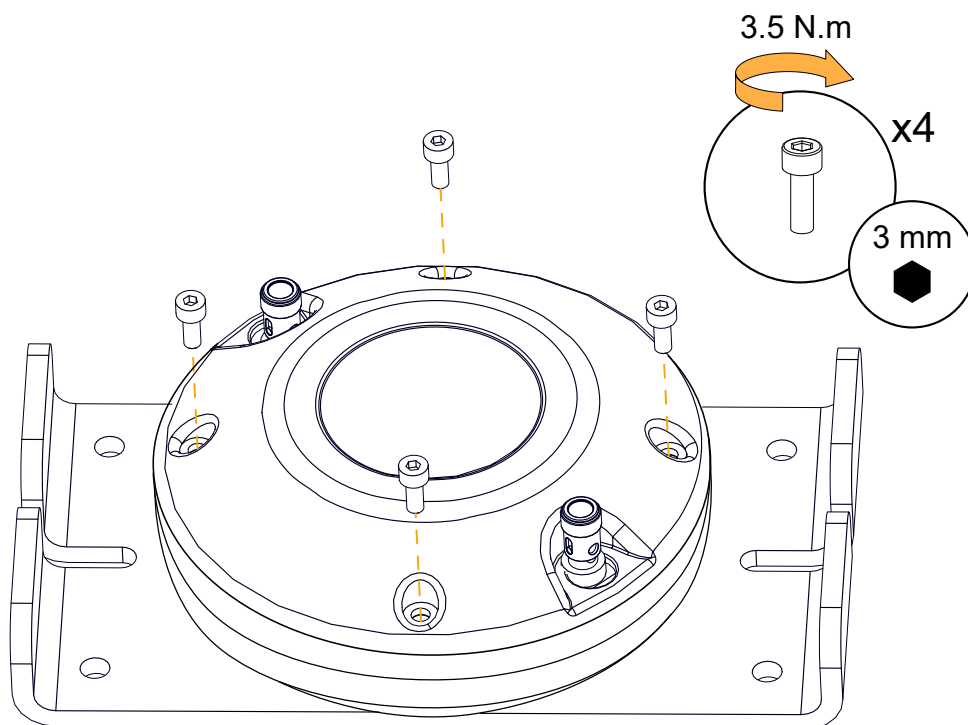
HF driver removed.

The HF driver assembly is placed on a flat surface in a dust-free environment.

See [D/R - Connector plate](#) (p.145).

See [D/R - HF driver](#) (p.148).

Exploded view



3.5 N.m

x4

3 mm


Disassembly

Procedure



1. Remove the four screws securing the cover.
Use the 3 mm hex bit.
2. Remove the cover.
3. Carefully remove the diaphragm.
Note the position of the part.
4. If there are shims on the dome, carefully remove them.
Take note of how many and what kind of shims are present.

Reassembly

About this task

 For safety reasons, always use the new screws and spare parts provided in the KR.

Procedure

1. Clean the dome and the air gap.
Use a blower or double face adhesive tape to remove any particle.
 Make sure the air gap is perfectly clean before moving to the next step.
2. Place the same kind and number of shims that were initially present.
3. Carefully place the diaphragm.
Use the cable connectors as reference points.
4. Secure the cover to the speaker with the four screws.
 - a)  Gradually tighten the screws following a star pattern.

Gradually tighten each screw manually with the Allen wrench n°3.
 - b) Tighten the screws in the same order with the torque screwdriver.
Use the 3 mm hex bit and set the torque to 3.5 Nm.

What to do next

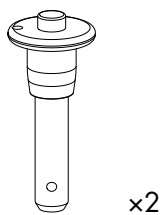
Perform the [Acoustical check](#) (p.59) procedures.

Temporary measure for K2 rear and front rigging pins

Repair kit

KR PIN1394

Kit 2 x pin 1394

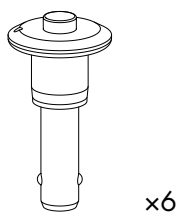


1394

ball-locking pin $\text{\O}3/8''$ with tether

KR PIN163

Kit K1 6 ball head pins



163

ball-locking pin $\text{\O}1/2''$ with tether

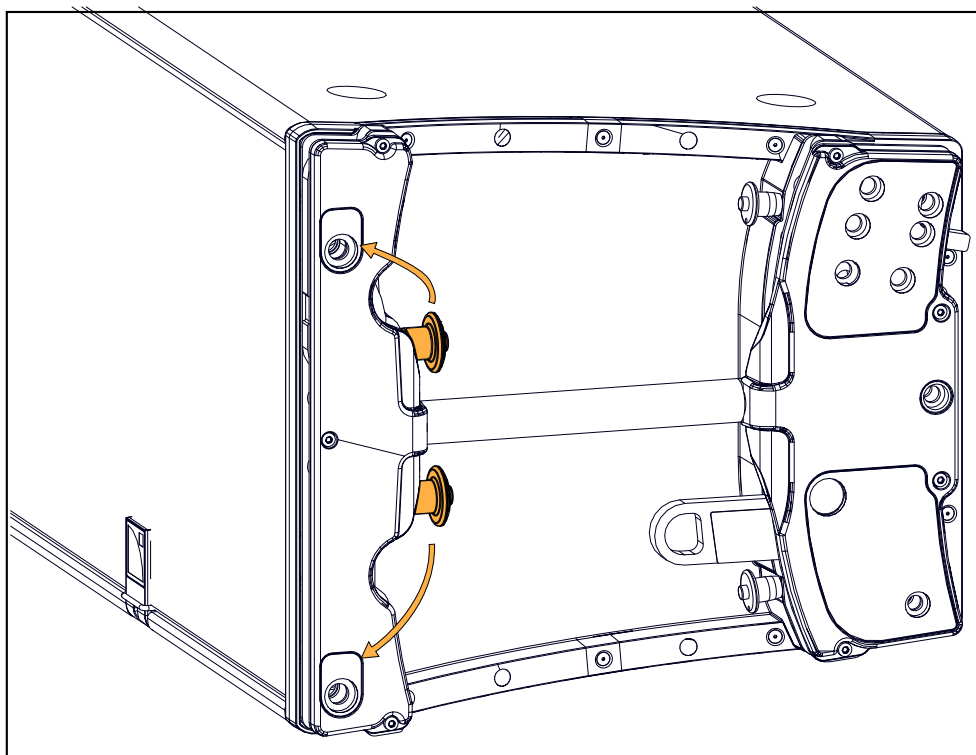


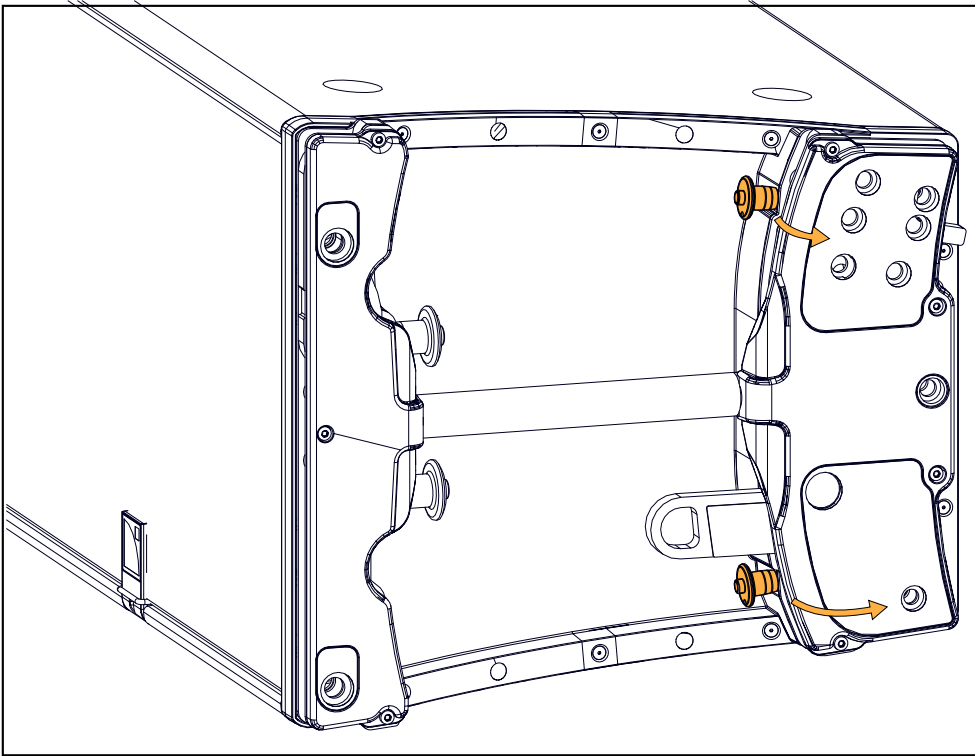
Contact your Certified Provider to finalize the ball-locking pins installation.

Inspect the ball-locking pins before operation.

Store the ball-locking pins in their storage slots when not in use.

Use the provided ball-locking pins for the rear and front rigging.

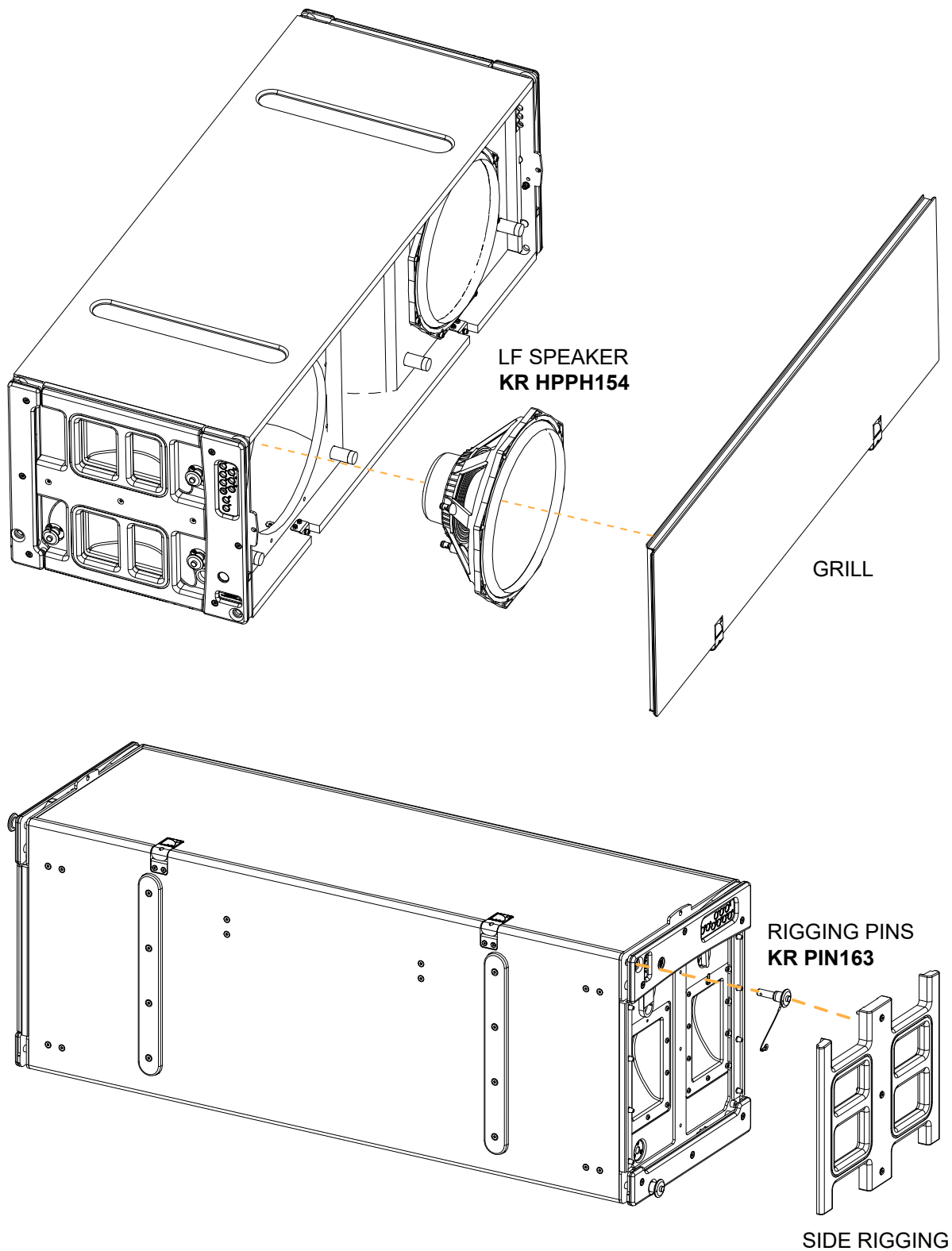




K1-SB

Exploded views

In order to operate, follow the order outlined here. Each assembly refers to the corresponding Disassembly/Reassembly (D/R) procedure and the necessary repair kit.



