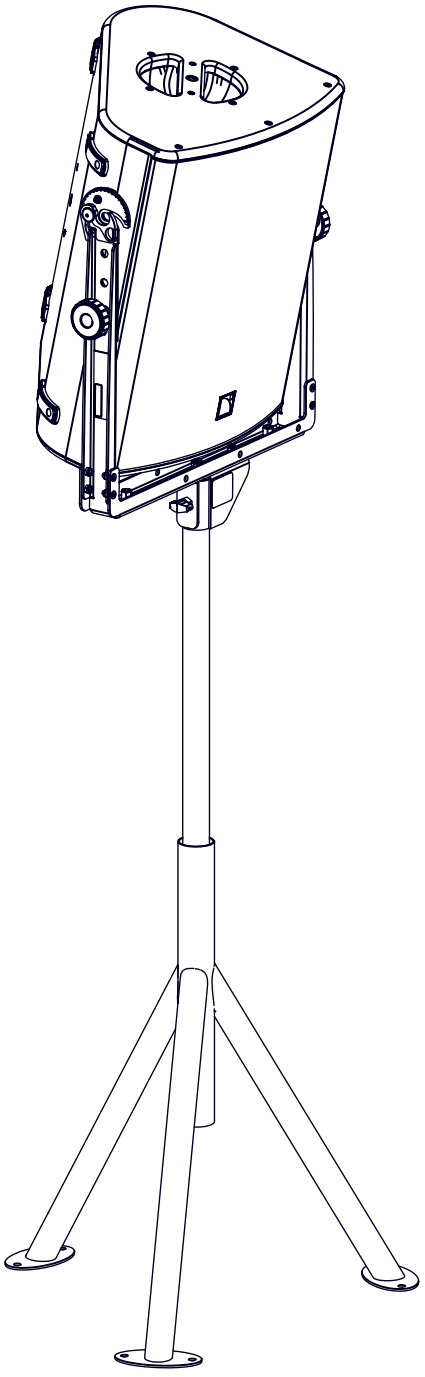
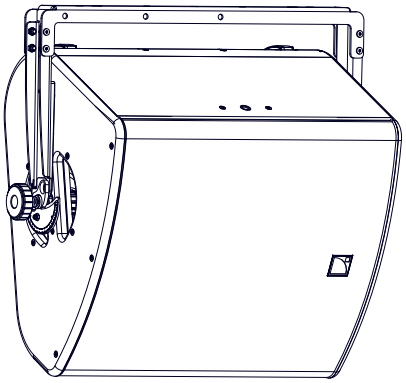
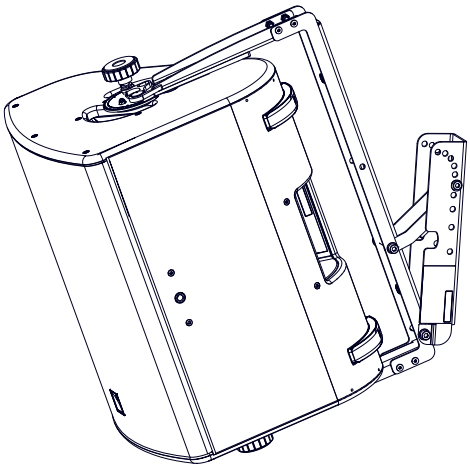
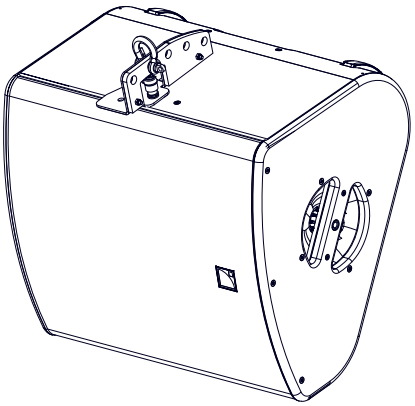
X12

rigging manual (EN)









Document reference: X12 rigging manual (EN) version 4.0
Distribution date: June 15, 2018

Contents

Safety

Instructions

Inspect the system before any deployment.

Perform safety related checks and inspections before any deployment.

Perform preventive maintenance at least once a year.

Refer to the preventive maintenance section for a list of actions and their periodicity.

Insufficient upkeep of the product can void the warranty.

If any safety issue is detected during inspection, do not use the product before performing corrective maintenance.

Never incorporate equipment or accessories not approved by L-Acoustics.

Read all the related PRODUCT INFORMATION documents shipped with the products before exploiting the system.

Do not store the product on an unstable cart, stand, tripod, bracket, or table.

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.

Ensure personnel health and safety

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

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.

Respect the maximum configurations and the recommended safety precautions.

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

Be cautious when flying a loudspeaker configuration.

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.

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.

Risk of falling objects

Verify that no unattached items remain on the array.

Risk of tipping

Remove all rigging accessories before transporting an array.

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.

Intended use

This system is intended for use by trained personnel for professional applications.

Read the USER MANUAL before operating the system.

Use the loudspeaker system components described in the user manual and follow the operating instructions.

Do not expose the product to extreme conditions.

Do not expose the product to rain or sea spray.

Do not expose the product to moisture (mist, steam, humidity, condensation…) or excessive heat (direct sun, radiator…) for a long period of time.

Contact L-Acoustics for advanced maintenance.

Any unauthorized maintenance operation will void the product warranty.

Symbols

The following symbols are used in this document:

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.

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

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

Welcome

Thank you for purchasing the L-Acoustics X12.

This document contains essential information on rigging the system properly.

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 document without prior notice. Please check www.l-acoustics.com on a regular basis to download the latest document and software updates.

System components

Loudspeaker enclosures

X12	2-way passive coaxial enclosure: 12'' LF + 3'' HF diaphragm
SB15m	High power compact subwoofer : 1 x 15''
SB18	High power compact subwoofer: 1 x 18''

Rigging elements

EMBi	Pole mount socket: 8XTi/12XTi and X series
CLAMP250	Clamp certified for 250 kg
X-UTILT	U-bracket wallmount for X series with tilt adjustment
X-BAR	Rigging bar for X series
X-UL12	Long U-bracket for X12
X-US1215	Short U-bracket for X12 and X15 HiQ

Software applications

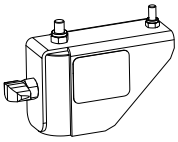
Soundvision	3D acoustical and mechanical modeling software

Refer to the **Soundvision** help.

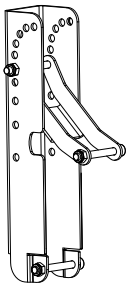
Other X12 system components

Other components of the system are presented in the X12 user manual along with the enclosure configurations and connection schemes.

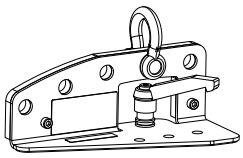
Rigging elements



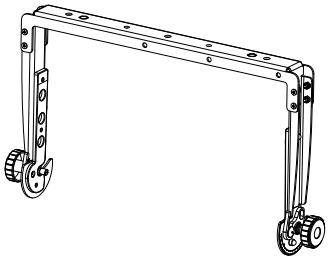
EMBi



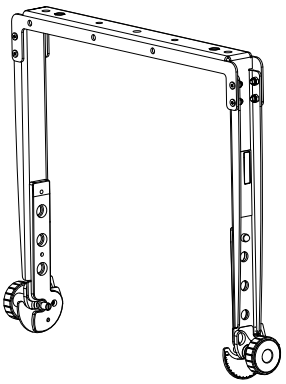
X-UTILT



X-BAR



X-UL12



X-US1215

Mechanical safety

Flown configurations

The X12 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 flown deployments described in this manual achieve a safety factor of **5 or higher**.

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.

X12

Configuration	Rigging accessory	Maximum / Safe limit
Flown	X-UTILT / X-US1215 / X-UL12 / X-BAR	1

Other configurations

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

X12

Configuration	Rigging accessory	Maximum / Safe limit
Ground-stacked	No rigging accessory	1
Pole-mounted	35 mm pole / EMBi and X-US1215	1

SB15m

Configuration	Rigging accessory	Maximum / Safe limit
Ground-stacked	No rigging accessory	4

SB18

Configuration	Rigging accessory	Maximum / Safe limit
Ground-stacked	No rigging accessory	4

Assessing mechanical safety

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.

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 Soundvision.

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 the user's responsibility to secure the array and to ignore the warning.

Additional safety for flown arrays

When flying an array, use available holes to implement a secondary safety.

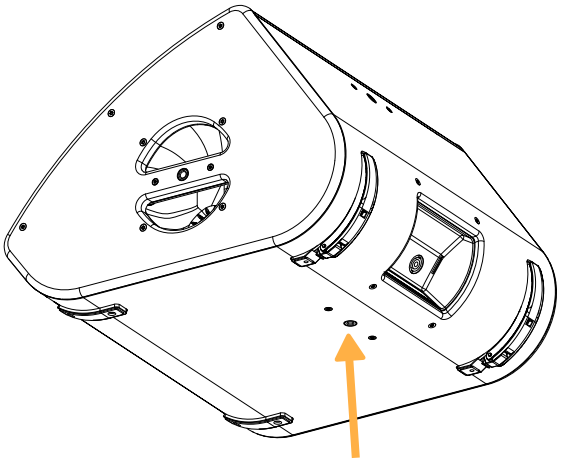
Considerations must be given to unusual conditions

Soundvision calculations are based on 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.

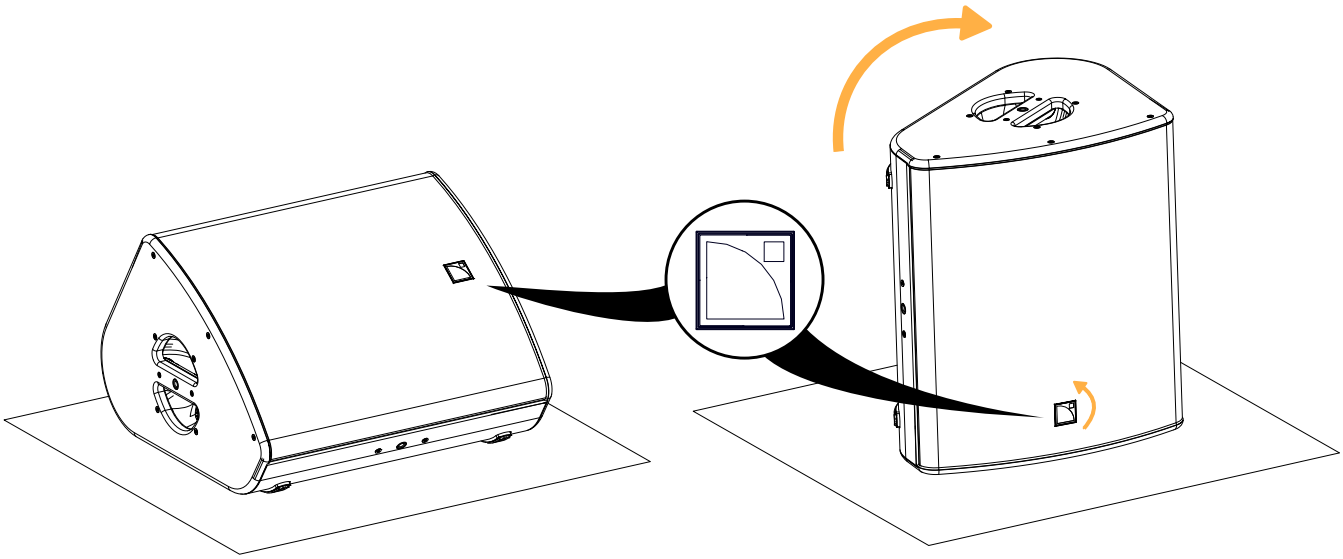
Rigging system description

X12

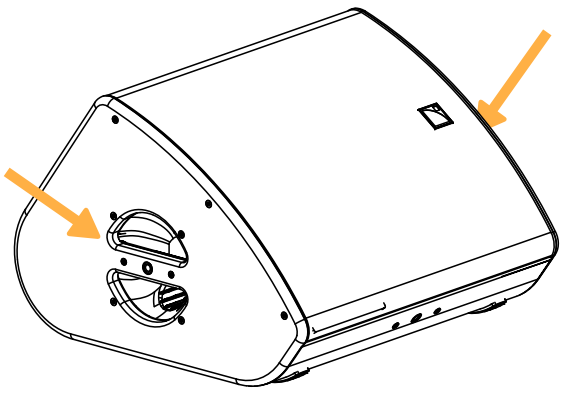
X12 features a M8 DIN580 threaded insert designed to implement a secondary safety.



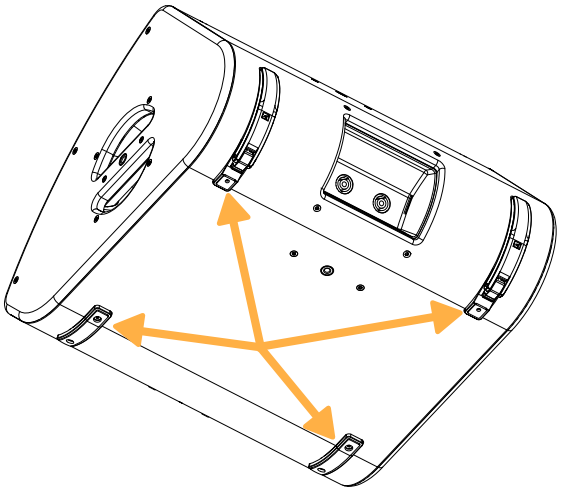
The logo on the enclosure front can be rotated to adapt to every configuration.



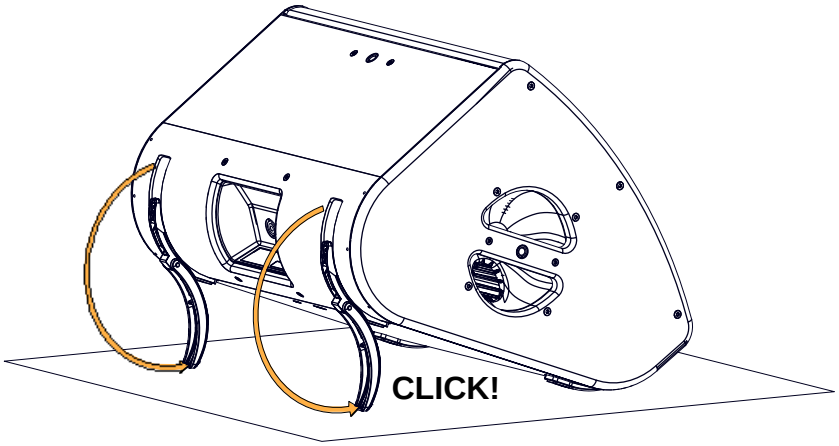
X12 features ergonomic handles on both sides for easy transportation.



X12 features four runners on the bottom to protect the enclosure.



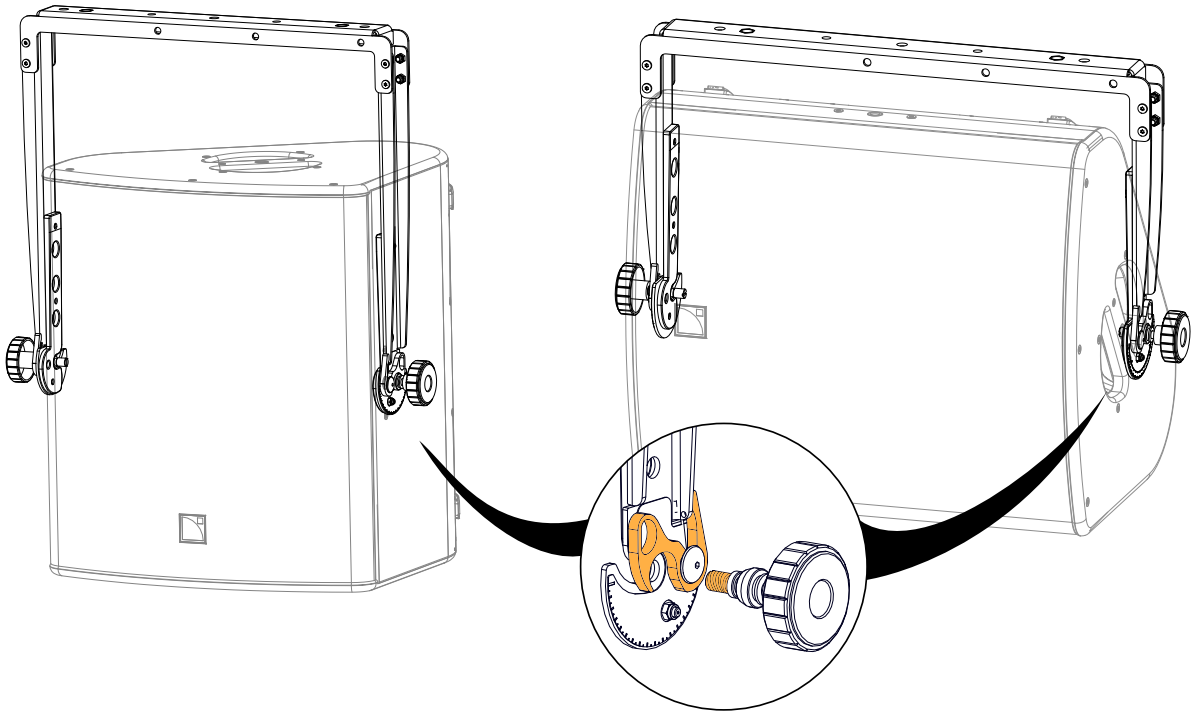
X12 features raisers that allow to change the monitor angle from 35° to 55° relative to the vertical.