D/R - Grill

Tools

- torque screwdriver
- 4 mm hex bit

Repair kit

KR HPPH154*

Kit HP PH154 Speaker 15" - 8 ohms



x2

S100155

M5x25 hex



x2

S158

plain washer Ø5 mm



* The screws and fasteners are also provided in the KR HSPH154 (Kit reconing 15").

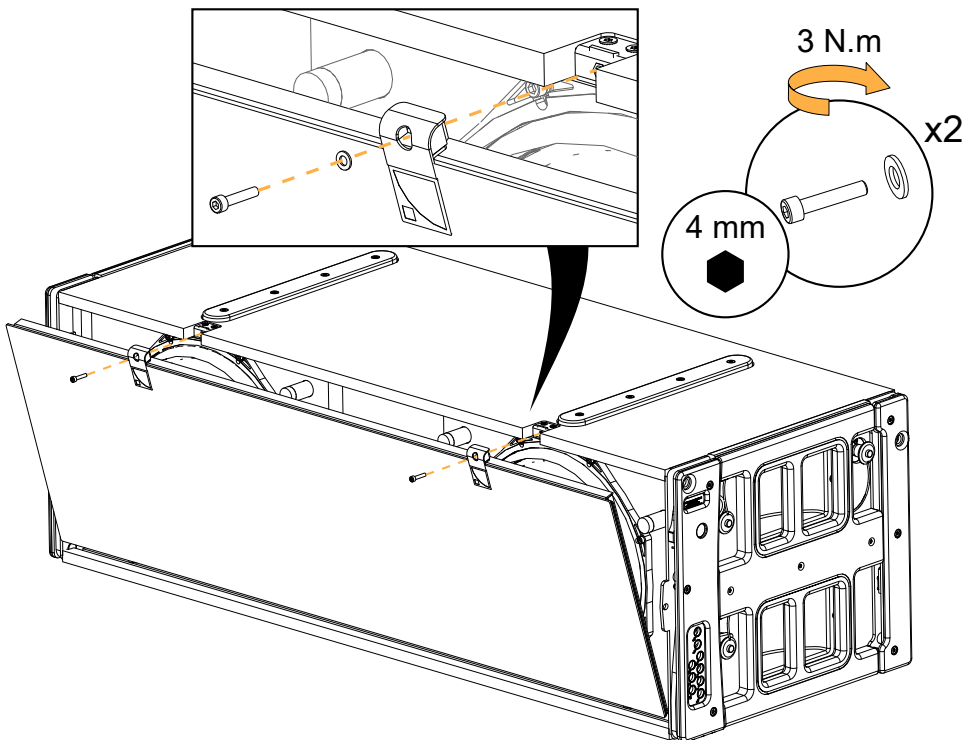
Prerequisite

The enclosure is placed on its top.

Exploded view



For safety reasons, always use the new screws and spare parts provided in the KR. If no new screws are available, use blue threadlocker.



D/R - LF speaker

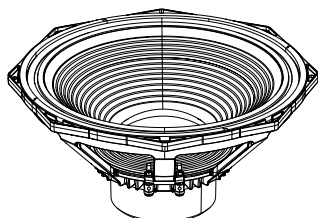
Tools

- torque screwdriver
- 5 mm hex bit

Repair kit

KR HPPH154*

Kit HP PH154 Speaker 15" - 8 ohms



x1

18463

15" speaker - 8 ohms



x8

S100054

M6x30 hex



* The screws and fasteners are also provided in the KR HSPH154 (Kit reconing 15").

Prerequisite

Grill disassembled.

See [D/R - Grill](#) (p.156).

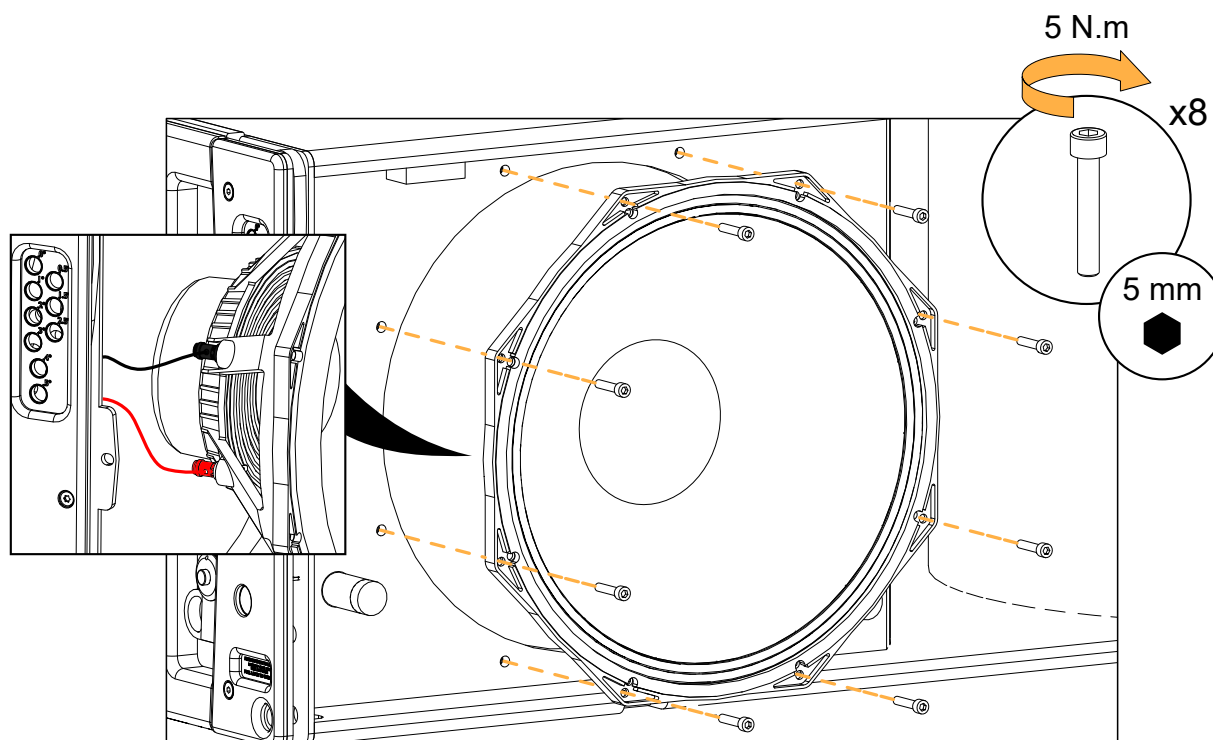
Exploded view



For safety reasons, always use the new screws and spare parts provided in the KR.
If no new screws are available, use blue threadlocker.



Gradually tighten the screws following a star pattern.



D/R - Side Rigging Protection


Tools

- torque screwdriver
- T30 Torx bit

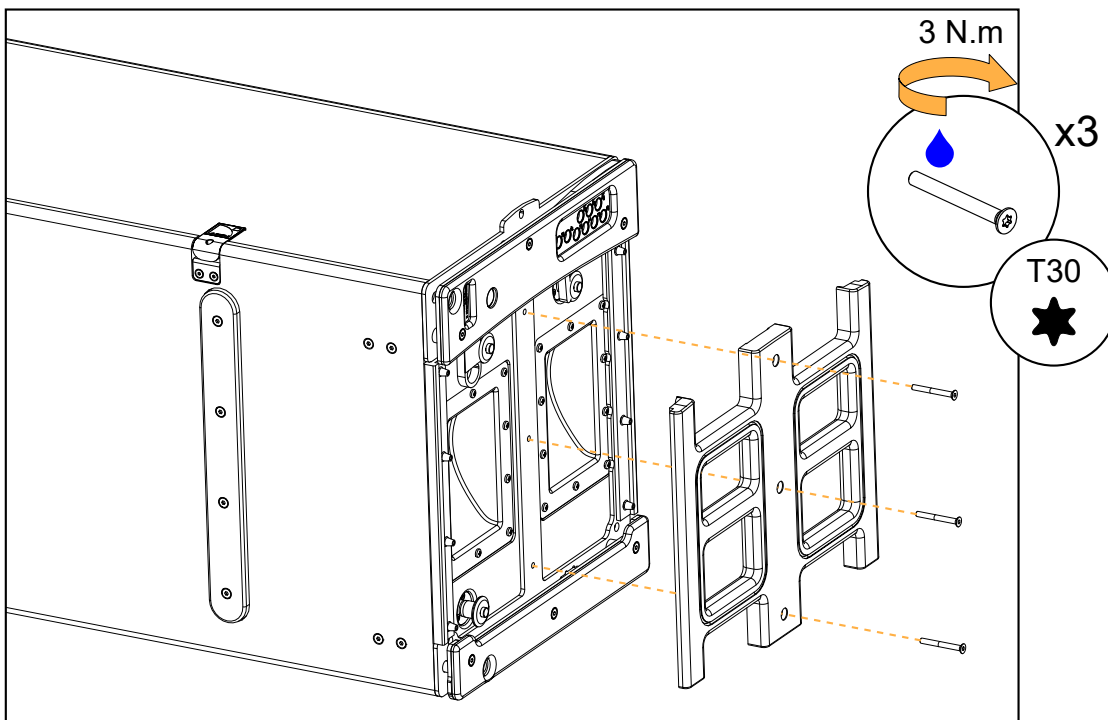
Consumables

- blue threadlocker

Exploded view

 Save the screws and fasteners for reassembly.

Use blue threadlocker.



D/R - Rigging pins

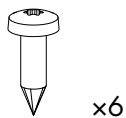
Tools

- torque screwdriver
- T20 Torx bit

Repair kit

KR PIN163

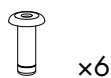
Kit K1 6 ball head pins



x6

S101

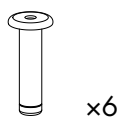
M4.5x16 Torx



x6

S142

M4x10 rivet



x6

S254

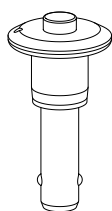
M4.8x18 rivet



x6

S158

plain washer Ø5 mm



x6

163

ball-locking pin Ø1/2" with
tether



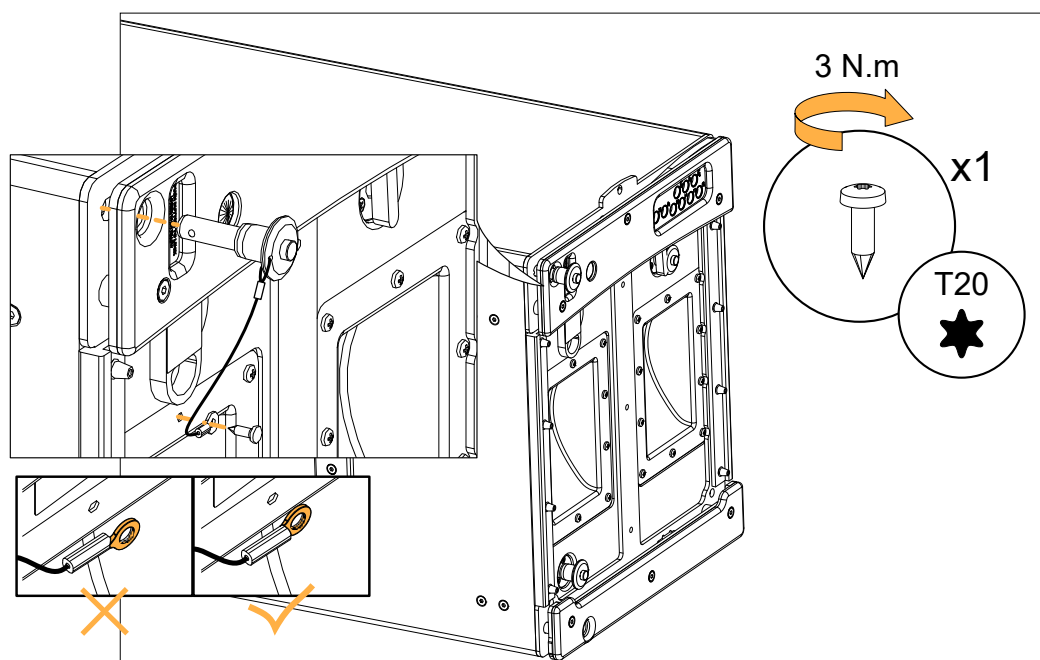
The S142, S254, and S158 are not used in this procedure.

Prerequisite

Side rigging protection removed.

See [D/R - Side Rigging Protection](#) (p.158).

Exploded view

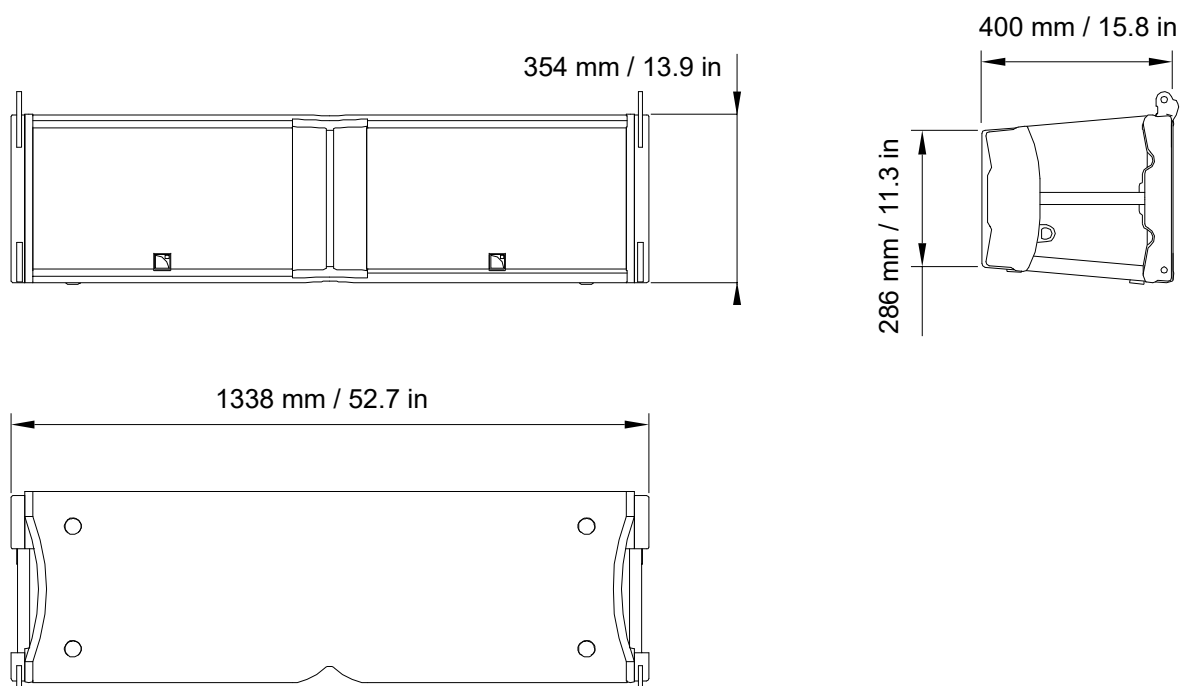


Specifications

K2 specifications

Description	3-way full-range active WST enclosure, quad-amplified by LA4X / LA12X
Usable bandwidth (-10 dB)	35 Hz - 20 kHz ([K2 70])
Maximum SPL ¹	147 dB ([K2 70])
Nominal directivity (-6 dB)	horizontal: 110°/70° symmetric or 90° asymmetric (35°/55° or 55°/35°) vertical: dependent upon the number of elements and the line source curvature
Transducers	LF: 2 × 12" cone drivers MF: 4 × 6.5" cone drivers HF: 2 × 3" diaphragm compression drivers
Acoustical load	LF: bass-reflex, L-Vents MF: bass-reflex HF: DOSC waveguide
Nominal impedance	LF: 2 × 8 Ω MF: 8 Ω HF: 16 Ω
Connectors	IN: 1 × 8-point PA-COM LINK: 1 × 8-point PA-COM
Rigging and handling	4-point captive rigging system inter-enclosure angles: 0.25°, 1°, 2°, 3°, 4°, 5°, 7.5° or 10°
Weight (net)	56 kg / 123.2 lb
Cabinet	premium grade Baltic birch plywood
Front	coated steel grill acoustically neutral 3D fabric
Rigging components	high grade steel with anti-corrosion coating
Finish	dark grey brown Pantone 426 C
IP	IP55

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

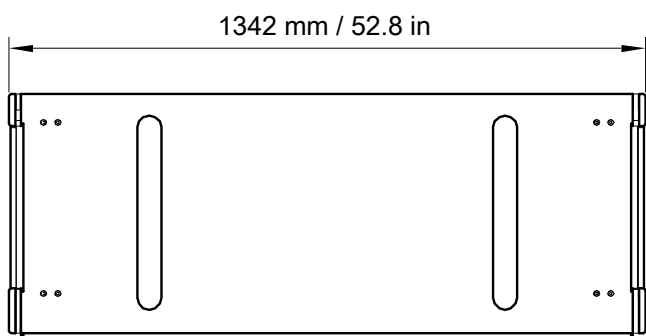
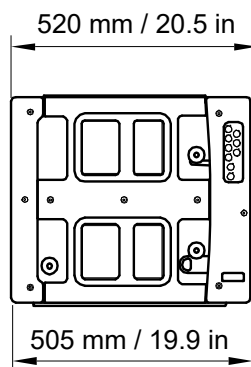
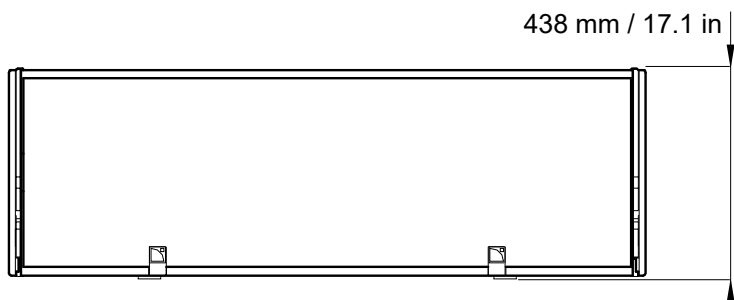
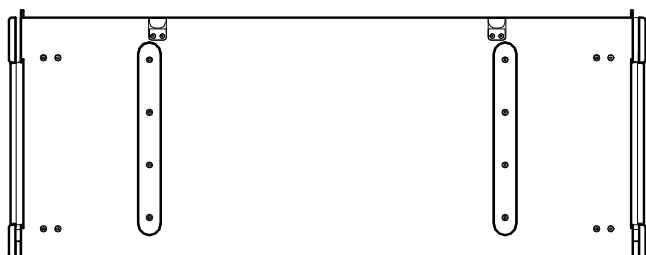
K2 dimensions

K1-SB specifications

Description	K1 system subwoofer 2×15", amplified by LA12X
Low frequency limit (-10 dB)	30 Hz ([K1SB_60])
Maximum SPL¹	145 dB ([K1SB_X])
Transducers	2 × 15" cone drivers
Acoustical load	bass-reflex, L-Vents
Nominal impedance	4 Ω
Connectors	IN: 1 × 4-point speakON
Rigging and handling	captive rigging system 4-point rigging system inter-enclosure angles: 0°, 0.5°, 1°, 1.5°, 2°, 2.5°, 3°, 4° or 5° 4 handles integrated into the cabinet
Weight (net)	83 kg / 183 lb
Cabinet	premium grade Baltic birch plywood
Front	coated steel grill acoustically neutral 3D fabric
Rigging components	high grade steel with anti-corrosion coating
Finish	dark grey brown Pantone 426 C pure white RAL 9010
IP	IP45

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

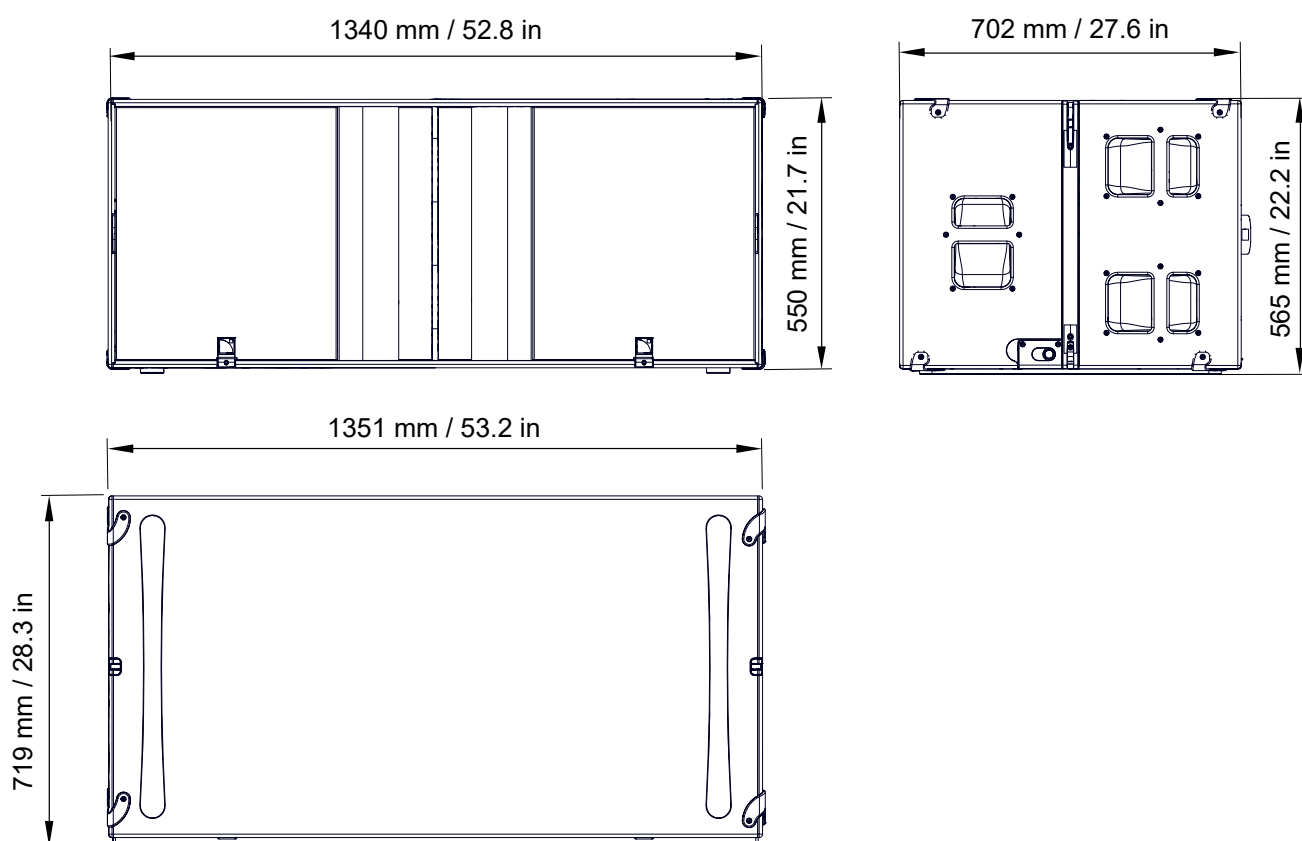
K1-SB dimensions



KS28 specifications

Description	Flyable subwoofer 2 × 18", amplified by LA12X / LA2Xi
Low frequency limit (-10 dB)	25 Hz ([KS28_100])
Maximum SPL¹	143 dB ([KS28_100]) with LA2Xi (bridge mode) / LA12X 136 dB ([KS28_100]) with LA2Xi
Directivity	standard or cardioid
Transducers	2 × 18" neodymium cone drivers
Acoustical load	bass-reflex, L-Vents
Nominal impedance	4 Ω
Connectors	IN: 1 × 4-point speakON
Rigging and handling	flush-fitting 2-point rigging system 6 ergonomic handles 2 ground runners 8 side runners
Weight (net)	79 kg / 174 lb
Cabinet	premium grade Baltic beech and birch plywood
Front	coated steel grill acoustically neutral 3D fabric
Rigging components	high grade steel
Finish	dark grey brown Pantone 426 C
IP	IP55