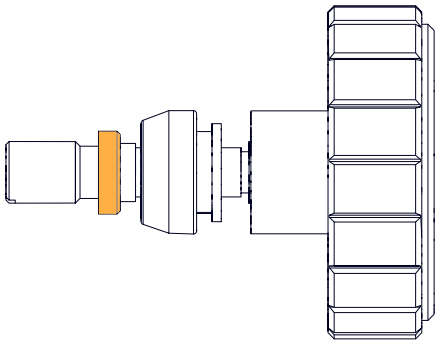
Elements for flying and wall-mounting

X-US1215 and X-UL12

X12 can be fitted with a short U-bracket, X-US1215, or a long U-bracket, X-UL12. The brackets are secured in the enclosure inserts with two threaded knobs. A spring-lock safety mechanism secures the knobs in the U-brackets.



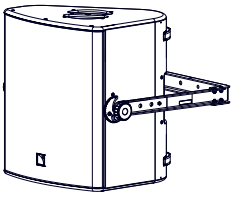
The threaded knobs feature a washer as a safety to avoid the accidental loosening of the knob.



X-US1215 and X-UL12 can be used for wall-mounting, ceiling-mounting or flying X12.

Short U-bracket in horizontal position

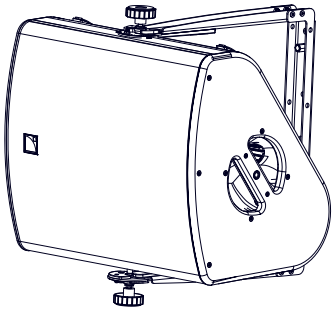
In this position, the enclosure applies a diagonal force of **405 daN** on the anchoring points.

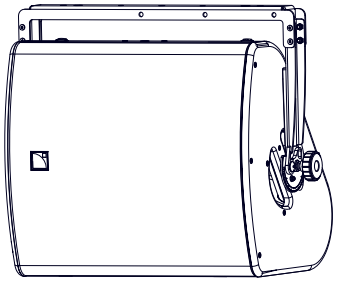


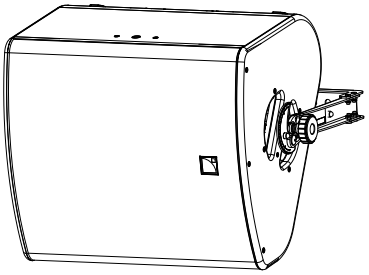
Fasteners for wall-mounting or ceiling-mounting

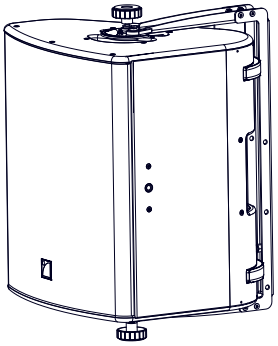
Secure the bracket with three M10 screws.

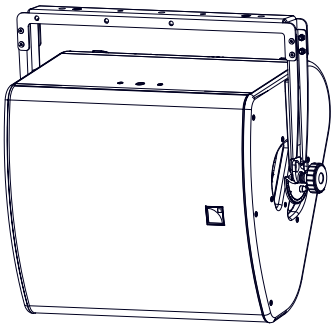
Select screw length and anchors applicable to the wall or ceiling properties.

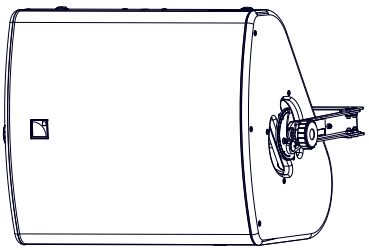


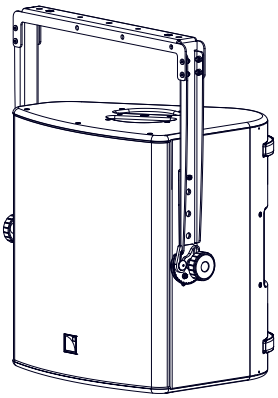






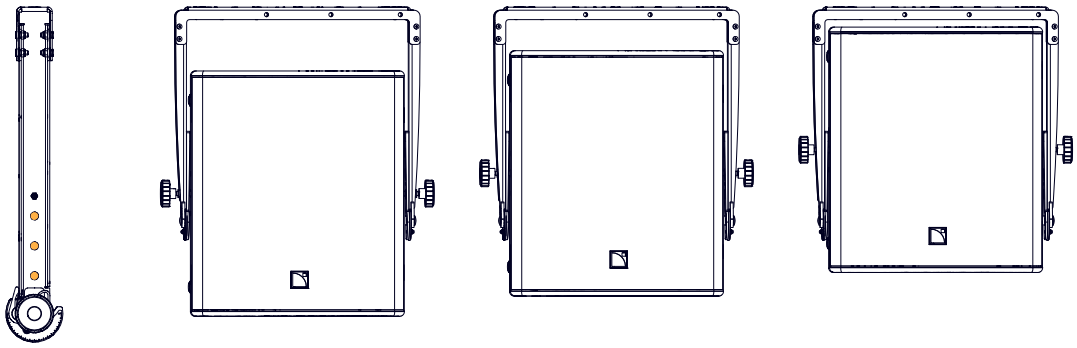




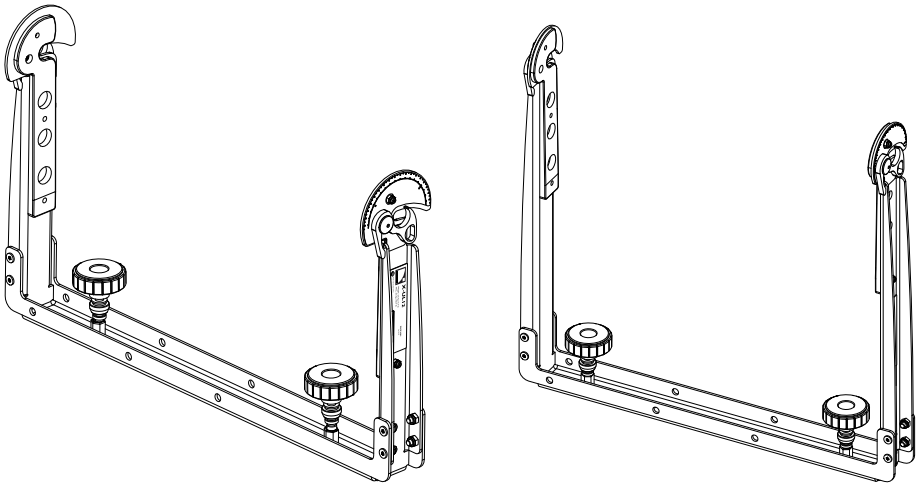


When using the additional holes, consider the maximum site angle available.
See Maximum angles.

X-US1215 features additional holes on the sides to closely fit the enclosure and to optimize visual impact.



The knobs shall be stored in the U-brackets.



X-UTILT

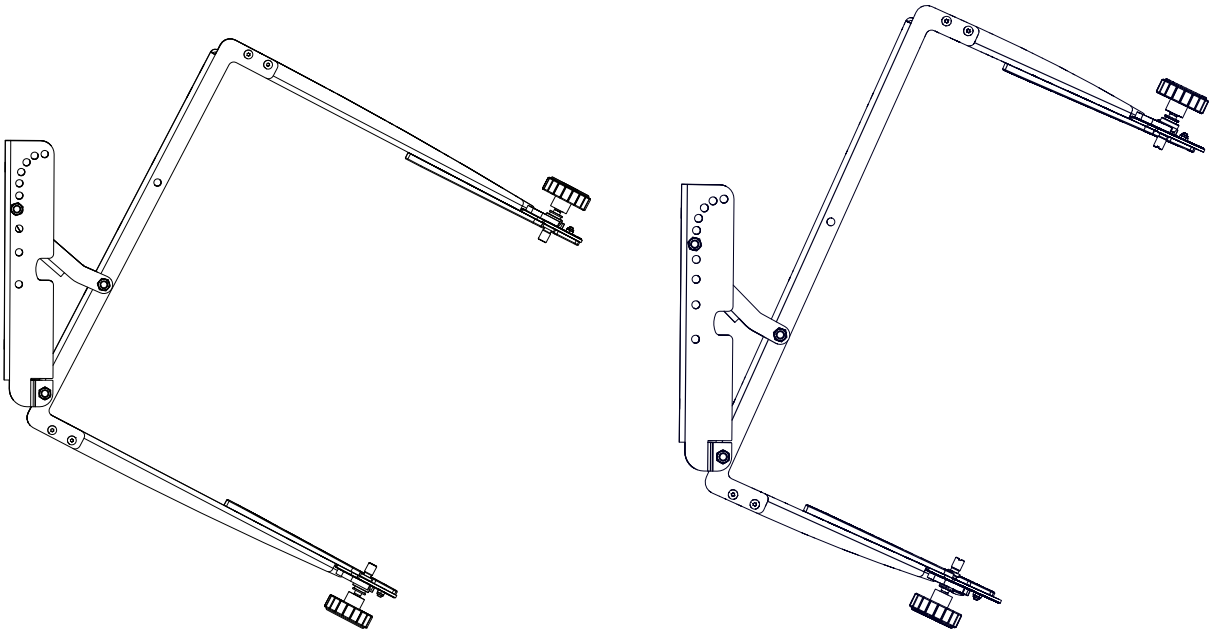
X-UTILT is a tilt adjustment accessory compatible with X-US1215 and X-UL12. X-UTILT provides negative site angle setting combined with azimuth angle setting capabilities in a wall-mount configuration. The site angle can be set from 0° to -45° in 5° steps. The azimuth angle can be adjusted with the U-bracket.

X-UTILT shall only be used vertically.

Fasteners for wall-mounting

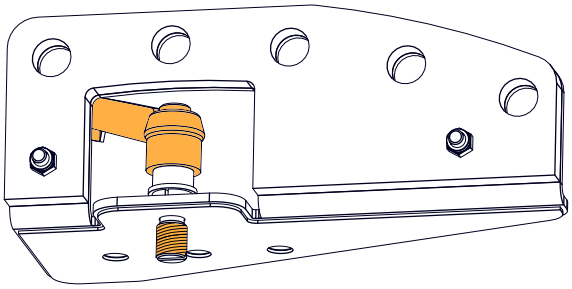
Secure the X-UTILT with two M10 screws.

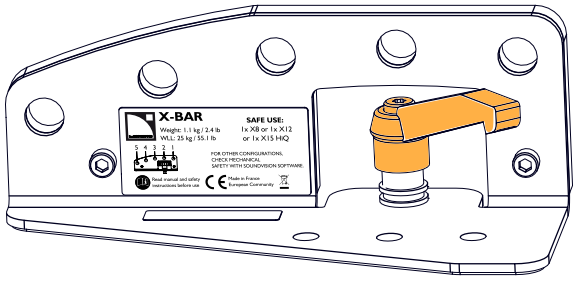
Select screw length and anchors applicable to the wall properties.



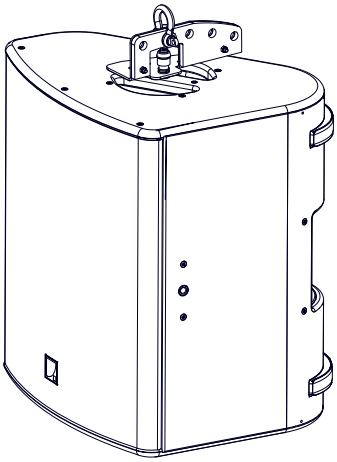
X-BAR

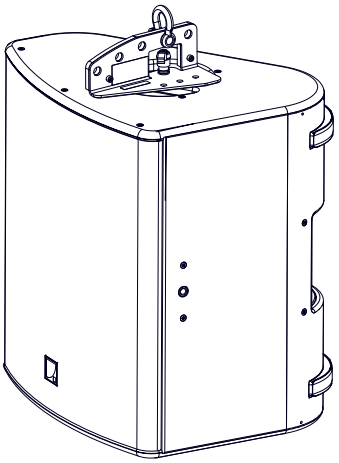
X-BAR is a rigging bar for flying X12. The rigging system consists of a threaded axis with a cam lever.

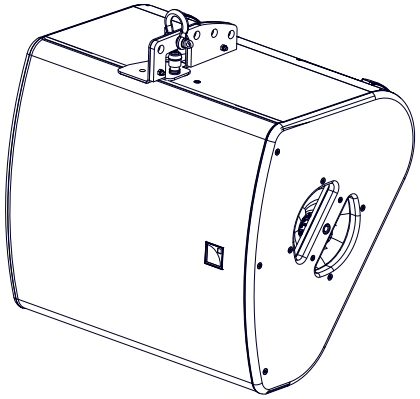


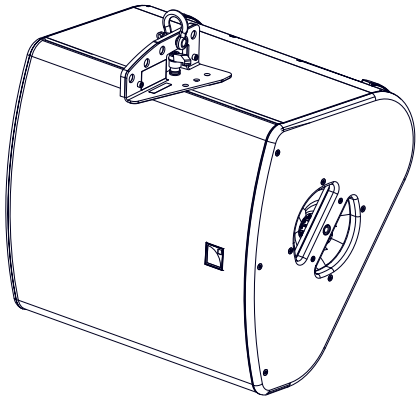


X-BAR shall be secured to the inserts on the enclosure, perpendicular to the front.

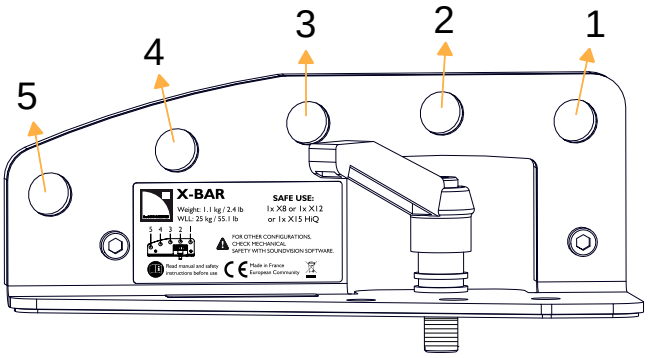




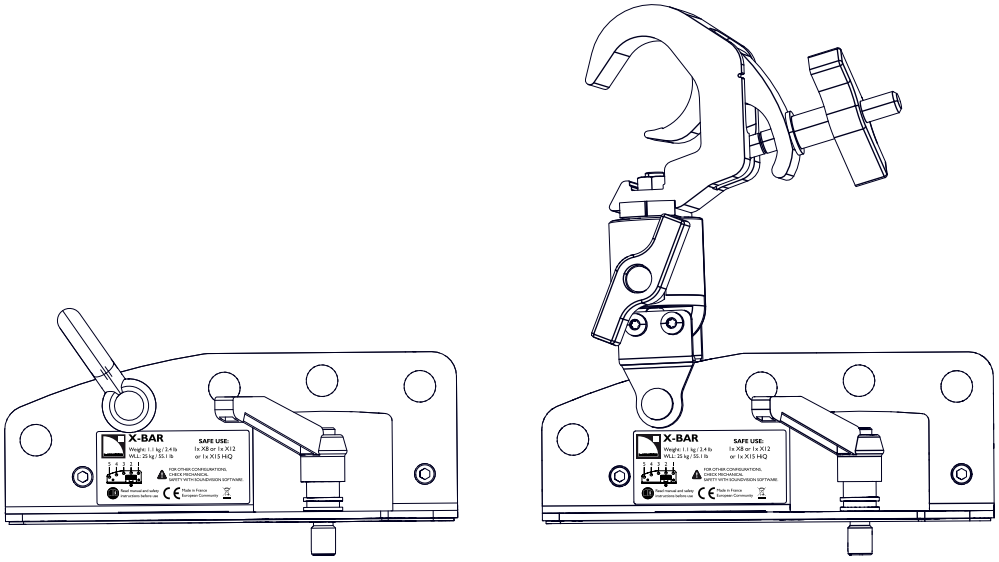




Five angulation holes are available.