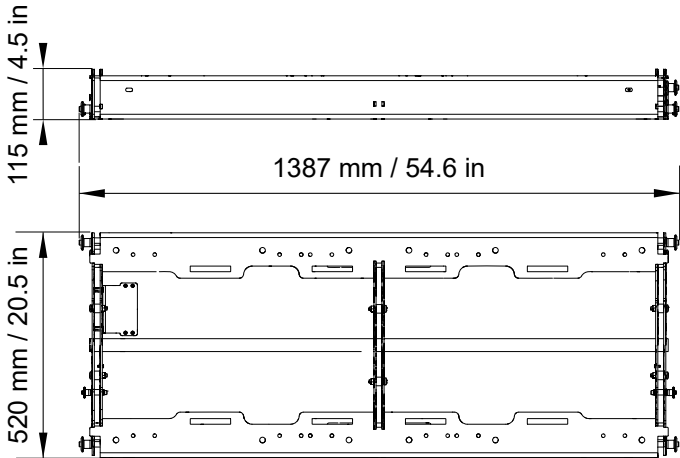
¹ Peak level at 1 m under half space conditions using pink noise with crest factor 4 (preset specified in brackets).

KS28 dimensions

K2-BUMP specifications

Description	Structure for flying K2 arrays (incl. 1 extension sling + 1 laser adapter) 2 x Ø19 mm shackles WLL 3.25 t
Weight (net)	42.3 kg / 93.3 lb
Material	high grade steel with anti-corrosion coating

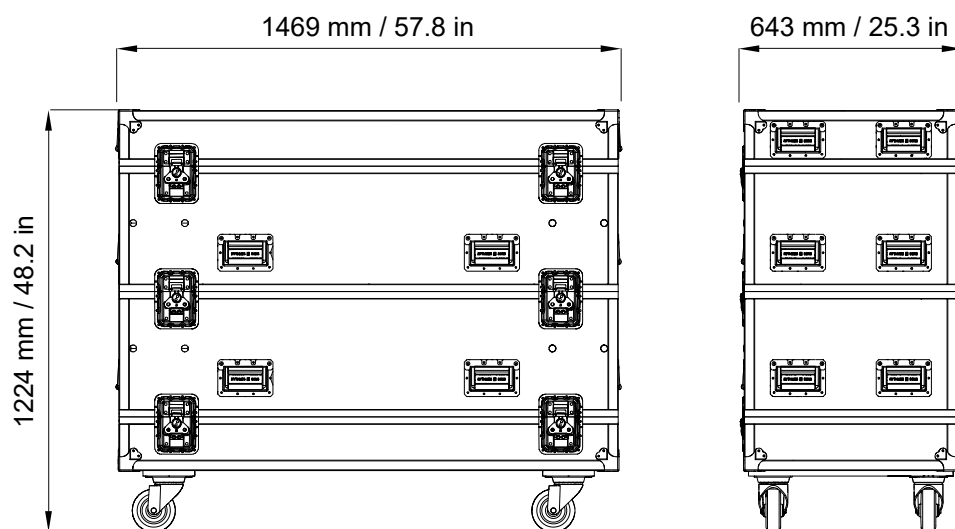
K2-BUMP dimensions



K-BUMPFLIGHT specifications

Description	Modular flight case for 2 K1-BUMP or 2 K2-BUMP 12 pieces of adhesive foam
Weight (net)	105 kg / 231.5 lb

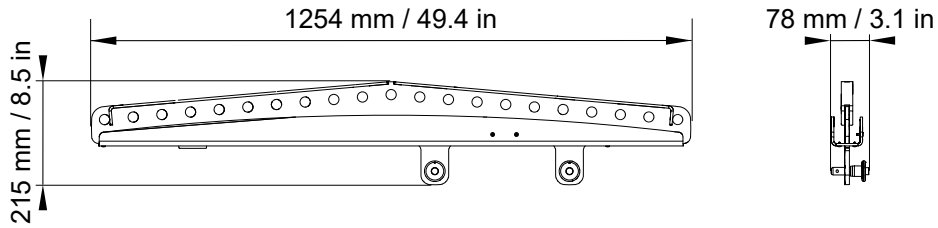
K-BUMPFLIGHT dimensions



K2-BAR specifications

Description	Extension bar for K2-BUMP 2 × Ø19 mm shackles WLL 3.25 t
Weight (net)	17 kg / 37.5 lb
Material	high grade steel with anti-corrosion coating

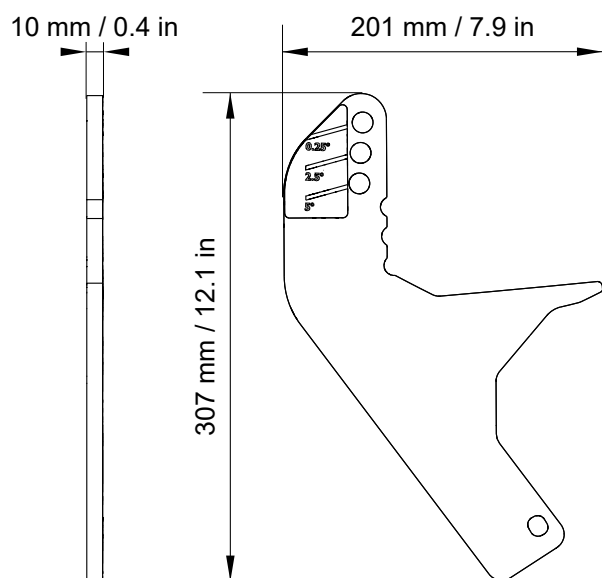
K2-BAR dimensions



K2-LINK specifications

Description	Rigging accessory for rear attachment of K2 below K1
Weight (net)	1.8 kg / 4 lb
Material	high grade steel with anti-corrosion coating

K2-LINK dimensions

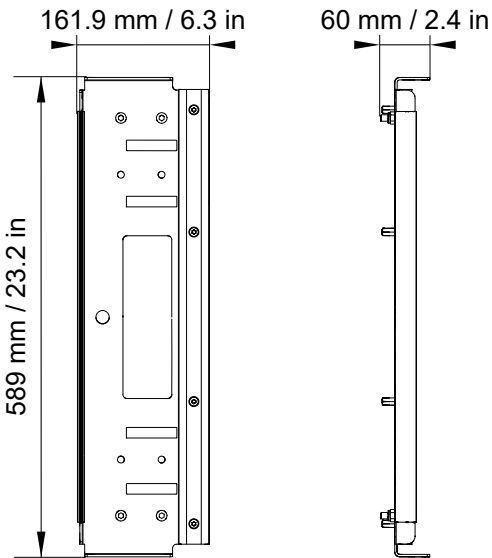


K2-RAKMOUNT specifications

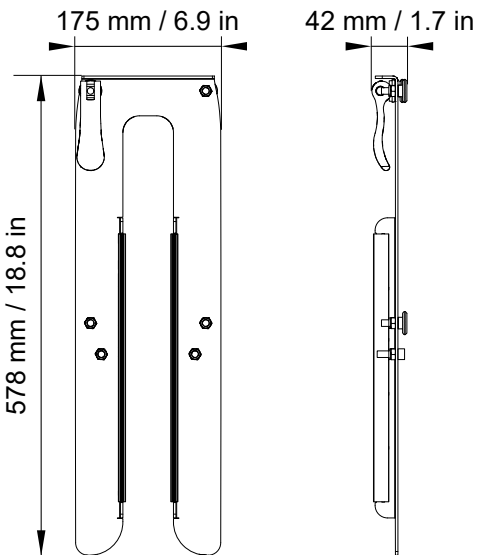
Description	4 mounting cradle for LA-RAK (incl. rack stabilizer)
Weight (net)	3.3 kg / 7.3 lb (cradle) 2.2 kg / 4.9 lb (stabilizer)
Material	high grade steel with anti-corrosion coating

K2-RAKMOUNT dimensions

Rail



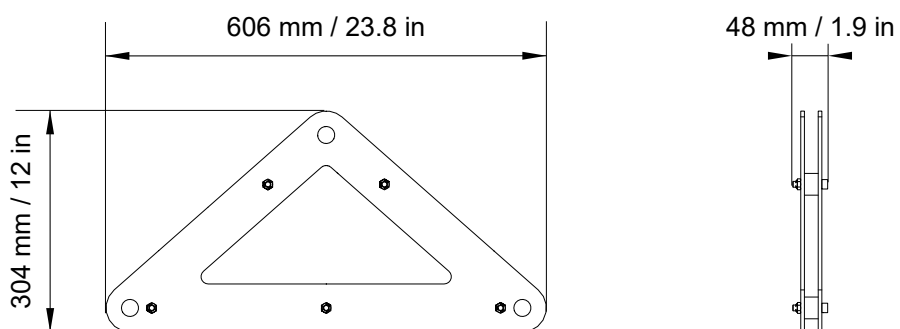
Stabilizer



K1-DELTA specifications

Description	Rigging accessory for rear attachment of 2 motors to K1-BUMP
Weight (net)	9.5 kg / 21 lb
Material	high grade steel with anti-corrosion coating

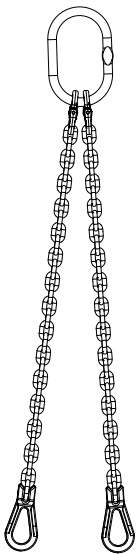
K1-DELTA dimensions



LA-SLING2T specifications

Description	Lifting chain (DIN EN 818-4) 2-leg , 8 mm
Material	high grade steel with anti-corrosion coating
Weight (net)	3.7 kg / 1.2 lb
Lifting chain (DIN EN 818-4)	2-leg, 8 mm
Steel grade	8
Nominal length incl. hooks	1000 mm / 39.4 in
Maximum sling angle β_{max}	60°
Load rating	2.8 t for β : 0° - 45° 2 t for β : 46° - 60°

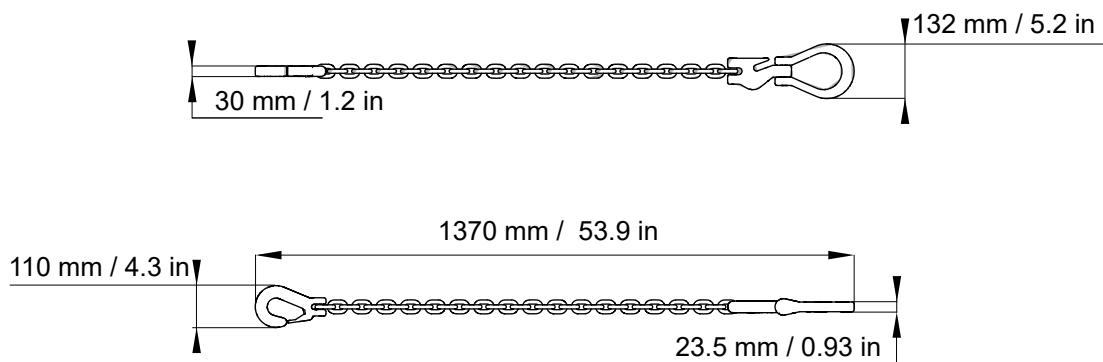
LA-SLING2T illustration



K1-BPCHAIN specifications

Description	Adjustable sling for K1-BUMP or K2-BUMP
Weight (net)	6.3 kg / 13.9 lb
Material	high grade steel with anti-corrosion coating

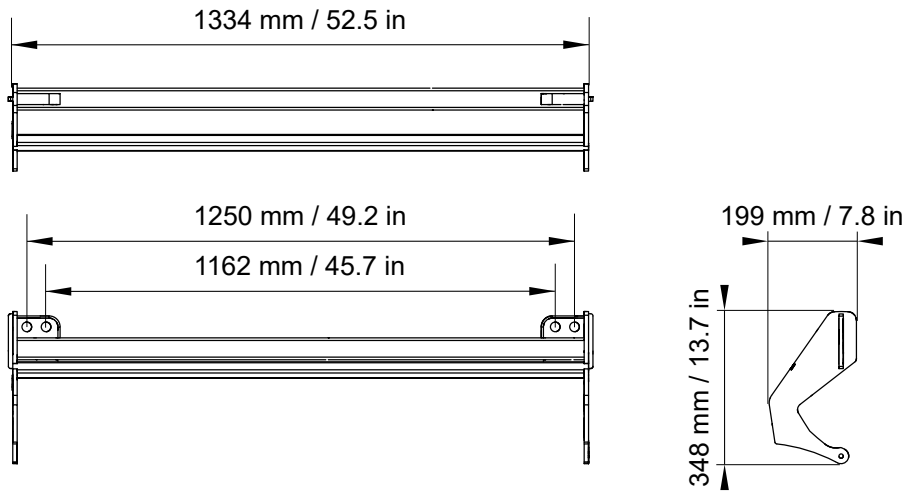
K1-BPCHAIN dimensions



K2-RIGBAR specifications

Description	K2 rigging bar and pullback (Inc. LA-SLING2T)
Weight (net)	15.5 kg / 34.2 lb
Material	high grade steel with anti-corrosion coating

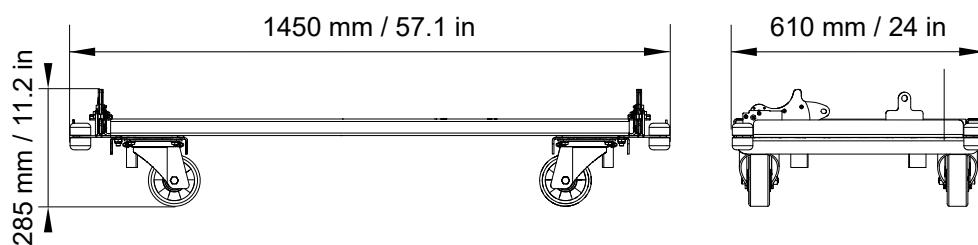
K2-RIGBAR dimensions



K2-CHARIOT specifications

Description	Chariot for 4 K2
Weight (net)	50 kg / 110.2 lb
Material	high grade steel with anti-corrosion coating

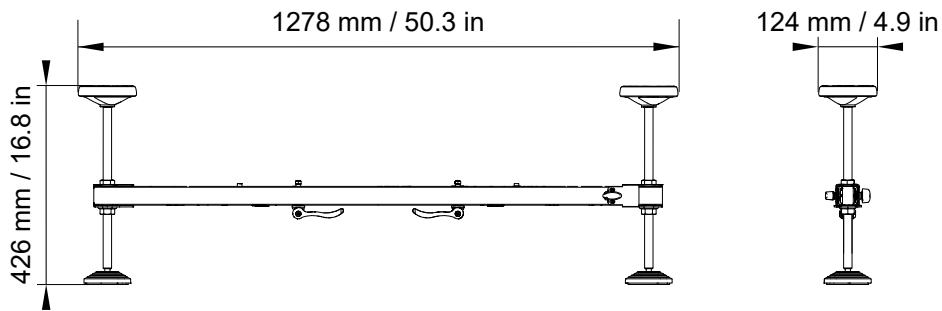
K2-CHARIOT dimensions



K2-JACK specifications

Description	4 tilt adjustment screw jacks + 2 bars for chariots
Weight (net)	10.1 kg / 22.3 lb (for one stabilizer)
Material	high grade steel with anti-corrosion coating

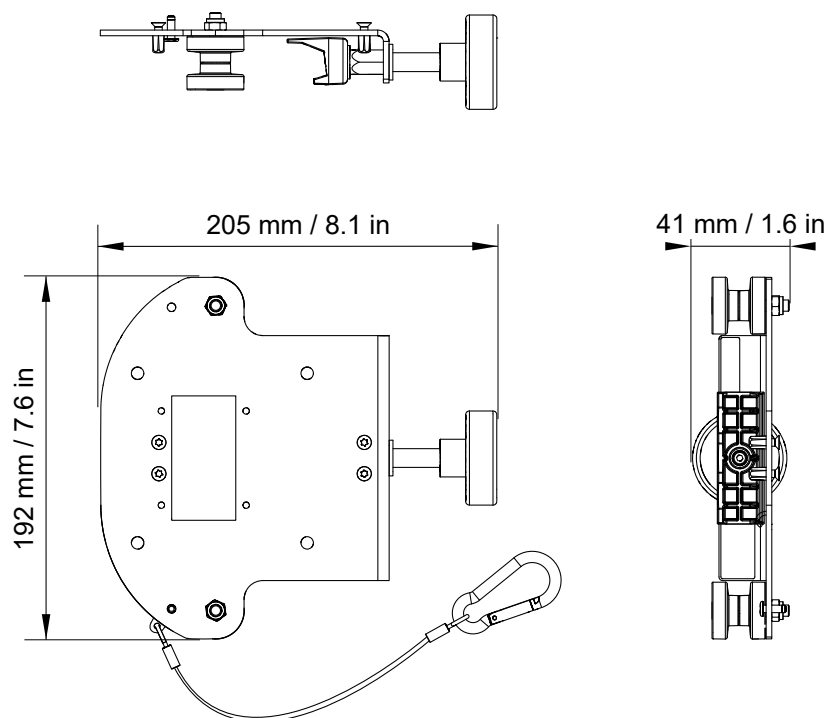
K2-JACK dimensions



K2-LASERMOUNT specifications

Description	K2 laser support plate (compatible TEQSAS / SSE Prosight / Align Array / KSG)
Weight (net)	0.74 kg / 1.6 lb
Material	high grade steel with anti-corrosion coating

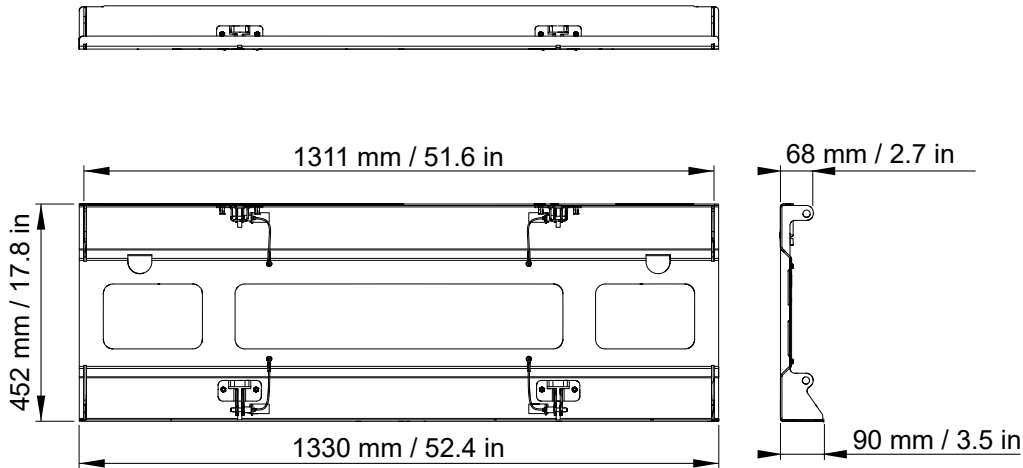
K2-LASERMOUNT dimensions



KARADOWNK2 specifications

Description	Flying bumper for rigging Kara under K2
Weight (net)	17 kg / 37 lb
Material	high grade steel with anti-corrosion coating

KARADOWNK2 dimensions



Pickup points guidelines

A K2 system can be lifted using one or two motors:

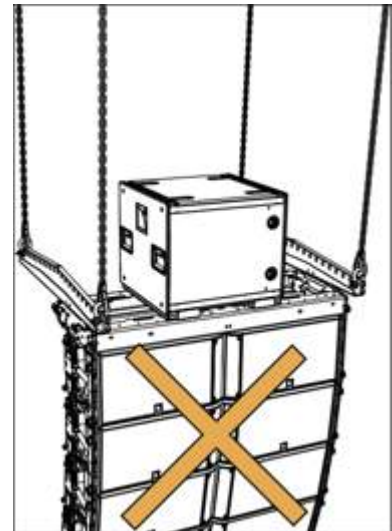
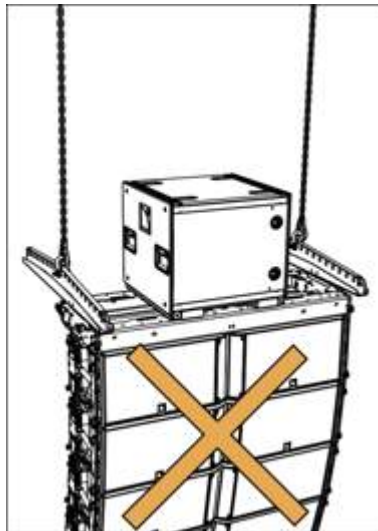
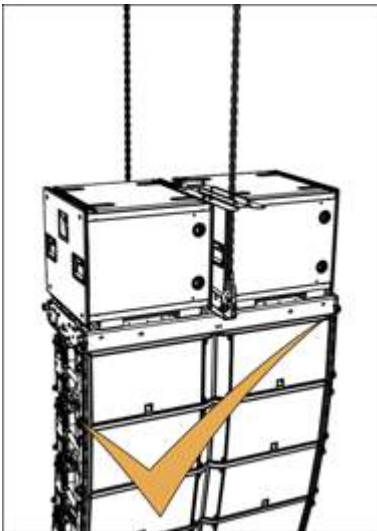
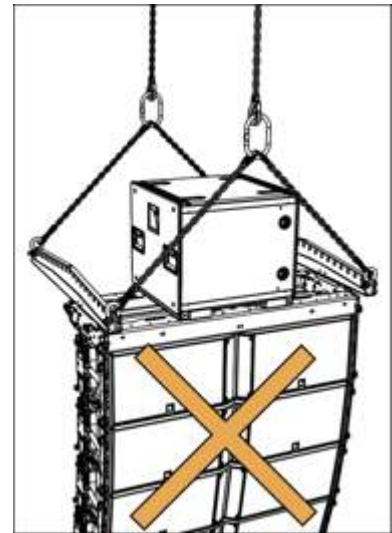
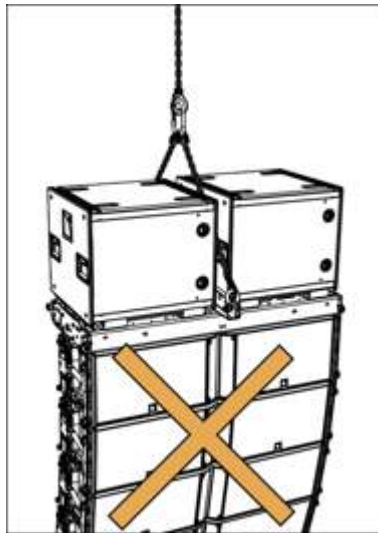
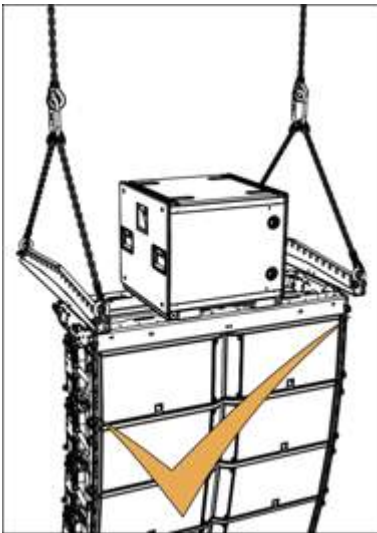
- One or two motors with K2-BUMP alone.
- Two motors with K2-BUMP and one K2-BAR.
- Two with K2-BUMP and two K2-BAR.