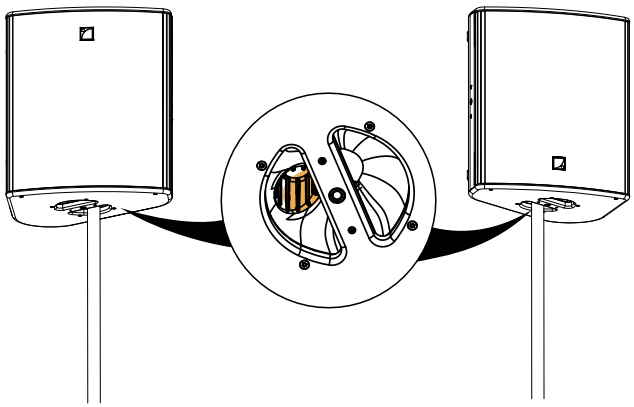
X-BAR is compatible with a Ø12 mm shackle WLL 1 t (provided) and with CLAMP250.



Elements for pole-mounting

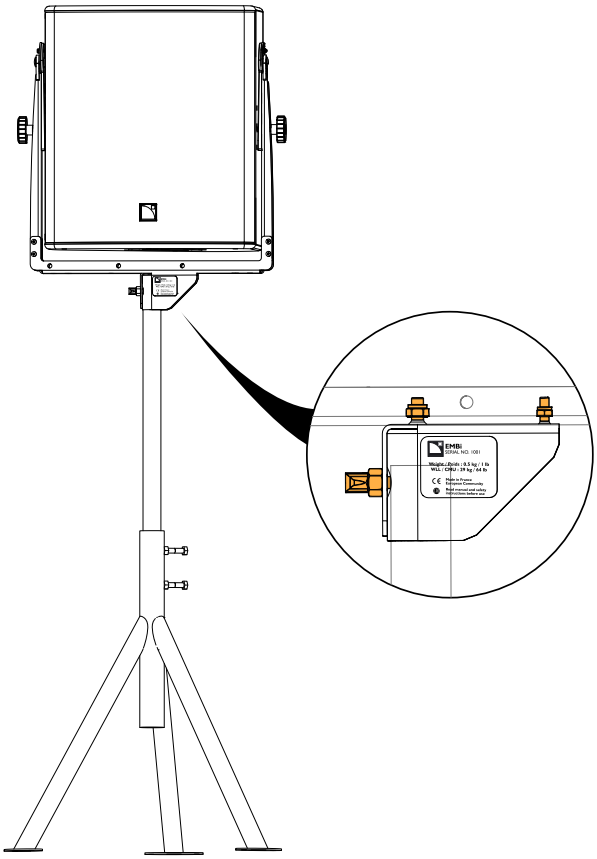
Pole sockets

X12 features two 35 mm pole sockets integrated in the handles.



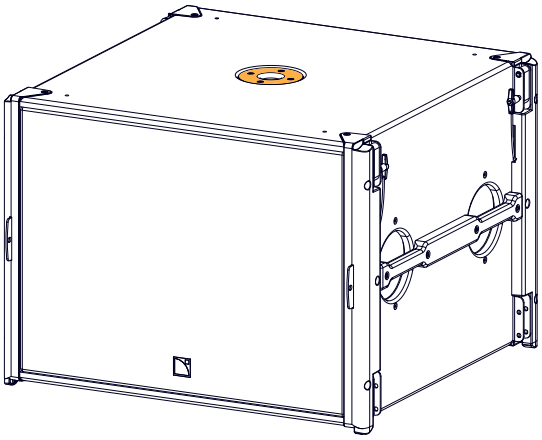
EMBi

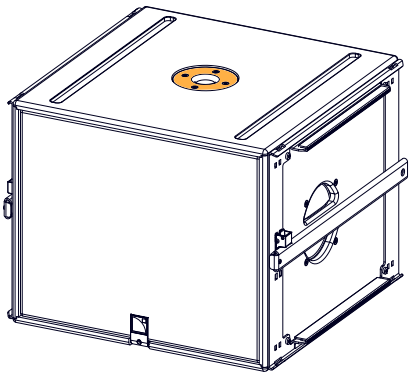
EMBi is a pole-mount adapter for X-US1215 (35 mm pole). The site angle can be adjusted with the U-bracket.



Subwoofers

SB18 and SB15m feature a 35 mm pole socket.





Rigging procedures

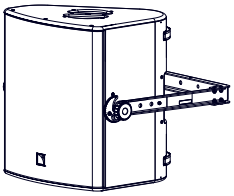
Mounting on a U-bracket

type of deployment	wall-mounting
	ceiling-mounting
rigging accessories	X-US1215 or X-UL12
additional material	3 x M10 screws
	electric screwdriver
min number of operators	1 or 2

Additional safety for flown arrays
When flying an array, use the M8 DIN580 threaded insert to implement a secondary safety.

Ceiling-mounting
Additional holes on the short U-bracket can be used for optimal visual impact.
In this case, the rigging procedure will require 2 operators.

Short U-bracket in horizontal position
In this position, the enclosure applies a diagonal force of **405 daN** on the anchoring points.



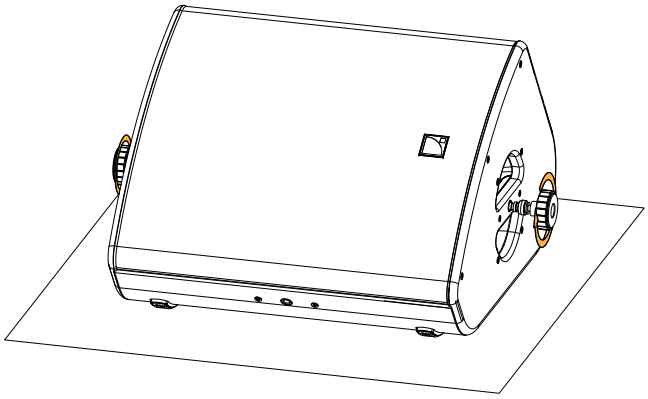
Fasteners for wall-mounting or ceiling-mounting
Secure the bracket with three M10 screws.
Select screw length and anchors applicable to the wall or ceiling properties.

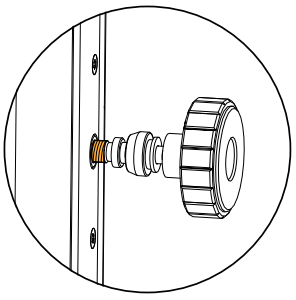
The procedure is shown with X-UL12 in horizontal position.
The same procedure applies for X-UL12 in vertical position or in ceiling-mounting configuration and X-US1215 in horizontal or vertical position or in ceiling-mounting configuration.

Assembly

Procedure

1. Drive the knobs in the inserts on the enclosure.
   Stop when the threading is halfway in.

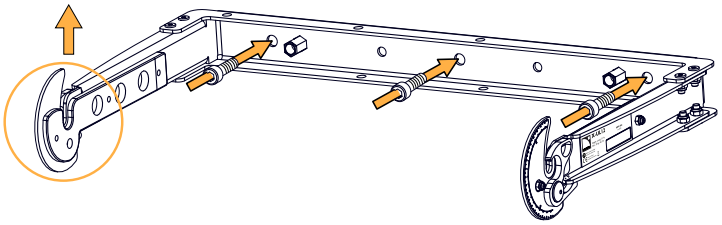




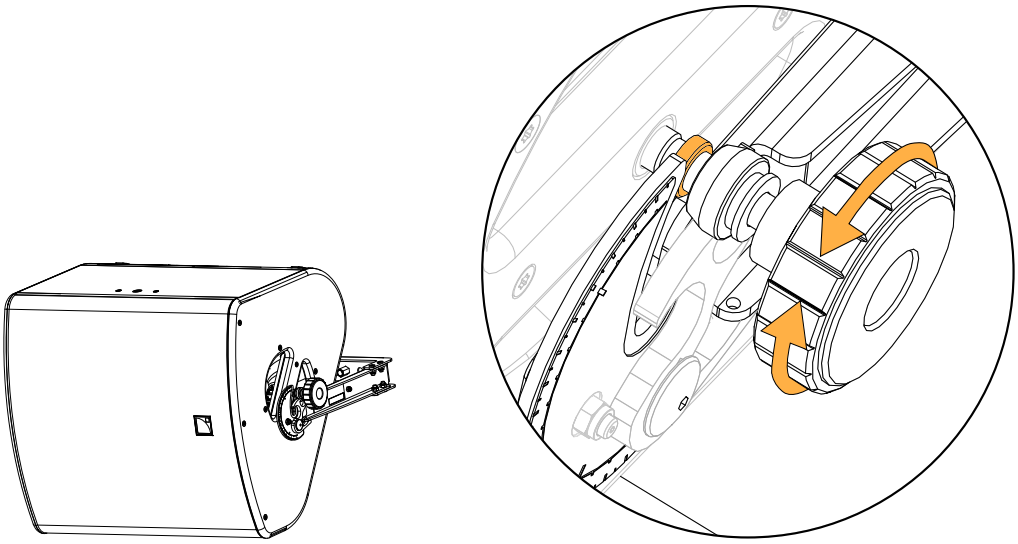
When securing the U-bracket horizontally, make sure the hooks are oriented upwards.

Fasteners for wall-mounting or ceiling-mounting
Secure the bracket with three M10 screws.
Select screw length and anchors applicable to the wall or ceiling properties.

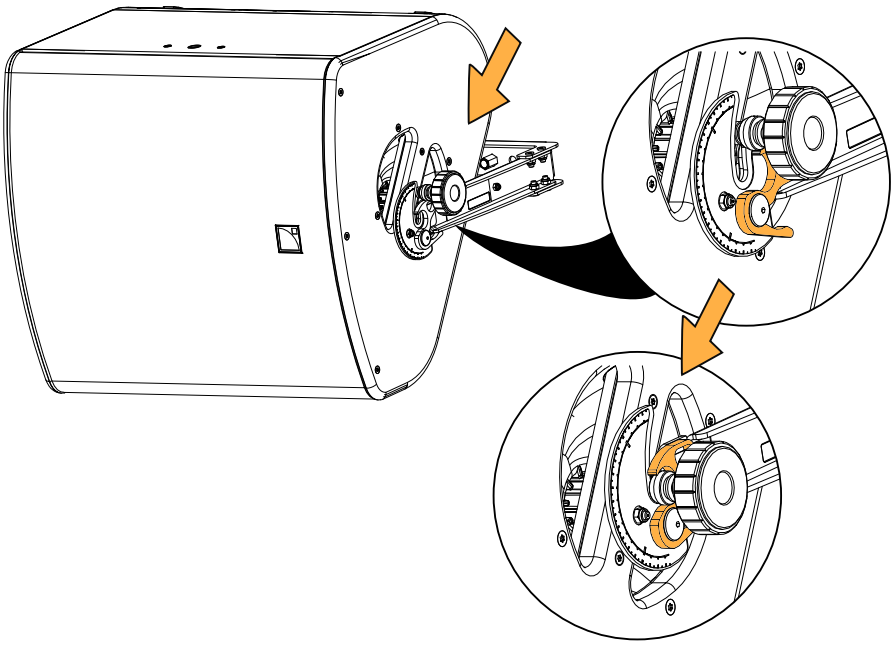
2. Secure the U-bracket to the wall using M10 screws.



3. Lift the enclosure by the knobs and place it inside the U-bracket.
Adjust the knobs on both sides so that the safety washer is between the hook and the enclosure.



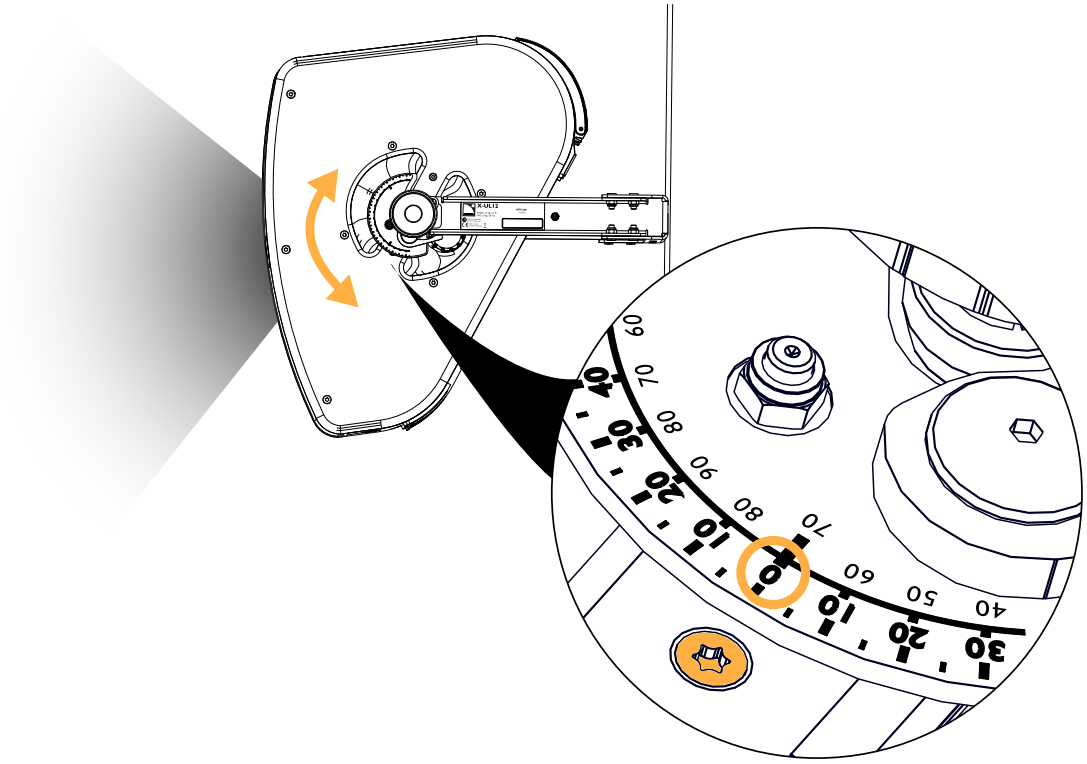
4. Push until the knobs are locked inside the spring-lock safety mechanism.



SHLAK!

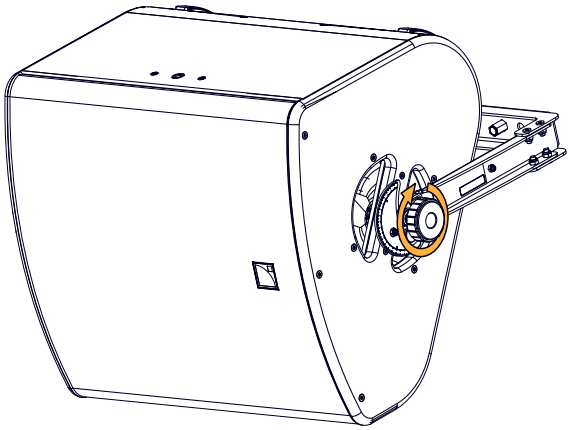
5. Set the site angle.

Use the screw as a reference point to read the label.



6. Tighten the knobs.

Make sure the enclosure is steady.



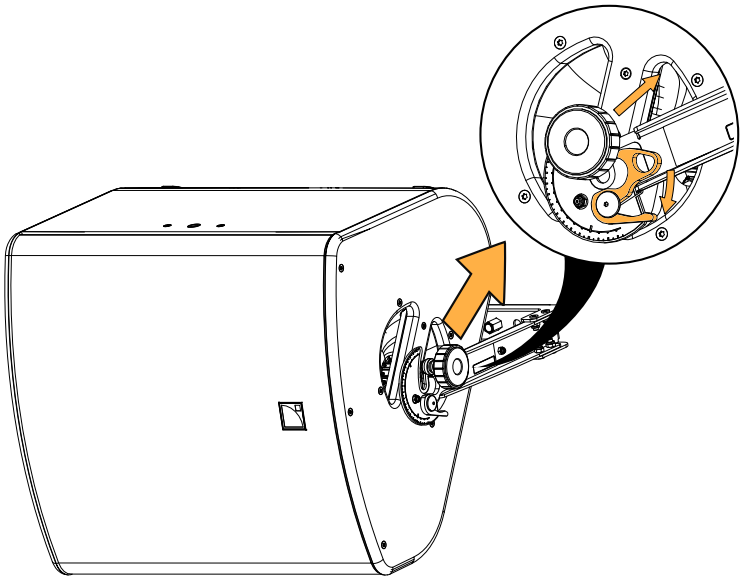
Disassembly

Procedure

1. Loosen the knobs until the enclosure can rotate freely.

   Do not unscrew the knobs all the way.

2. On both sides, pull on the safety mechanism while lifting the enclosure by the knobs to release it.



3. Remove the U-bracket from the wall.

Using a U-bracket with X-UTILT

type of deployment	wall-mounting
rigging accessories	X-US1215 or X-UL12
	X-UTILT
additional material	2 x M10 screws
	electric screwdriver
min number of operators	1

Additional safety for flown arrays
When flying an array, use the M8 DIN580 threaded insert to implement a secondary safety.

Fasteners for wall-mounting
Secure the X-UTILT with two M10 screws.
Select screw length and anchors applicable to the wall properties.

The procedure is shown with X-UL12
The same procedure applies for X-US1215.

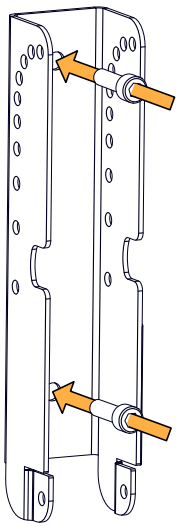
Assembly

Procedure

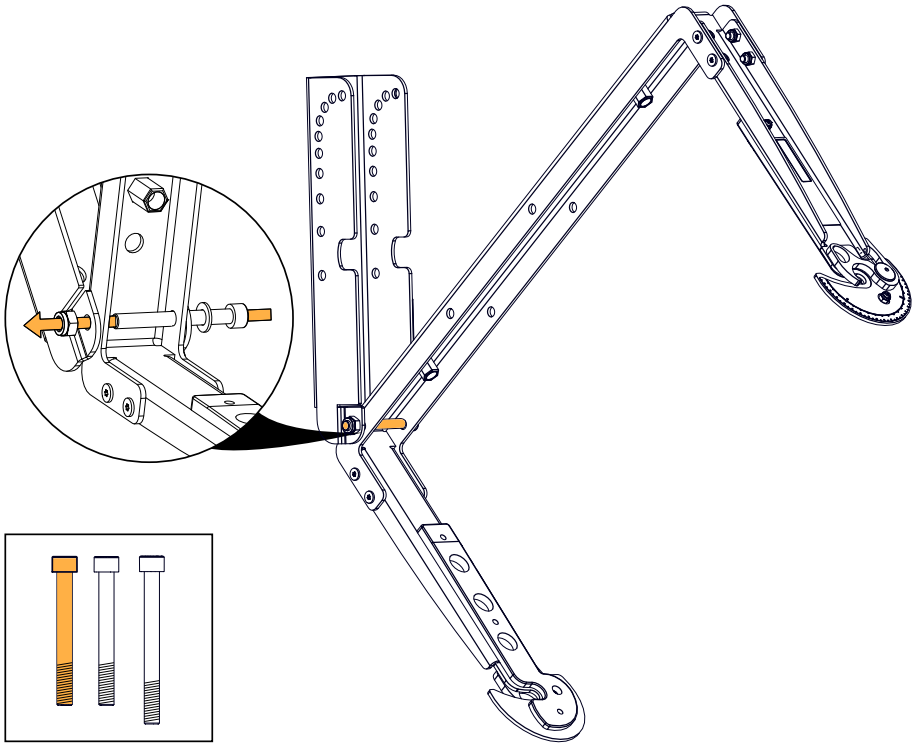
X-UTILT shall only be used vertically.

Fasteners for wall-mounting
Secure the X-UTILT with two M10 screws.
Select screw length and anchors applicable to the wall properties.

1. Secure X-UTILT to the wall using M10 screws.



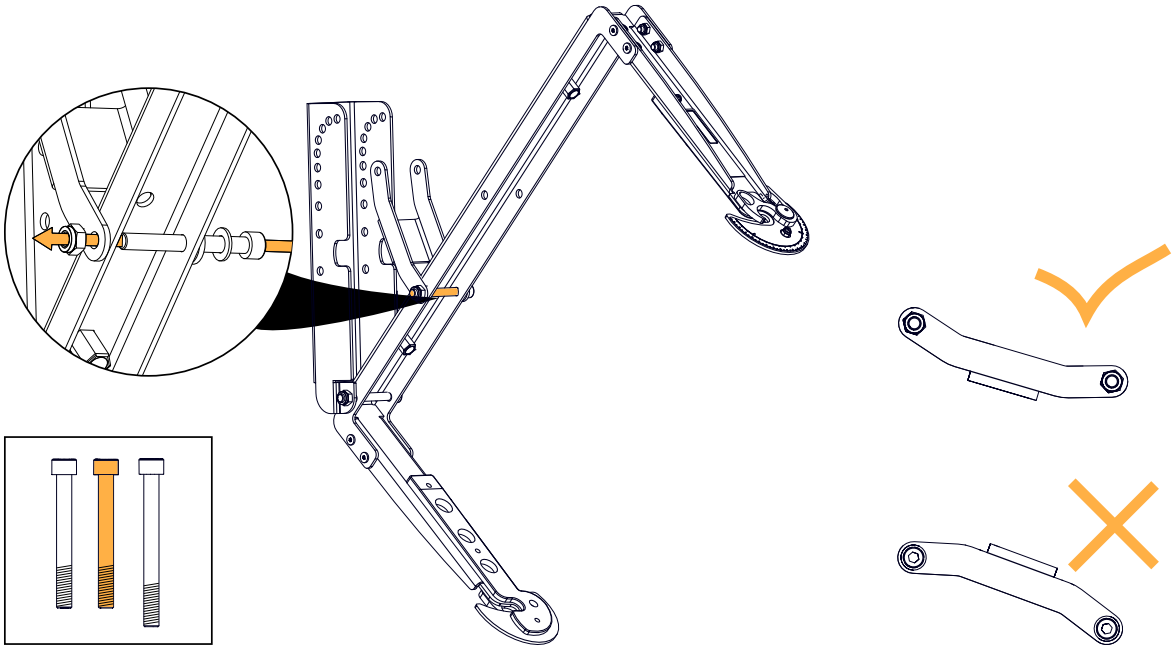
2. Secure the U-bracket to X-UTILT.



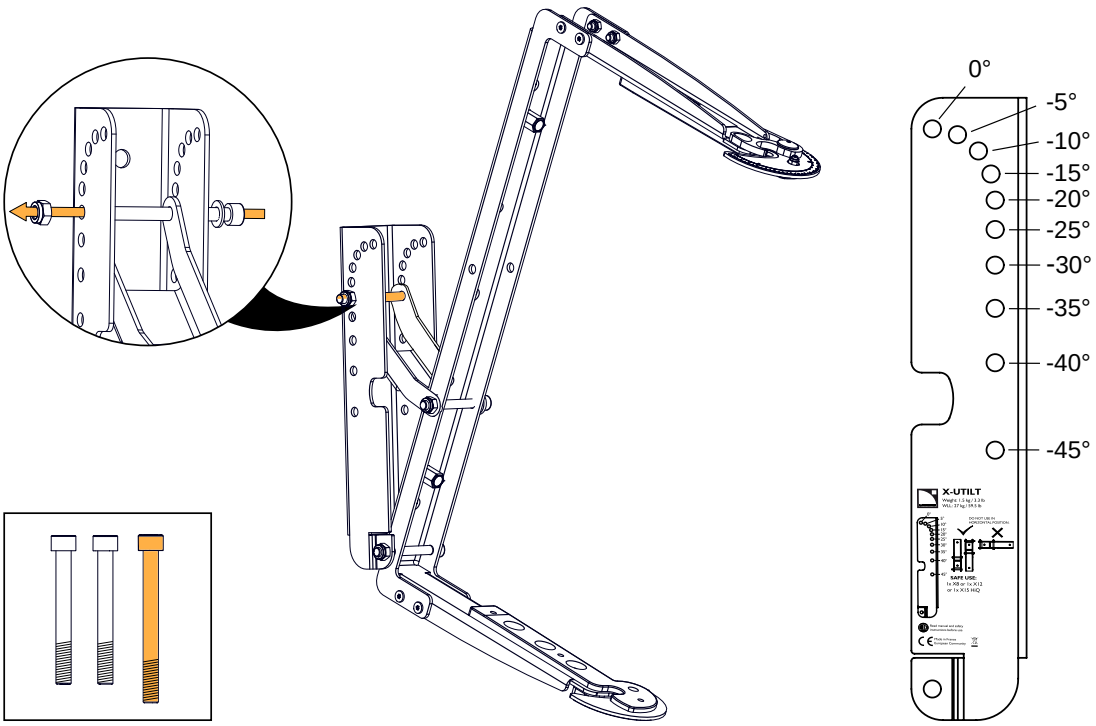
3. Secure the rigging arm to the U-bracket.

Make sure the rigging arm is in the correct position.

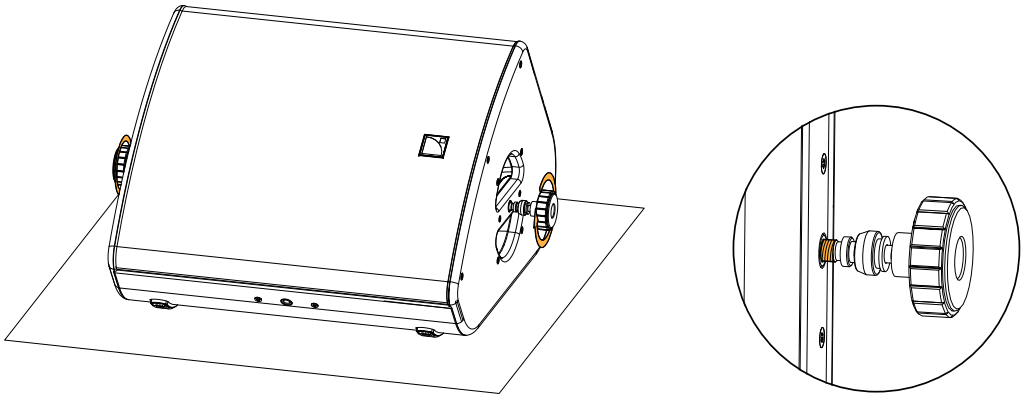
Always use the central insert.



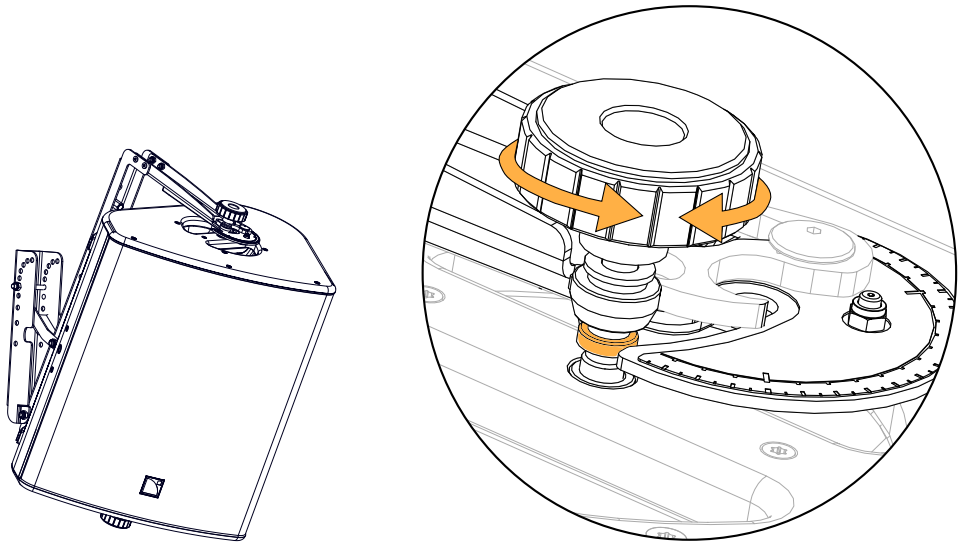
4. Choose the site angle and secure the rigging arm to X-UTILT.
Refer to the angles on the label.



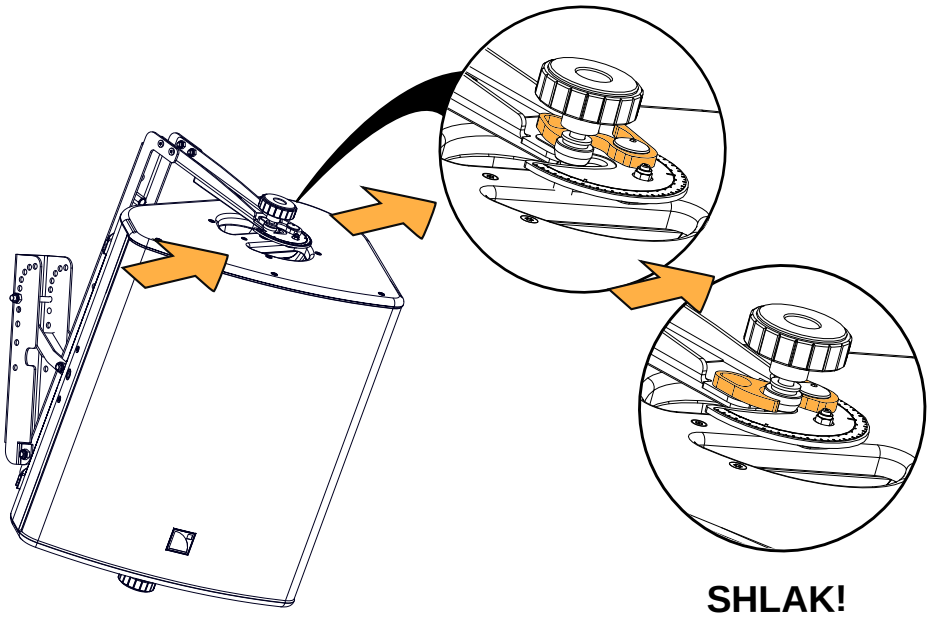
5. Drive the knobs in the inserts on the enclosure.
Stop when the threading is halfway in.



6. Lift the enclosure by the knobs and place it inside the U-bracket.
Adjust the knobs on both sides so that the safety washer is between the hook and the enclosure.