K2-BUMP with LA-RAK/LA-RAK II

With a single LA-RAK/LA-RAK II on top of a K2-BUMP, always implement a bridle suspension using two LA-SLING2T. With two LA-RAK/LA-RAK II on top of a K2-BUMP, always use the K2-RAKMOUNT stabilizer.

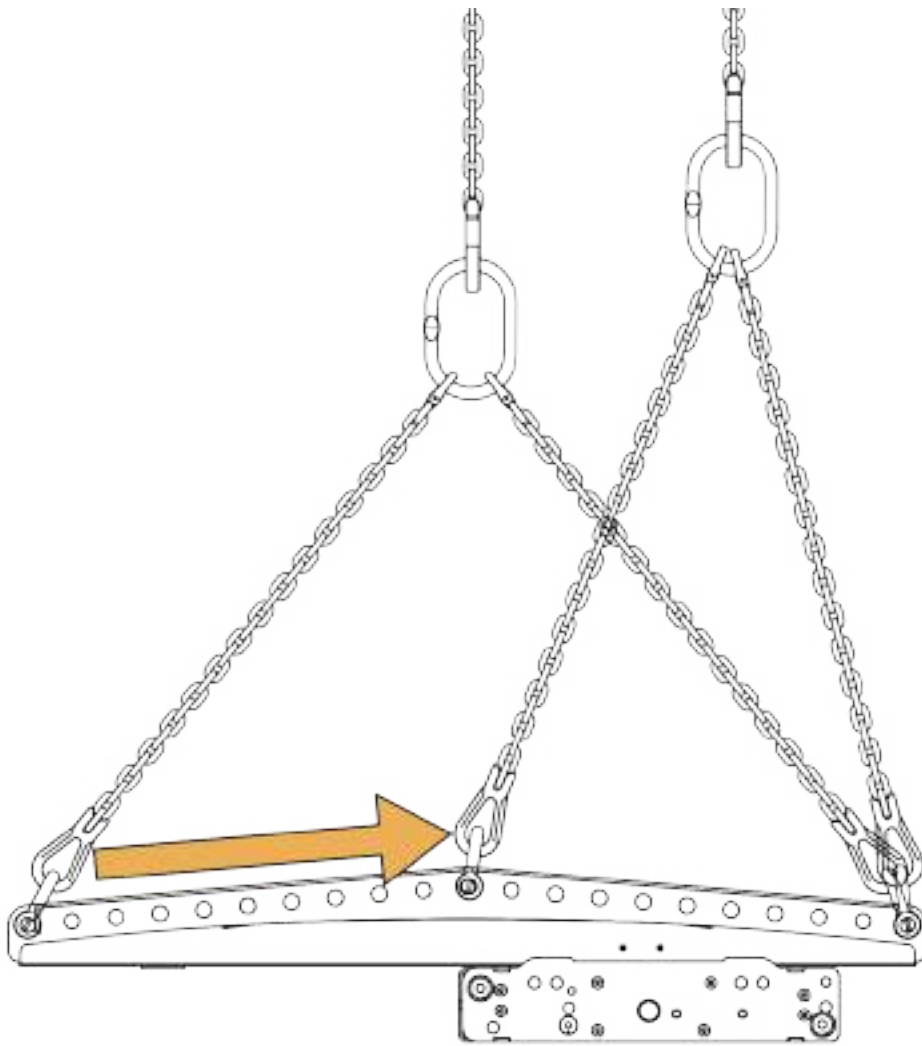
OK

Not OK



Use two LA-SLING2T to implement bridle hangs.

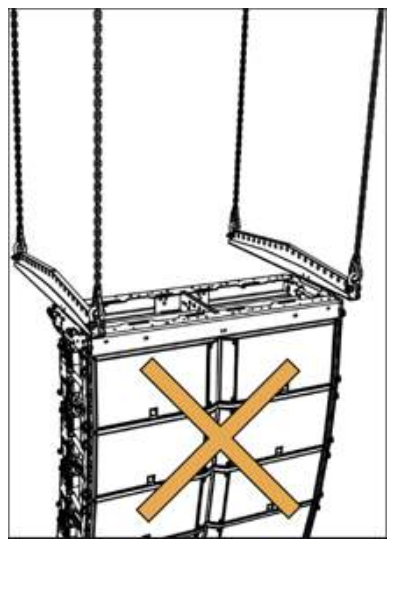
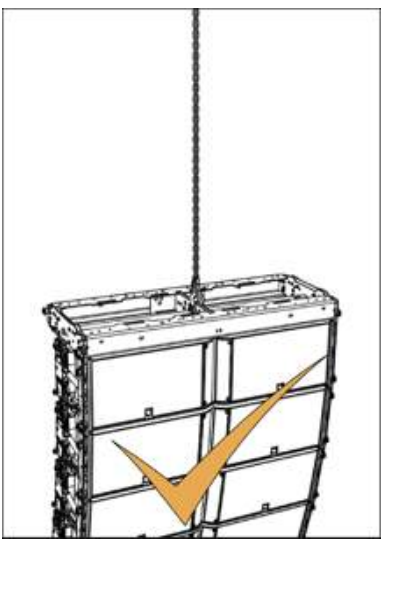
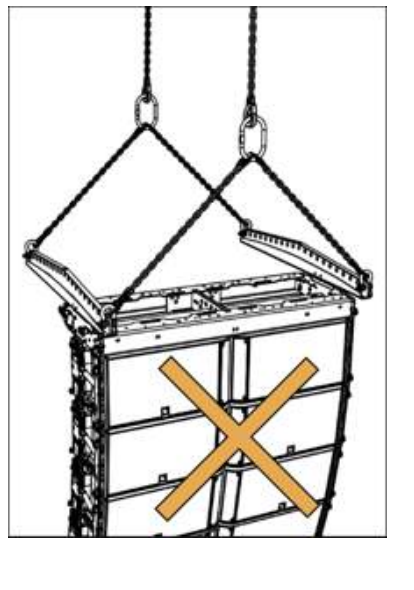
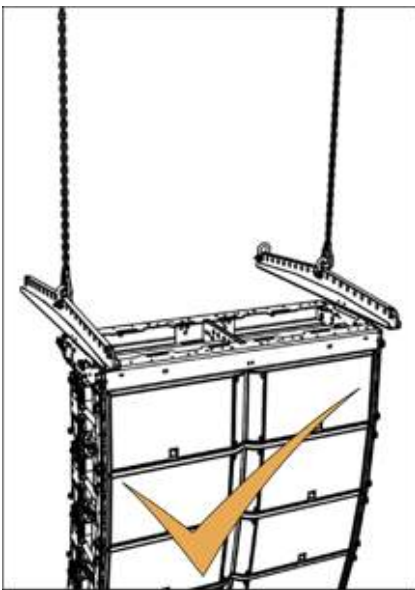
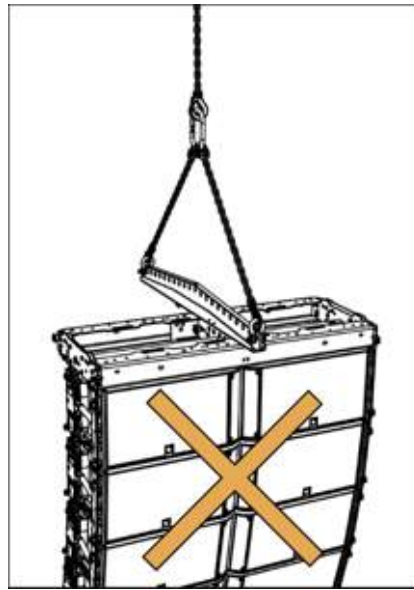
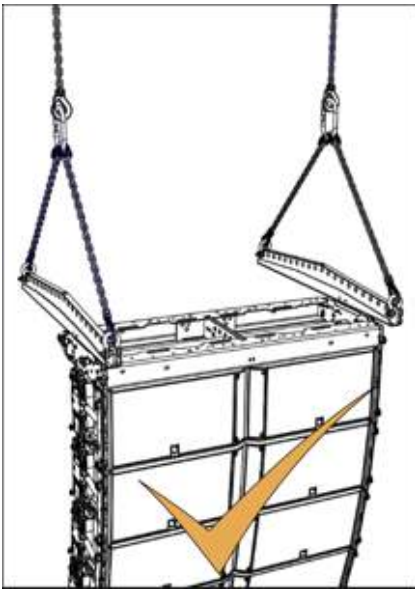
One leg of the LA-SLING2T must always be connected to the K2-BAR hole no 1 (i.e., the closest to the array). The other leg can be connected to holes no 11 to no 21.



K2-BUMP with no LA-RAK/LA-RAK II

OK

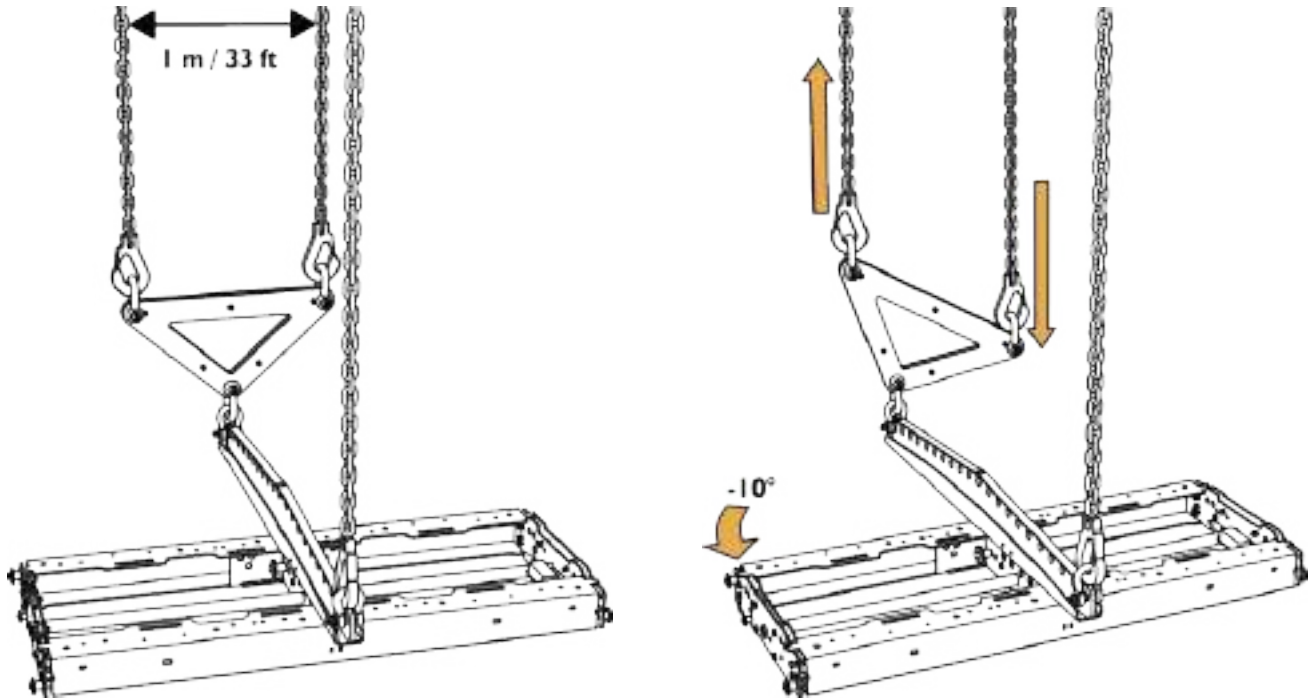
Not OK



K1-DELTA for azimuth control

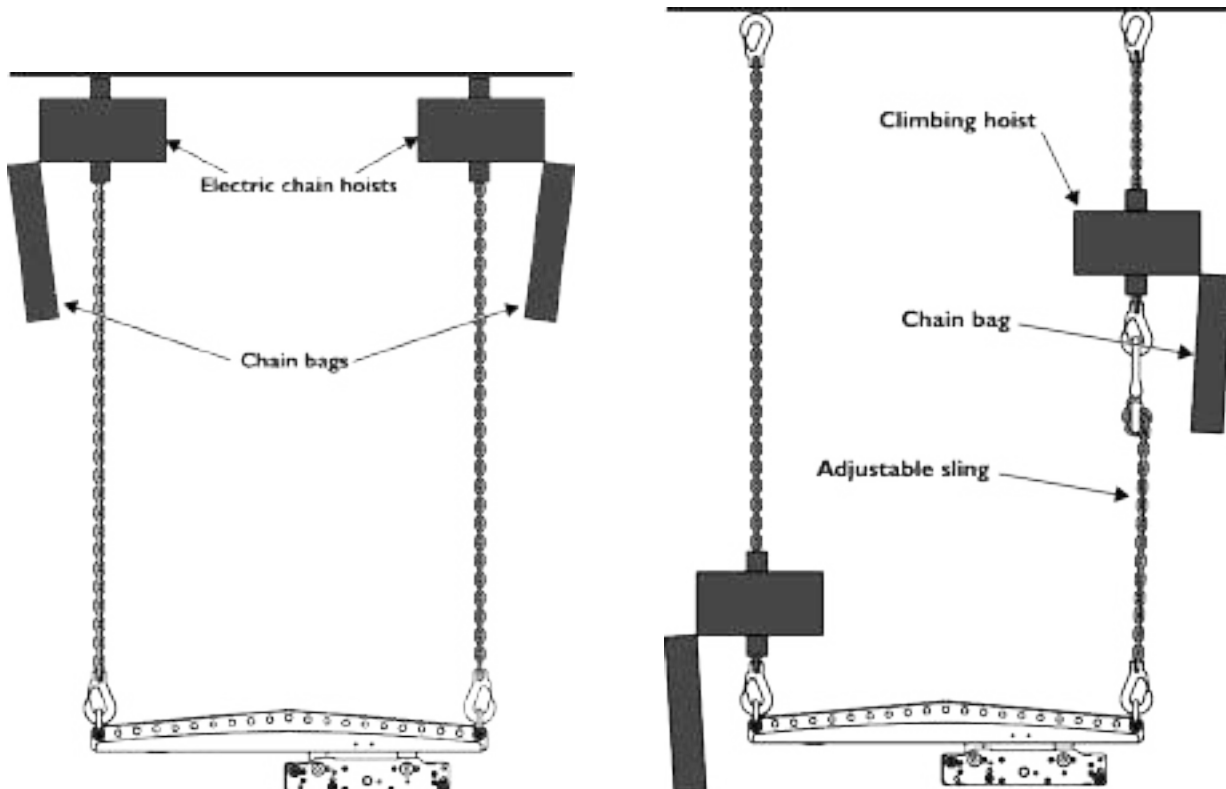
To control the azimuth of a flown K2 line, attach the K1-DELTA to the rear pickup point. The recommended space between the two lifting points is 1 m / 33 ft.

By adjusting the height of both pickup points you can adjust the azimuth angle from -10° to $+10^{\circ}$.



K1-BPCHAIN with a climbing hoist

With a climbing hoist you must use a K1-BPCHAIN adjustable sling to prevent the chain bag from hanging in front of the top enclosures of the array.



Installing a laser inclinometer

The K2 rigging system is compatible with the following laser inclinometers:

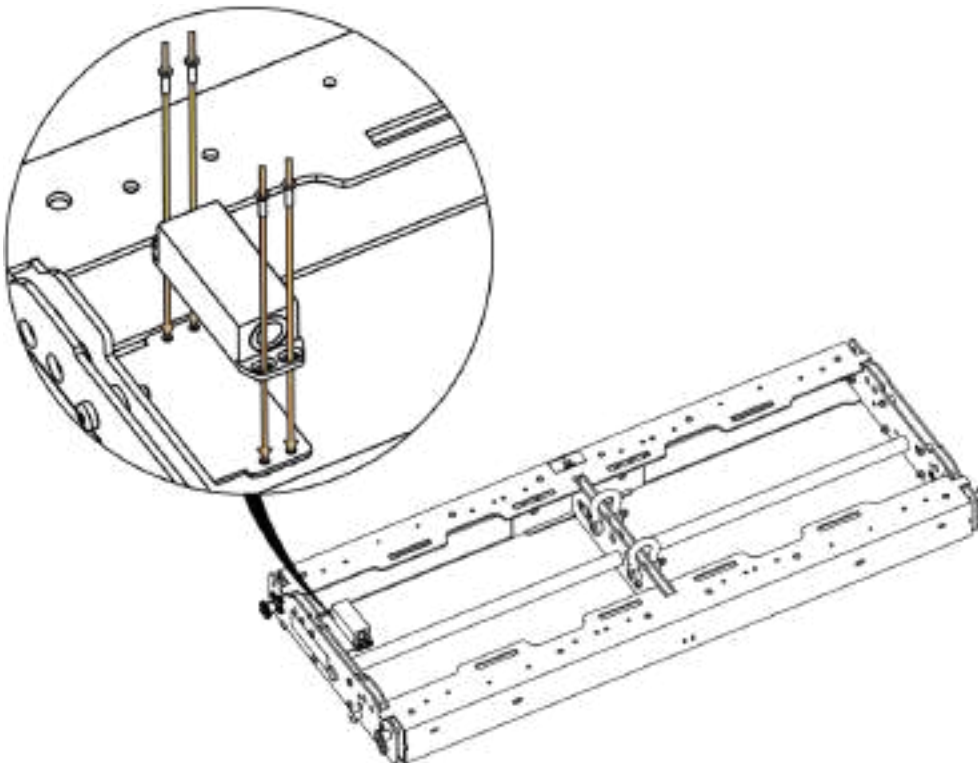
- TEQSAS®
- LAP-TEQ PLUS (part of the L-ACOUSTICS® TECH TOOLCASE)
- TEQSAS® LAP-TEQ (legacy model)
- KSG® RECLINE Compact
- SSE® ProSight

! **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.

TEQSAS® LAP-TEQ PLUS / LAP-TEQ / KSG® RECLINE Compact

Procedure

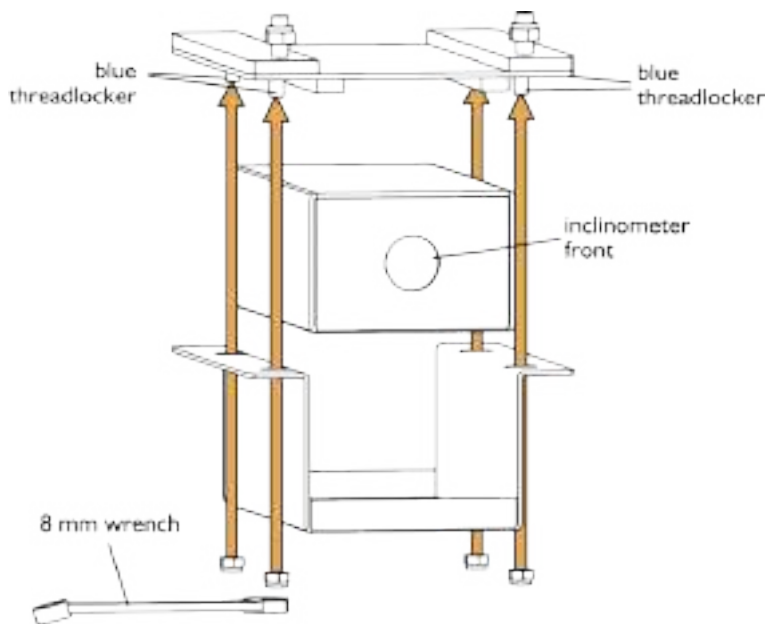
1. Remove the four M4 Torx screws (T20) from the plate.
2. Put thread-locker in the four threaded inserts.
3. Position the sensor so it points toward the front of the K2-BUMP.
4. Secure the sensor with the four screws.
5. Connect the XLR cable to the sensor.
6. Follow the manufacturer instructions to calibrate the inclinometer.



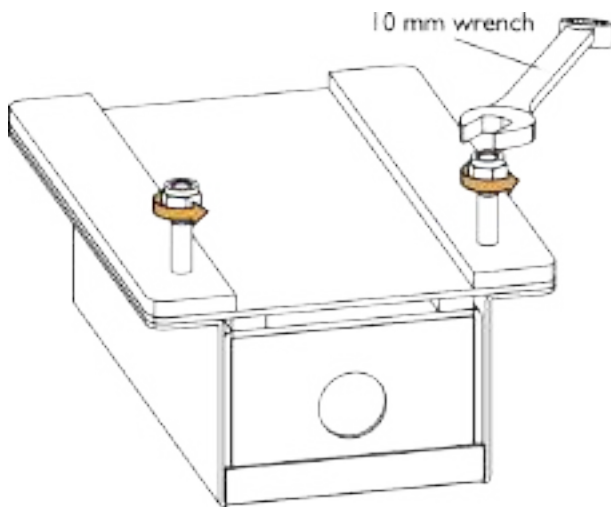
SSE PROSIGHT

Procedure

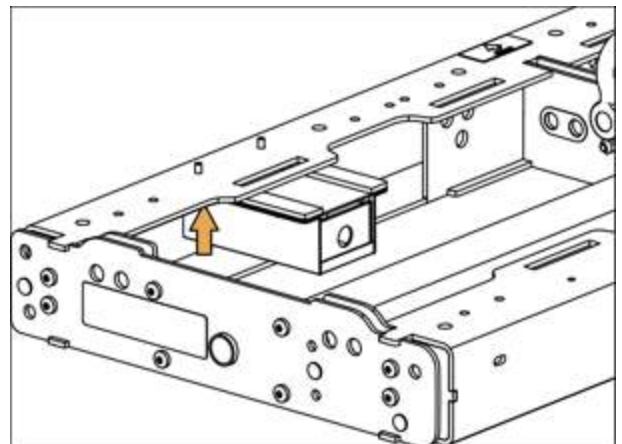
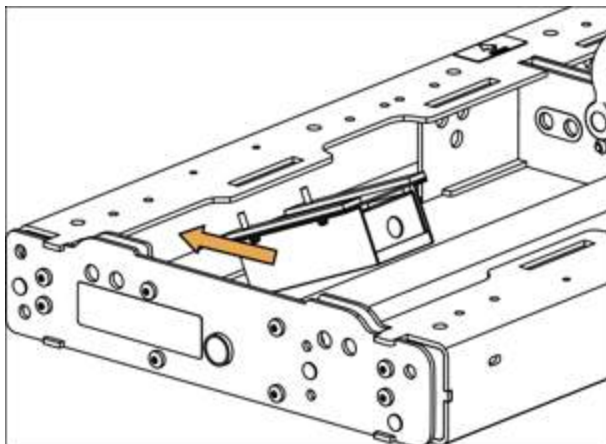
1. Install the SSE PROSIGHT laser in the SSE K2 BUMP bracket.