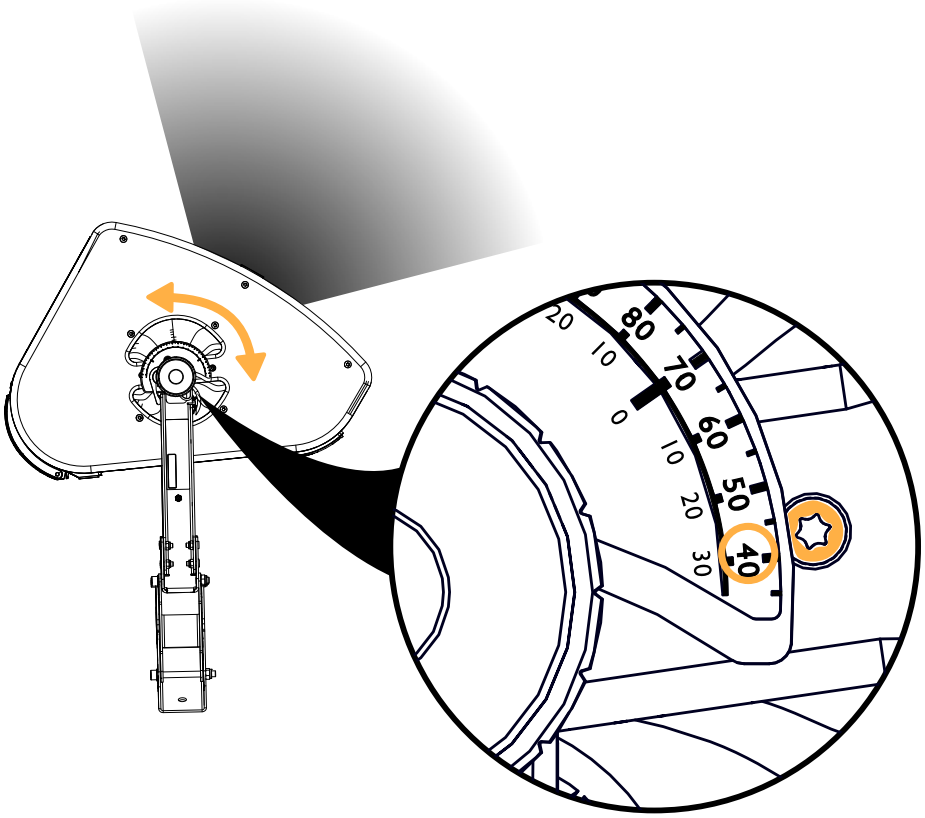


7. Push until the knobs are locked inside the spring-lock safety mechanism.



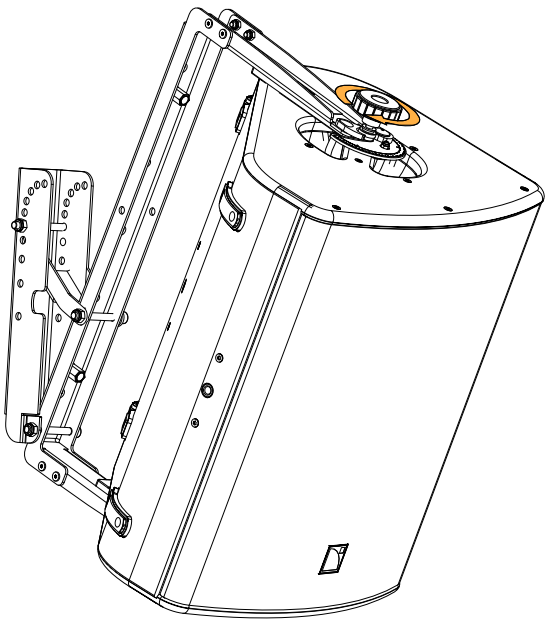
8. Set the azimuth angle.

Use the screw as a reference point to read the label.



9. Tighten the knobs.

Make sure the enclosure is steady.



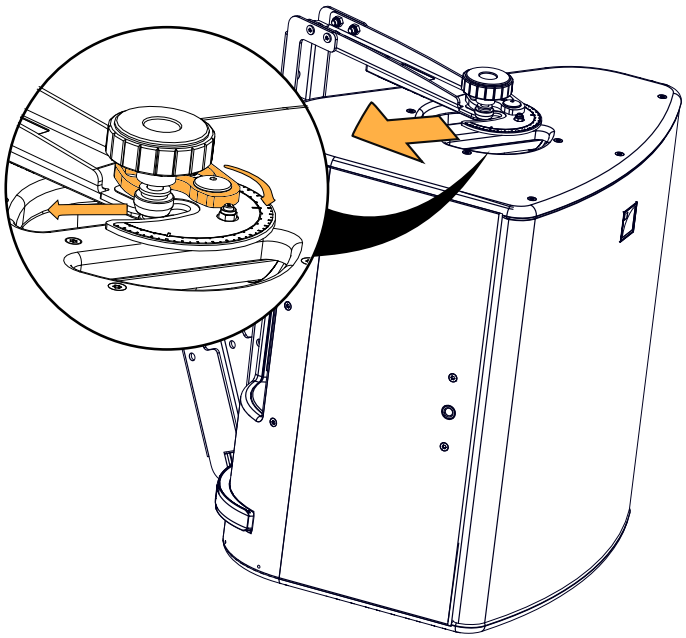
Disassembly

Procedure

1. Loosen the knobs until the enclosure can rotate freely.

   Do not unscrew the knobs all the way.

2. On both sides, pull on the safety mechanism while sliding the enclosure out of the U-bracket.



3. Remove the U-bracket and X-UTILT from the wall.

Flying with a U-bracket

type of deployment	flying
rigging accessories	X-US1215 or X-UL12
additional material	truss clamp
min number of operators	1

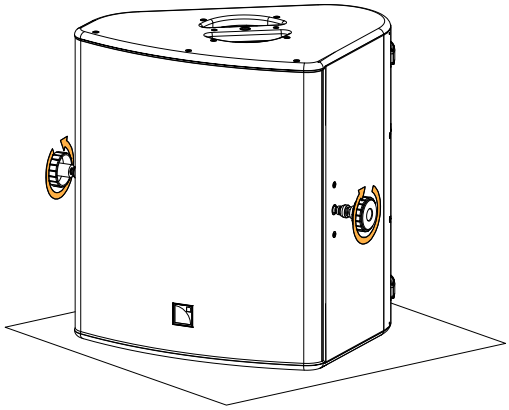
Additional safety for flown arrays
When flying an array, use the M8 DIN580 threaded insert to implement a secondary safety.

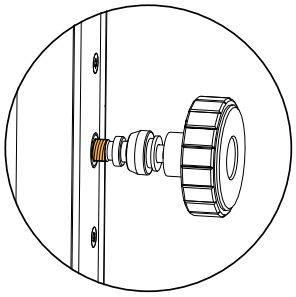
The procedure is shown with X-US1215.
The same procedure applies for X-UL12.

Assembly

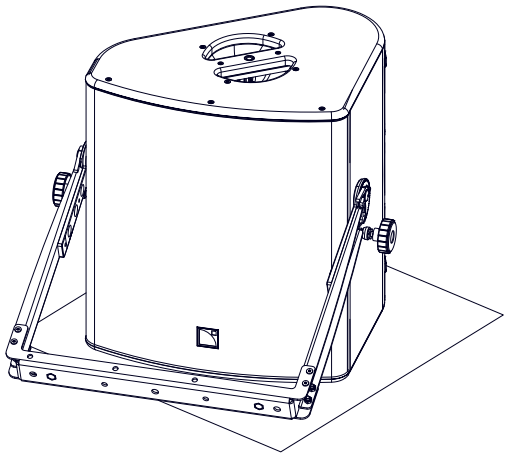
Procedure

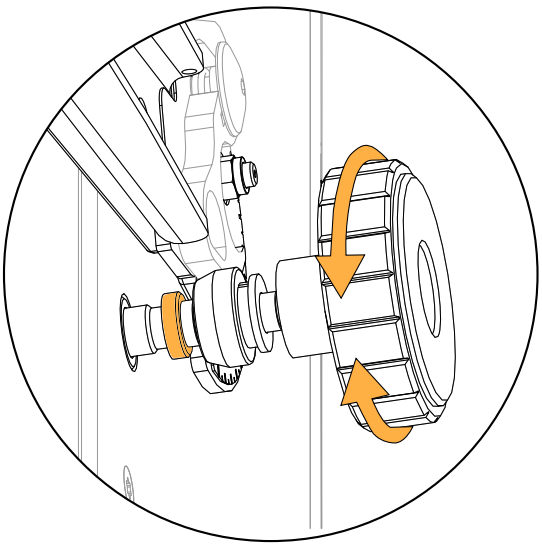
1. Drive the knobs in the inserts on the enclosure.
Stop when the threading is halfway in.



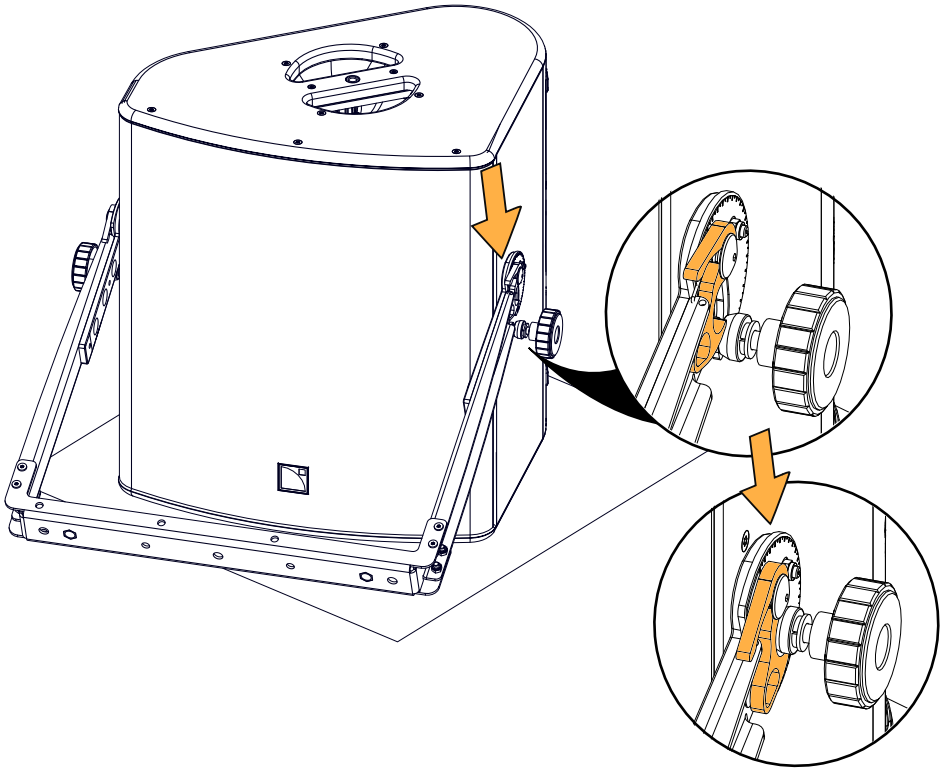


2. Place the U-bracket around the assembly.
Adjust the knobs on both sides so that the safety washer is between the hook and the enclosure.



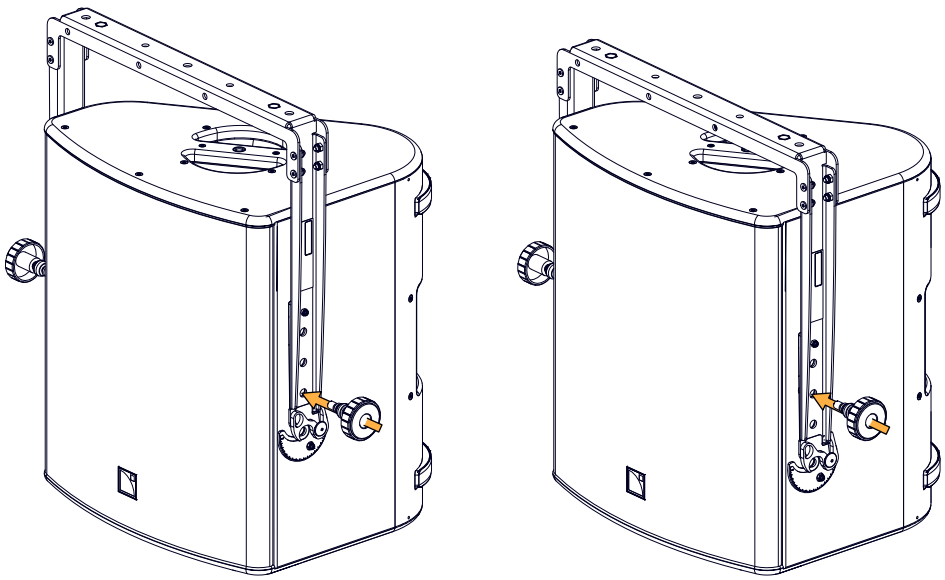


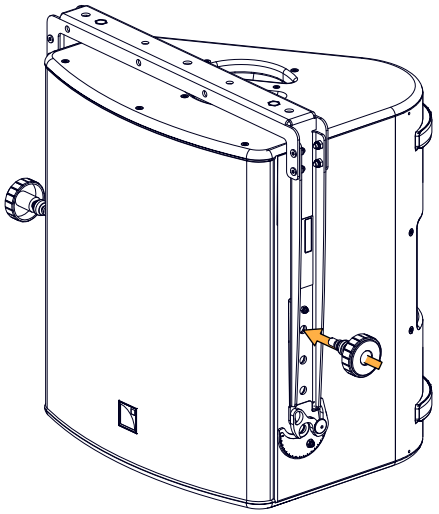
3. Push down until the knobs are locked inside the spring-lock mechanism.



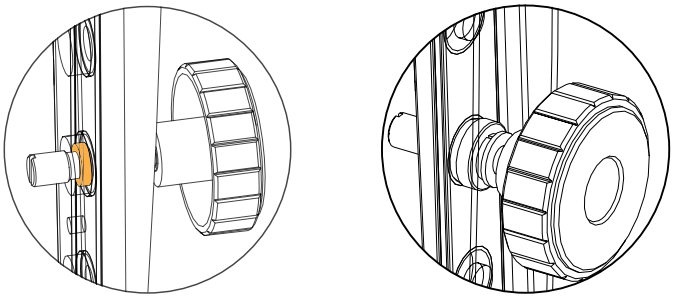
Alternatively, use the additional holes on the U-bracket.

The hooks on the bracket must be oriented towards the front of the enclosure.

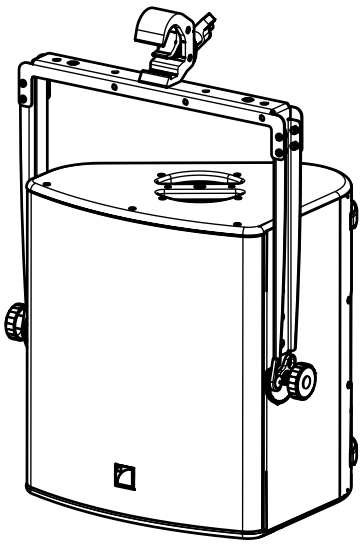




Make sure the safety washer goes through the hole on the bracket.

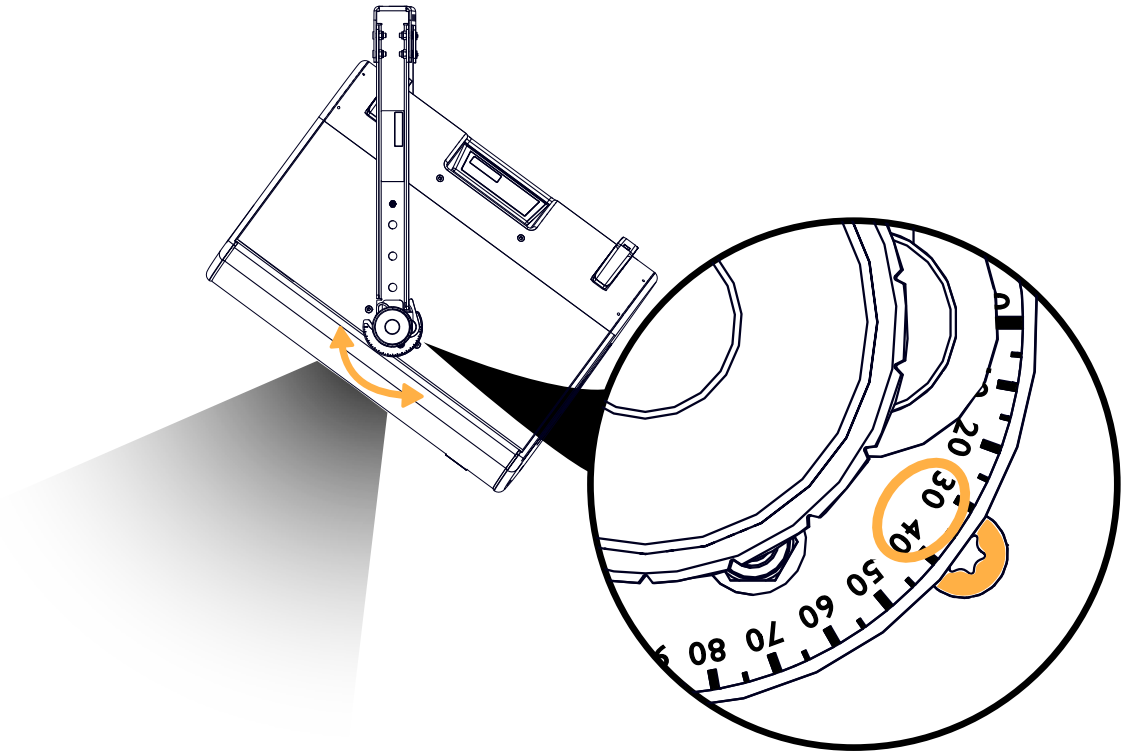


4. Tighten the knobs and fly the enclosure with a clamp.



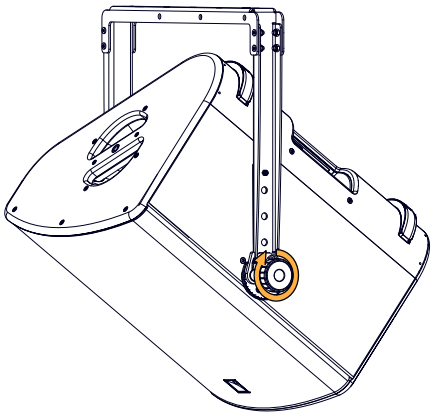
5. Loosen the knobs to set the site angle.

Use the screw as a reference point to read the label.


20
30
40
50
60
70
80

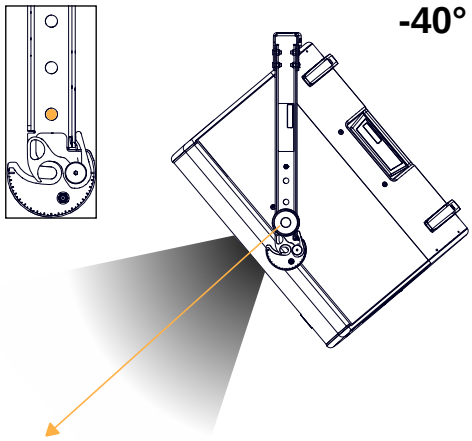
6. Tighten the knobs.

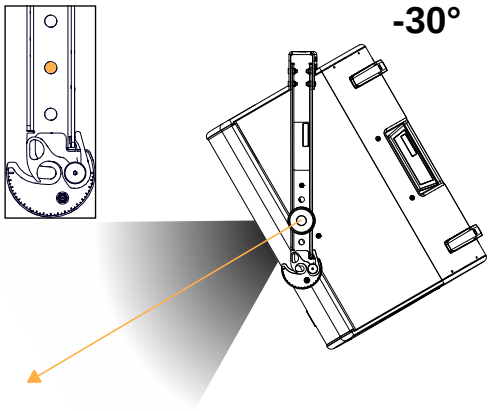
Make sure the enclosure is steady.

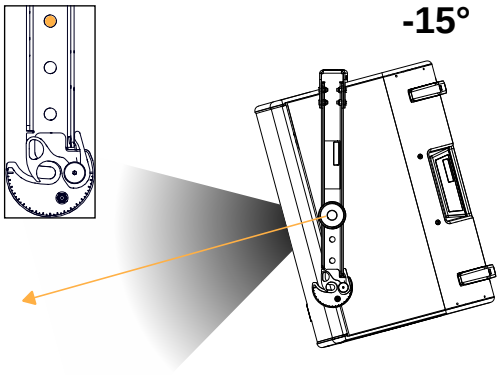


Maximum angles

When using the additional holes on the U-bracket, consider the maximum negative site angle available.



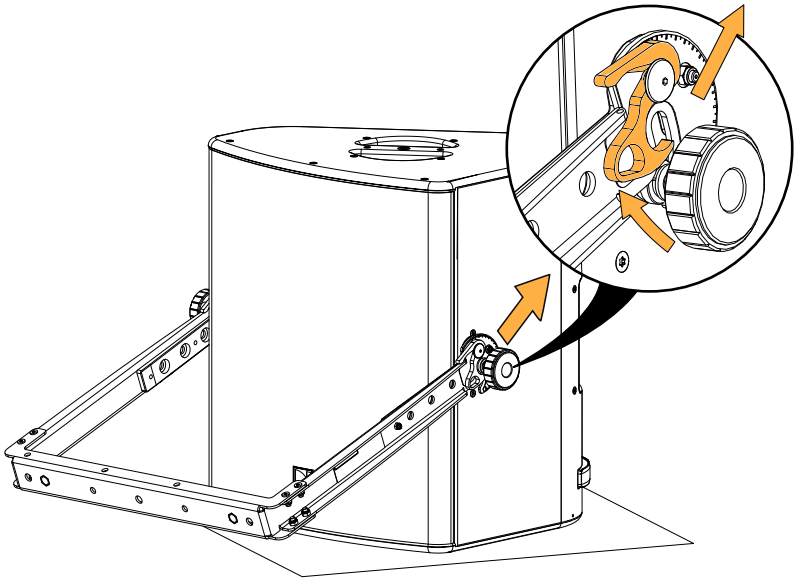




Disassembly

Procedure

1. Place the enclosure on a flat surface.
2. Loosen the knobs.
3. Pull on the safety mechanism and remove the U-bracket from the enclosure.



Flying with X-BAR

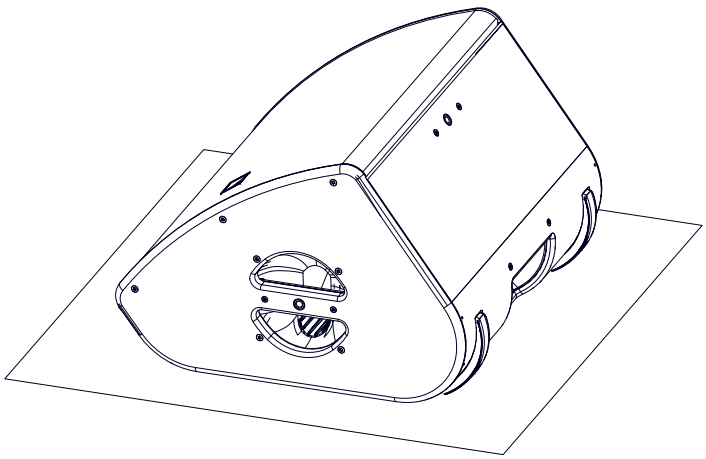
type of deployment	flying
rigging accessories	X-BAR
additional material	Ø12 mm shackles WLL 1 t (provided)
	CLAMP250 (optional)
min number of operators	1

Additional safety for flown arrays
When flying an array, use the M8 DIN580 threaded insert to implement a secondary safety.

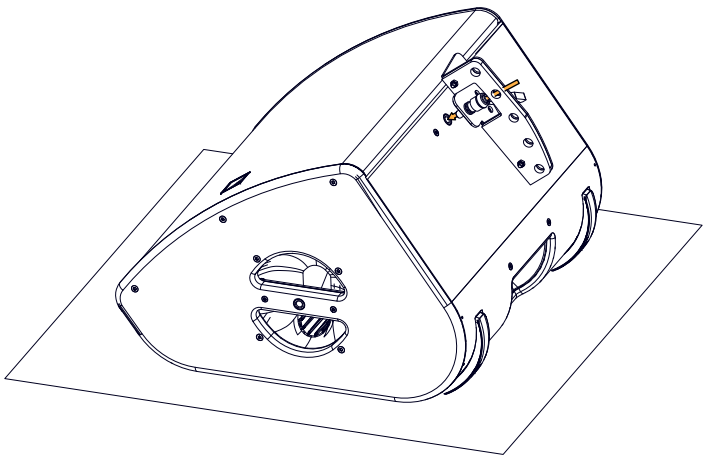
Assembly

Procedure

1. Lay the enclosure on a flat surface.

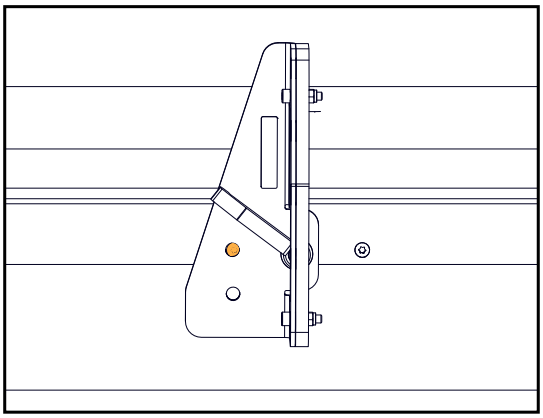


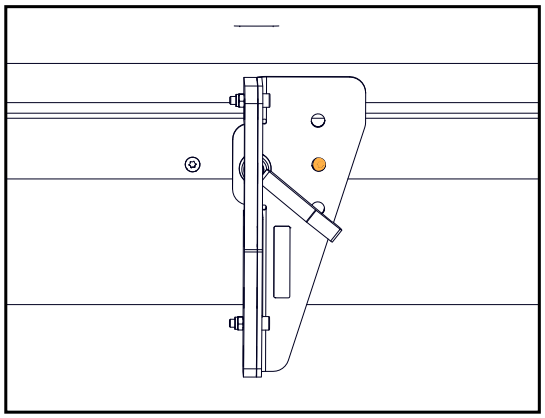
2. Drive the X-BAR in the insert.



3. Rotate the X-BAR until perpendicular to the front grill.

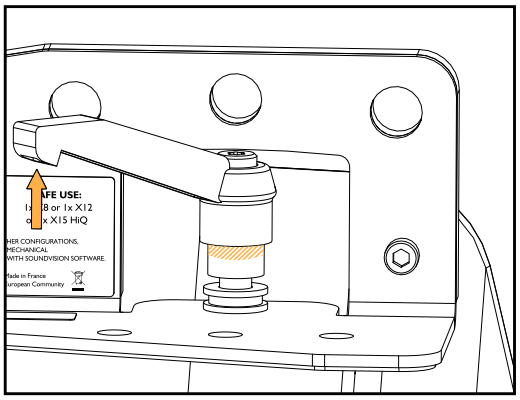
Use the screws as reference points.

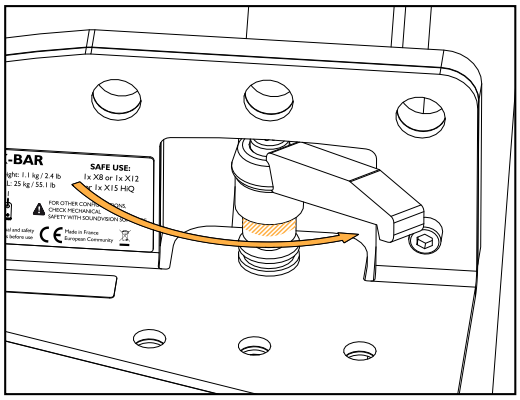


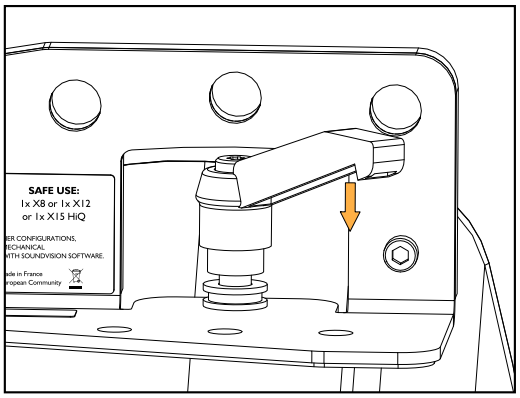


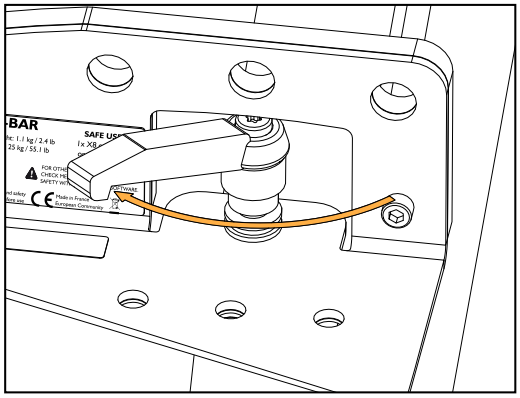
4. Tighten the X-BAR.

a) Lift the lever and rotate it counter-clockwise, release the lever and rotate it clockwise.



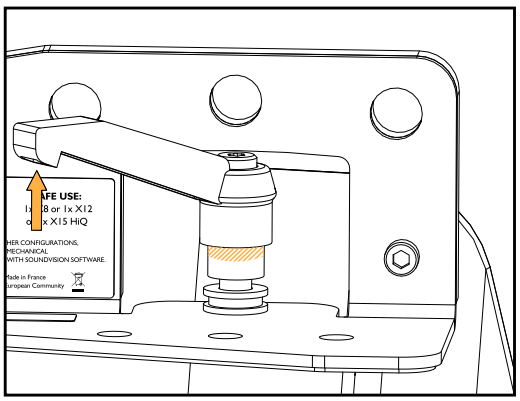


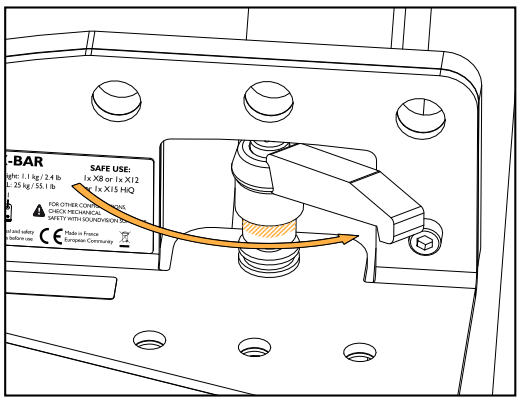




Repeat until the X-BAR is tightly secured.

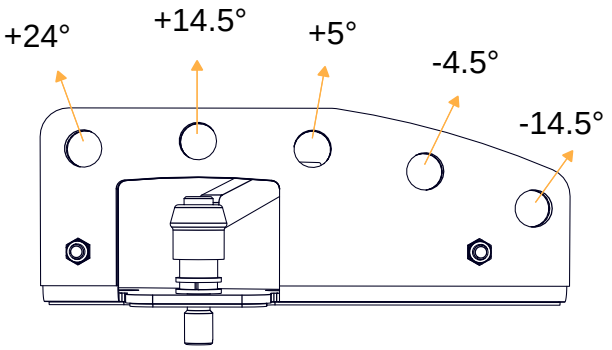
b) Finally, store the lever on the right.



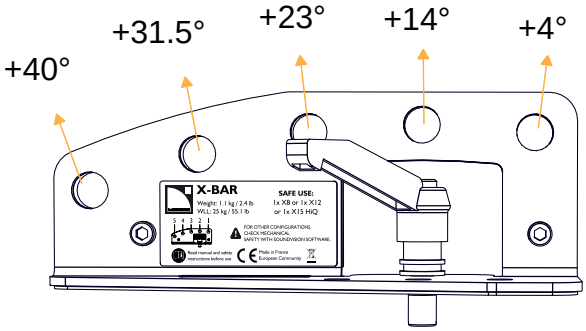


5. Position the shackle or CLAMP250 to select the site angle.

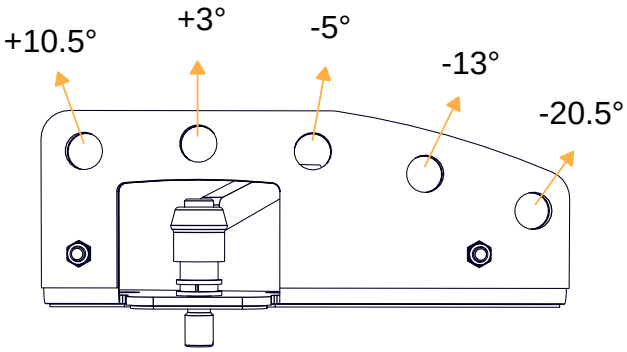
- Rear extension on horizontal enclosure



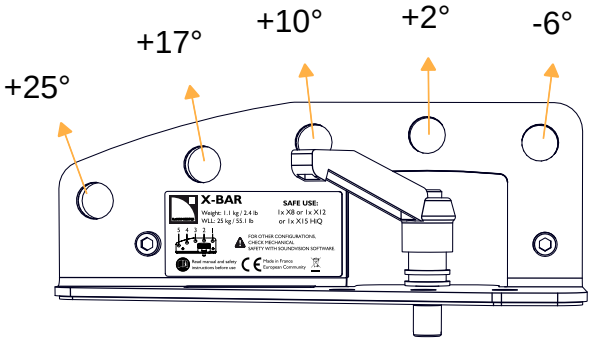
- Front extension on horizontal enclosure



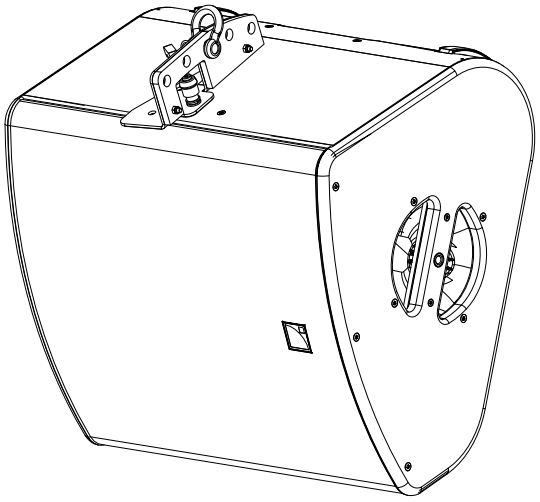
- Rear extension on vertical enclosure



- Front extension on vertical enclosure



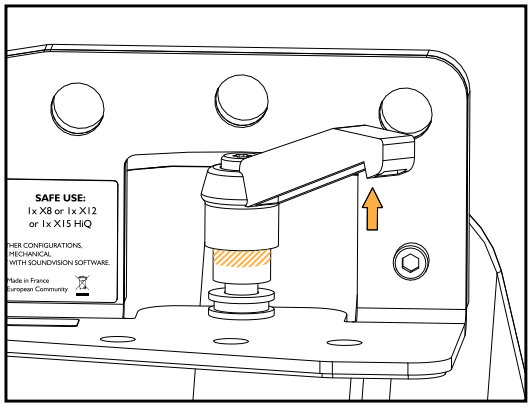
6. Lift the assembly.