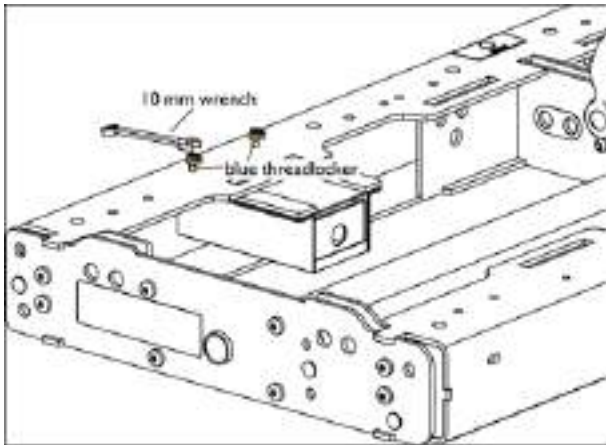
2. Remove the nuts from the top studs.



3. Position the assembly inside the K2-BUMP.



4. Secure the assembly with the two nuts.



K2-LASERMOUNT

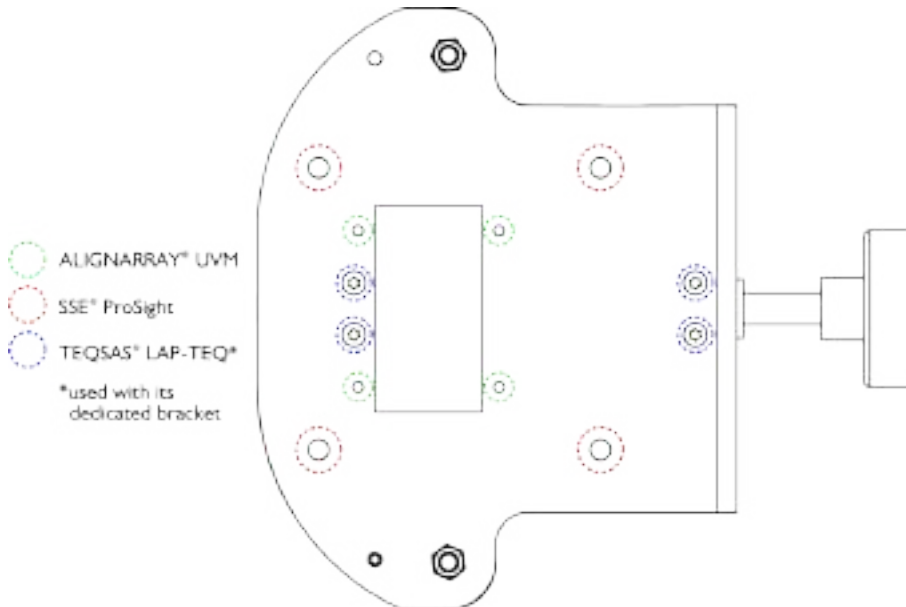
The L-ACOUSTICS® K2-LASERMOUNT is a support plate designed to attach a remote laser inclinometer to the side of a K2 enclosure. It is compatible with five sensor models: TEQSAS® LAP-TEQ PLUS (part of the L-ACOUSTICS® TECH TOOLCASE, refer to spec sheet), TEQSAS® LAP-TEQ (legacy model), KSG® RECLINE Compact, ALIGNARRAY® UVM, and SSE® ProSight.

Procedure

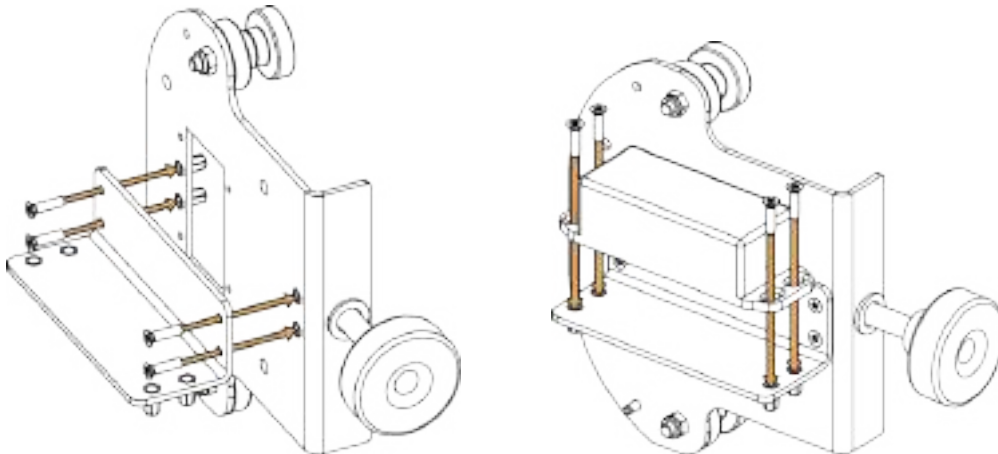
1. Mount the inclinometer on the K2-LASERMOUNT.

Refer to the figure below for the position of the screws on the support plate for each model.

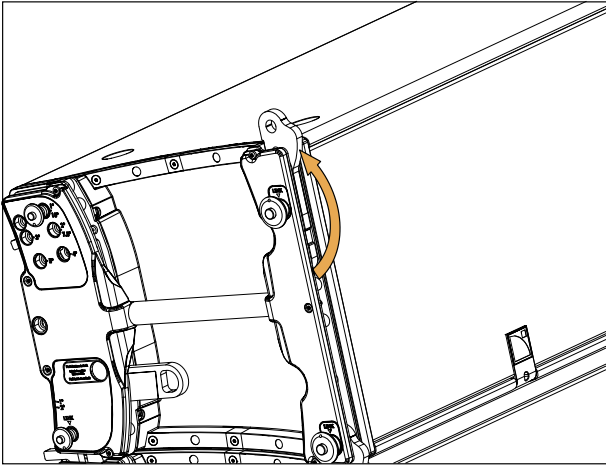
Use thread-locker on each screw.



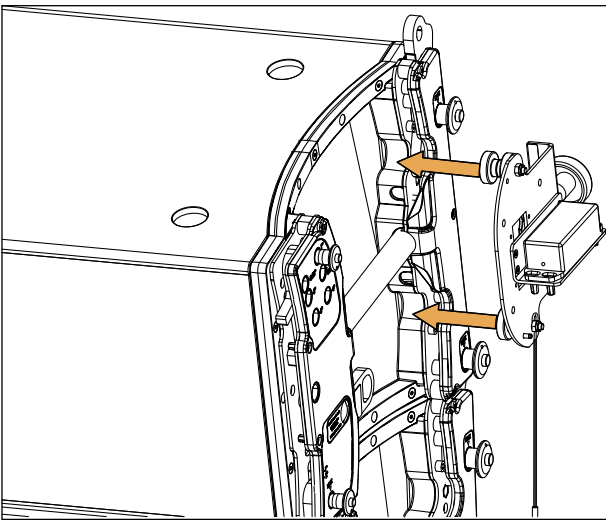
To mount the LAP-TEQ PLUS / LAP-TEQ / RECLINE use the bracket delivered with the inclinometer.



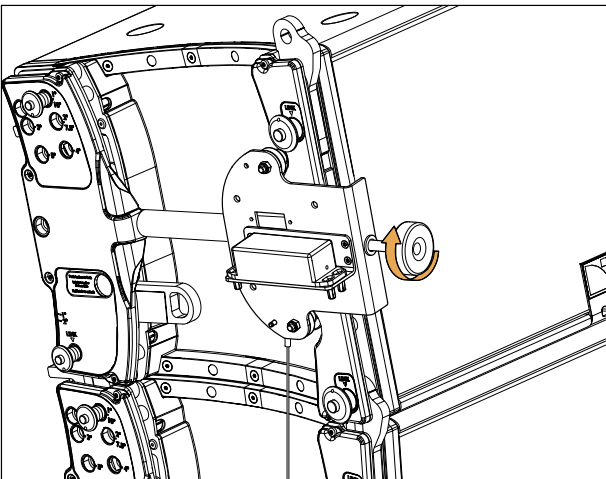
2. Rotate the front arm and secure it with its pin.



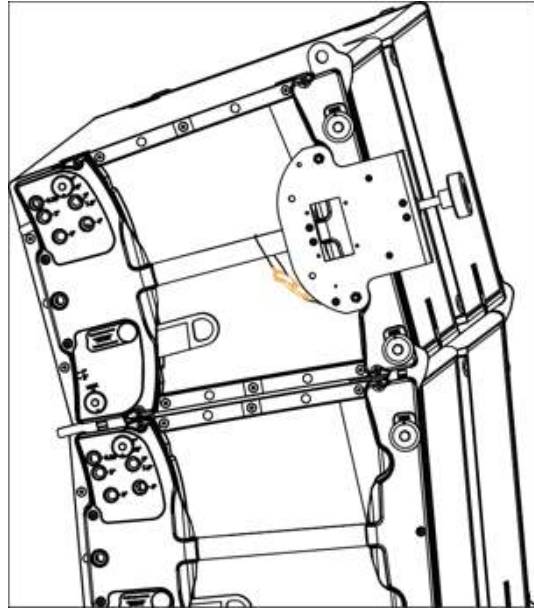
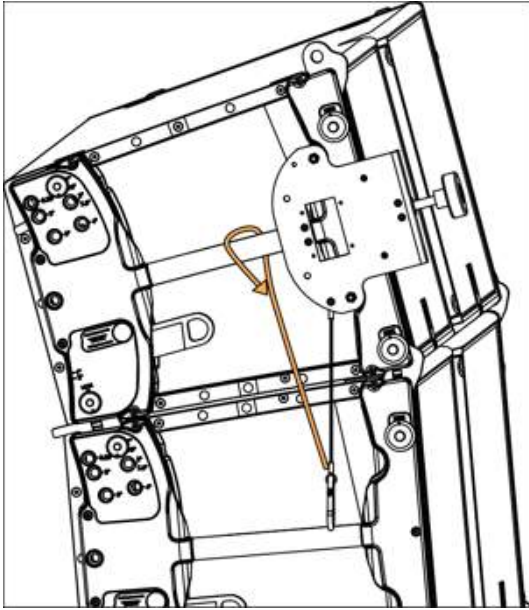
3. Position the K2-LASERMOUNT on the side of the enclosure.



4. Maintain the K2-LASERMOUNT in position by tightening the knob.



5. Secure the K2-LASERMOUNT by running the sling inside and around the K2 handle and locking it on itself.



Recommendation for speaker cables

Follow the recommended maximum length for loudspeaker cables to ensure minimal SPL attenuation.



Cable quality and resistance

Only use high-quality fully insulated speaker cables made of stranded copper wire.

Use cables with a gauge offering low resistance per unit length and keep the cables as short as possible.

The table below provides the recommended maximum length for loudspeaker cables depending on the cable gauge and on the impedance load connected to the amplifier.

cable gauge			recommended maximum length					
			8 Ω load		4 Ω load		2.7 Ω load	
mm ²	SWG	AWG	m	ft	m	ft	m	ft
2.5	15	13	30	100	15	50	10	33
4	13	11	50	160	25	80	17	53
6	11	9	74	240	37	120	25	80

Use the more detailed L-Acoustics calculation tool to evaluate cable length and gauge based on the type and number of enclosures connected. The calculation tool is available on our website:

<https://www.l-acoustics.com/installation-tools/>



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