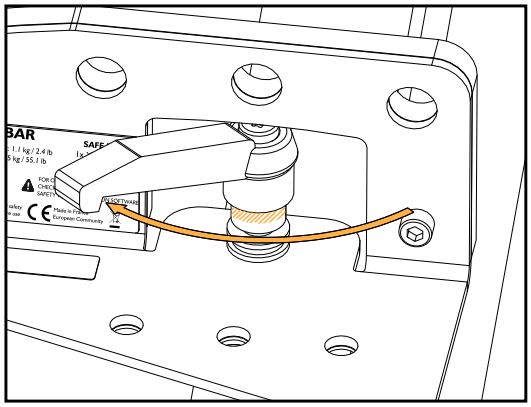


Disassembly

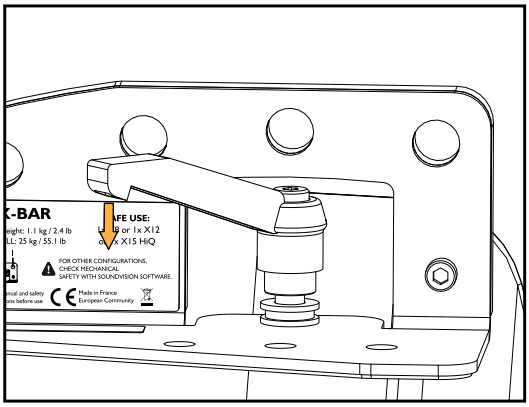
Procedure

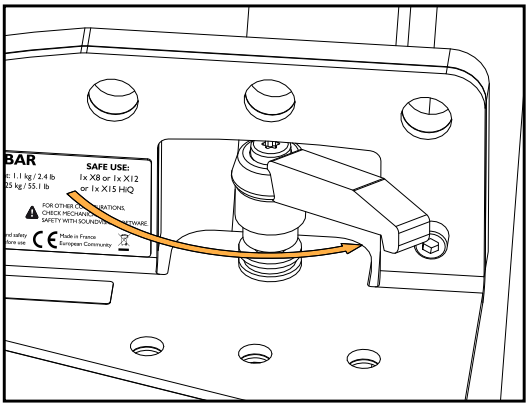
1. Take down the assembly.
2. Lift the lever and rotate it clockwise.





3. Release the lever and rotate it counter-clockwise.





4. Repeat until the X-BAR can be removed.

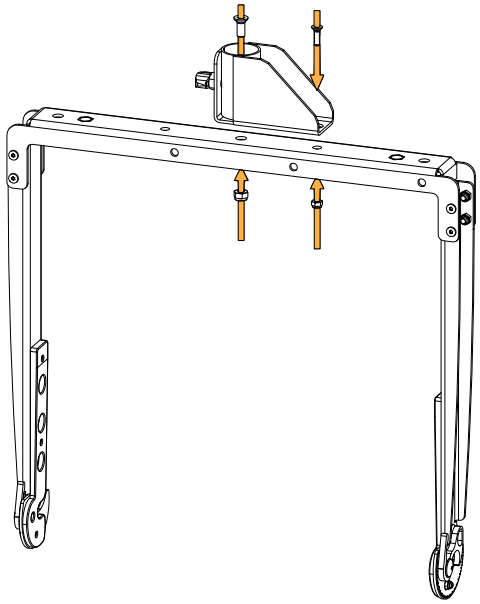
Pole-mounting with a U-bracket

type of deployment	pole-mounting
rigging accessories	X-US1215
	EMBi
additional material	35 mm pole
min number of operators	1

Assembly

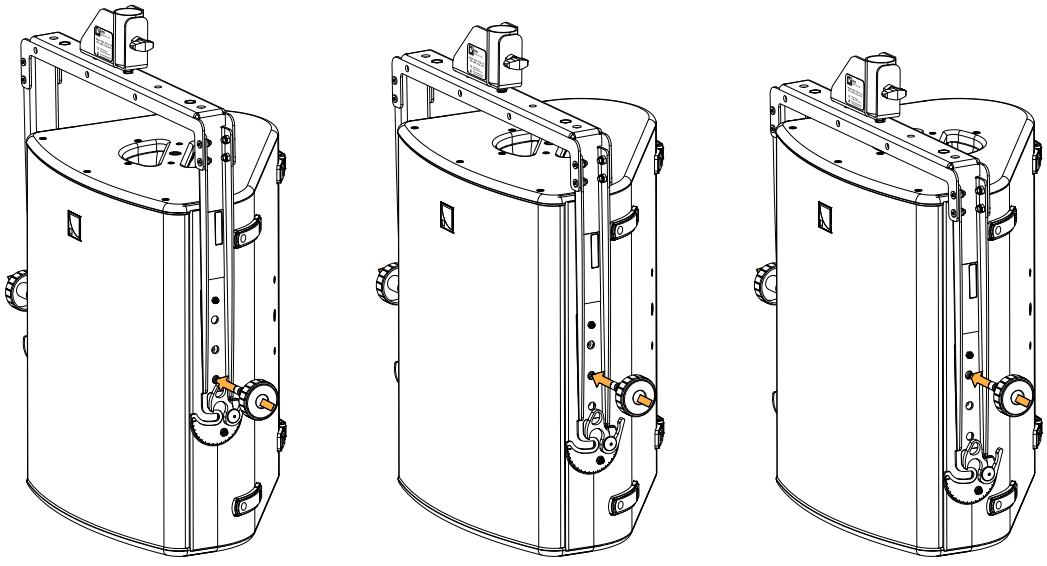
Procedure

1. Secure EMBi to the U-bracket with the provided bolts and nuts.

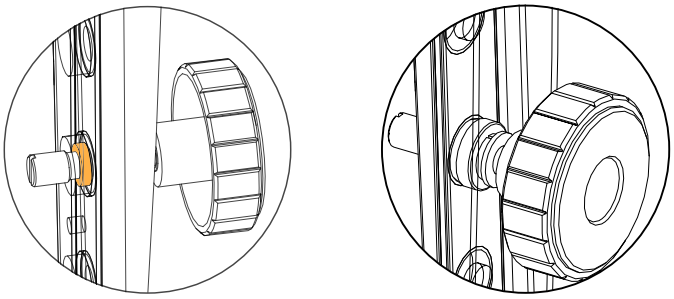


2. Secure the U-bracket to the enclosure using the additional holes.

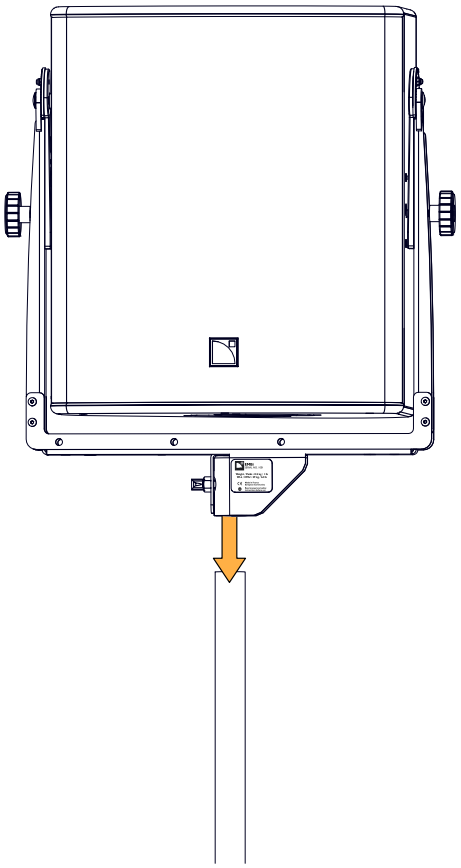
The hooks on the bracket must be oriented towards the front of the enclosure.



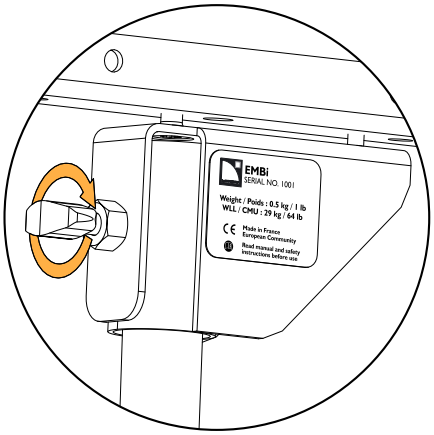
Make sure the safety washer goes through the hole on the bracket.



3. Tighten the knobs, reverse the assembly and mount it on a pole.



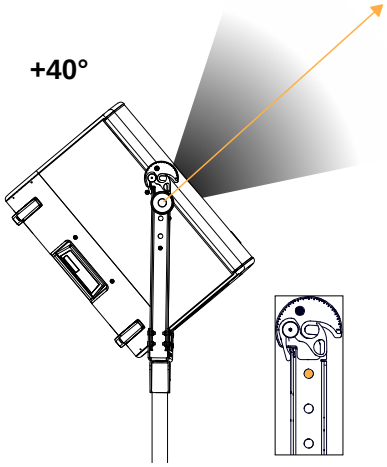
4. Tighten EMBi.

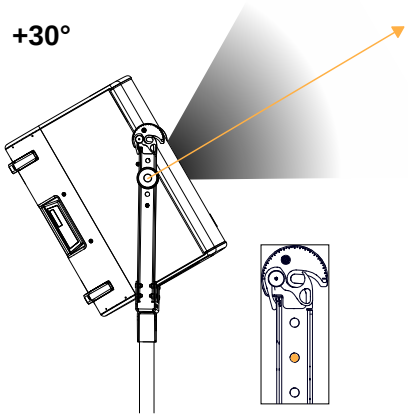


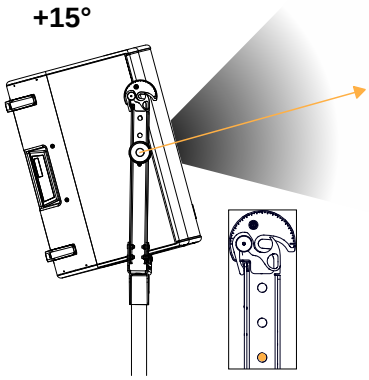
5. Loosen the knobs to set the site angle.

Consider the maximum positive site angle available.

Maximum angles



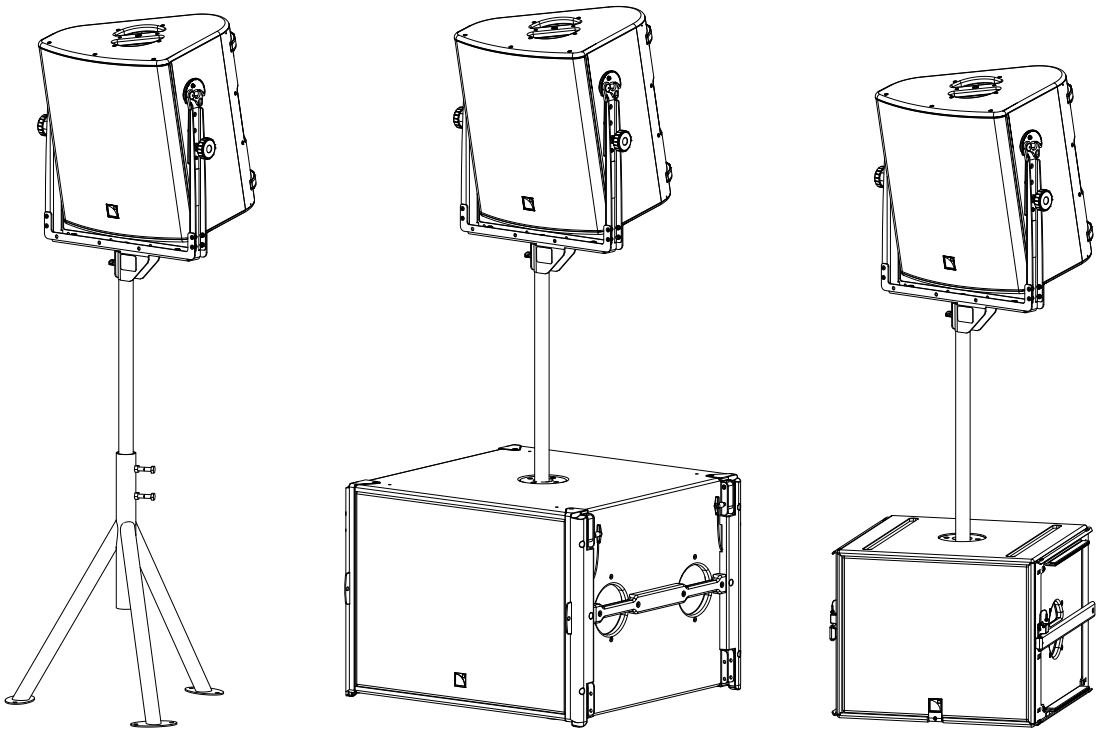




6. Tighten the knobs.

Make sure the enclosure is steady.

The assembly can be mounted on a tripod or on a subwoofer.



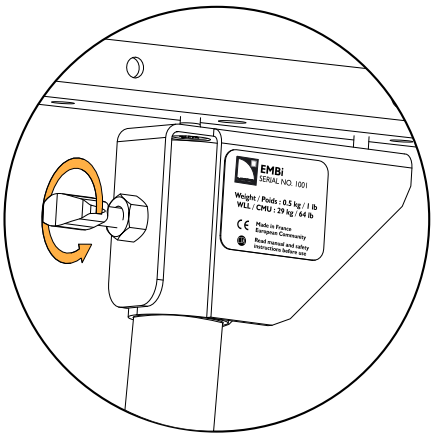
Disassembly

About this task

Remove the assembly from the pole before disassembling the enclosure and the bracket.

Procedure

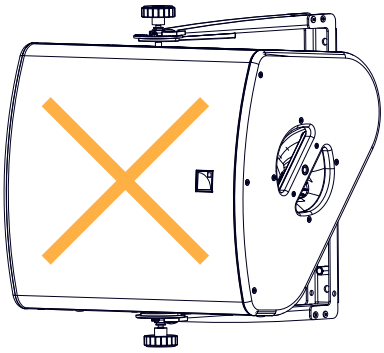
1. Loosen EMBi to remove the assembly from the pole.

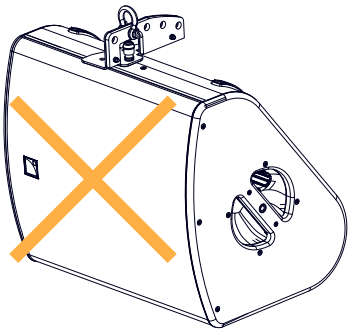


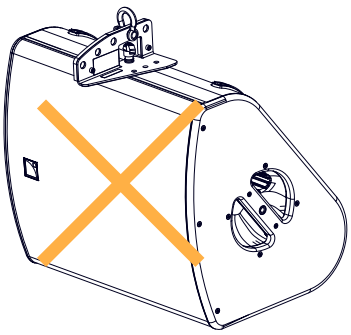
2. Remove the bracket from the enclosure.

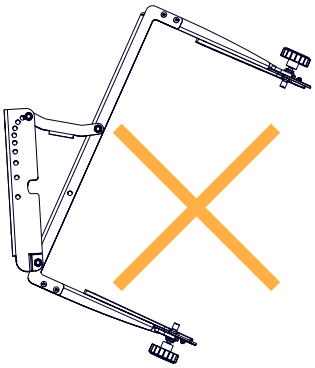
Forbidden configurations

Forbidden









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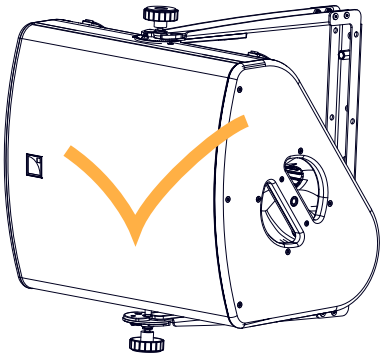

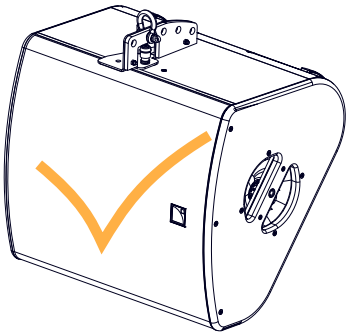

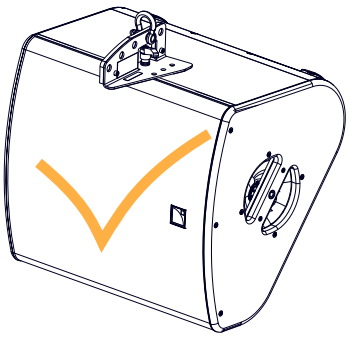

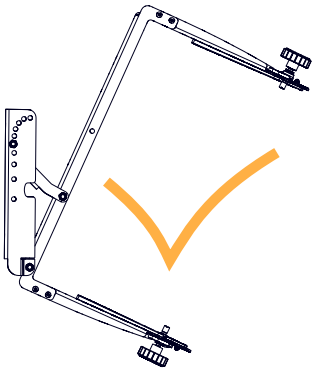

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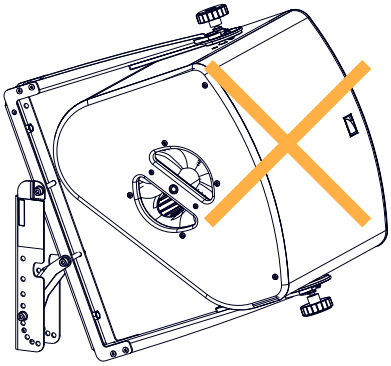

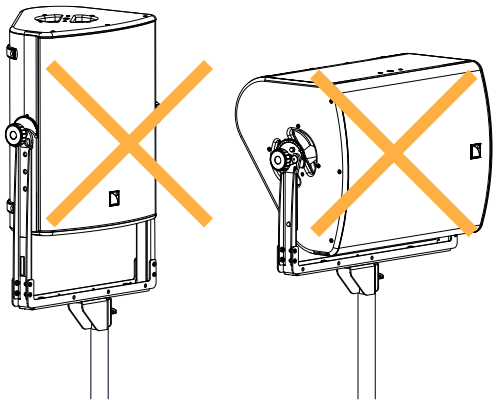

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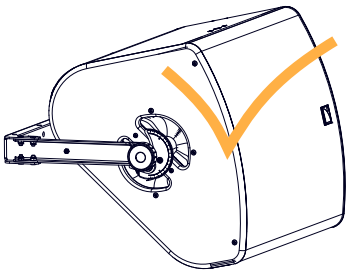
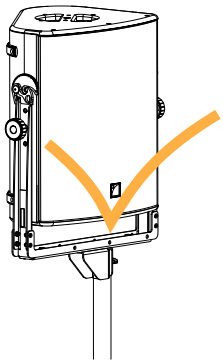




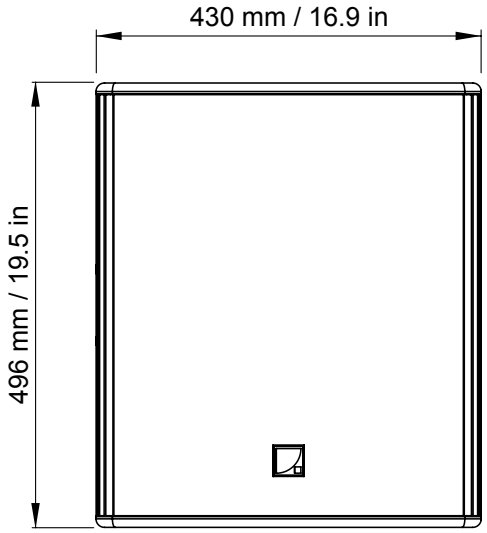
Specifications

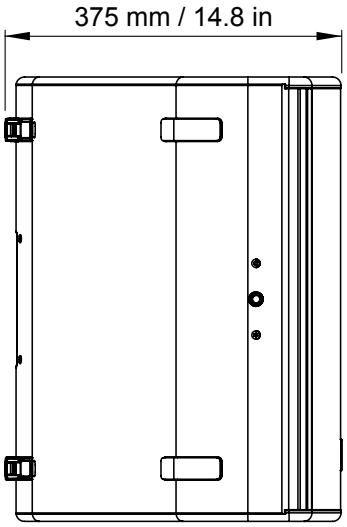
X12 specifications

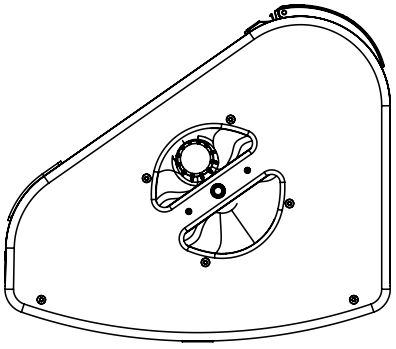
Description	2-way passive coaxial enclosure: 12'' LF + 3'' HF diaphragm, amplified by LA4X / LA8 / LA12X
Usable bandwidth (-10 dB)	59 Hz - 20 kHz ([X12])
Maximum SPL[1]	136 dB ([X12])
Nominal directivity	vertical: symmetric
	horizontal: symmetric
Monitoring angle	without risers: 35°
	with risers: 55°
Transducers	LF: 1 × 12"cone driver
	HF: 1 × 3"diaphragm compression driver, neodymium
Acoustical load	bass-reflex, L-Vents, ellipsoidal waveguide
Nominal impedance	8 Ω
Connectors	IN: 1 × 4-point speakON
	LINK: 1 × 4-point speakON
Rigging and handling	2 × handles
	DIN580-compatible M8 threaded insert
	4 M10 threaded inserts
	1 × 35 mm pole socket
Weight (net)	20 kg / 44.1 lb
Cabinet	first grade Baltic beech and birch plywood
Front	steel with anti-corrosion coating
	acoustically neutral 3D fabric
Finish	dark grey brown Pantone 426C
	pure white RAL 9010
	custom RAL code on special order
IP	IP43

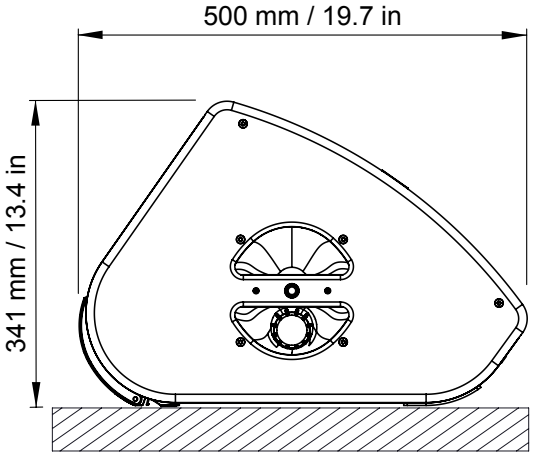
[1] Peak level measured at 1 m under free field conditions using pink noise with crest factor 4 (preset specified in brackets).

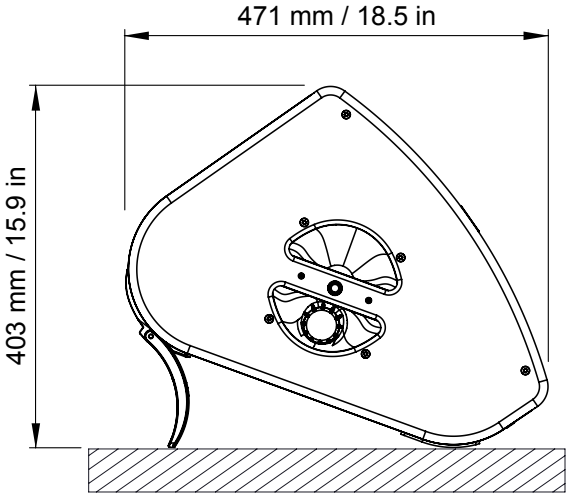
X12 dimensions









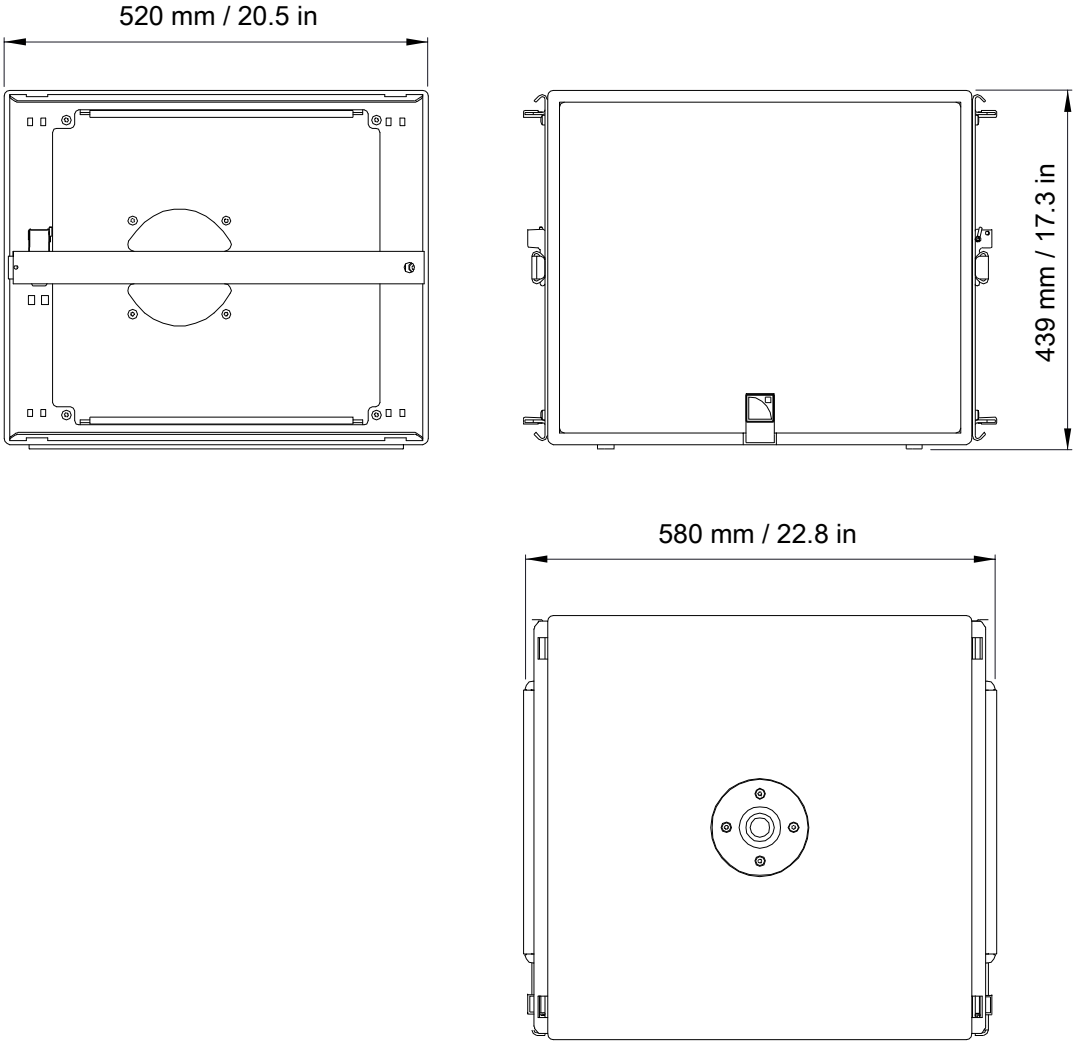


SB15m specifications

Description	High power compact subwoofer : 1 x 15'' , amplified by LA4X / LA8 / LA12X
Low frequency limit	40 Hz ([SB15_100])
Maximum SPL[1]	137 dB ([SB15_100])
Directivity	standard or cardioid
Transducers	1 x 15"
Acoustical load	bass-reflex enclosure, L-Vents
Nominal impedance	8 Ω
Connectors	IN: 4-point speakON
	LINK: 4-point speakON
Rigging and handling	2 handles
	2 coupling bars and 2 locking tabs
	1 x 35 mm pole socket
Weight (net)	36 kg / 79.4 lb
Cabinet	first grade Baltic birch plywood
Front	steel grill with anti-corrosion coating
	acoustically neutral 3D fabric
Rigging components	high grade steel with anti-corrosion coating
Finish	dark grey brown Pantone 426C
	pure white RAL 9010
	custom RAL code on special order

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

SB15m dimensions

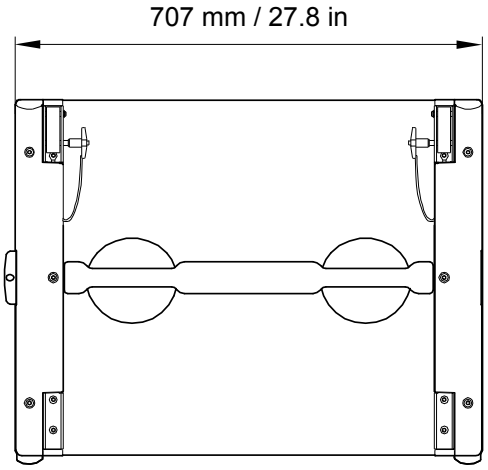


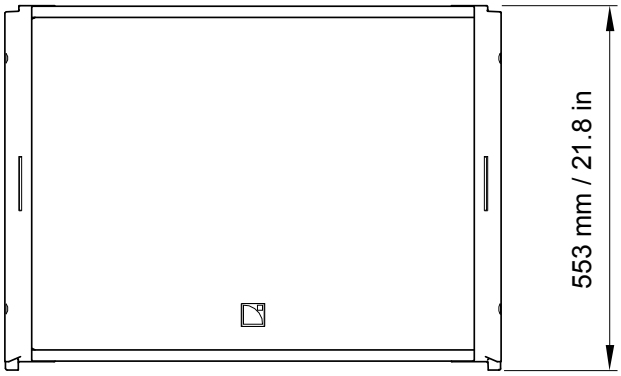
SB18 specifications

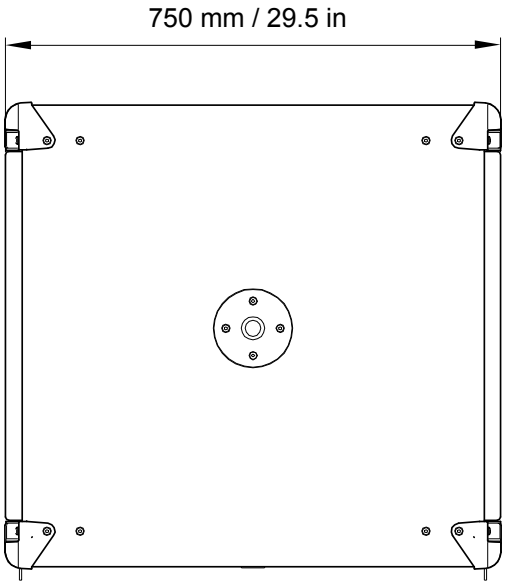
Description	High power compact subwoofer: 1 x 18'' , amplified by LA4X / LA8 / LA12X
Low frequency limit (-10 dB)	32 Hz ([SB18_100])
Maximum SPL[1]	138 dB ([SB18_100])
Directivity	standard or cardioid
Transducers	1 × 18"
Acoustical load	bass-reflex, L-Vents
Nominal impedance	8 Ω
Connectors	IN: 1 × 4-point speakON
	LINK: 1 × 4-point speakON
Rigging and handling	2 handles integrated into the cabinet
	captive rigging system
	1 × 35 mm pole socket
Weight (net)	52 kg / 115 lb
Cabinet	first grade Baltic birch plywood
Front	steel grill with anti-corrosion coating
	acoustically neutral 3D fabric
Rigging components	steel with anti-corrosion coating
Finish	dark grey brown Pantone 426C
IP	IP45

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

SB18 dimensions



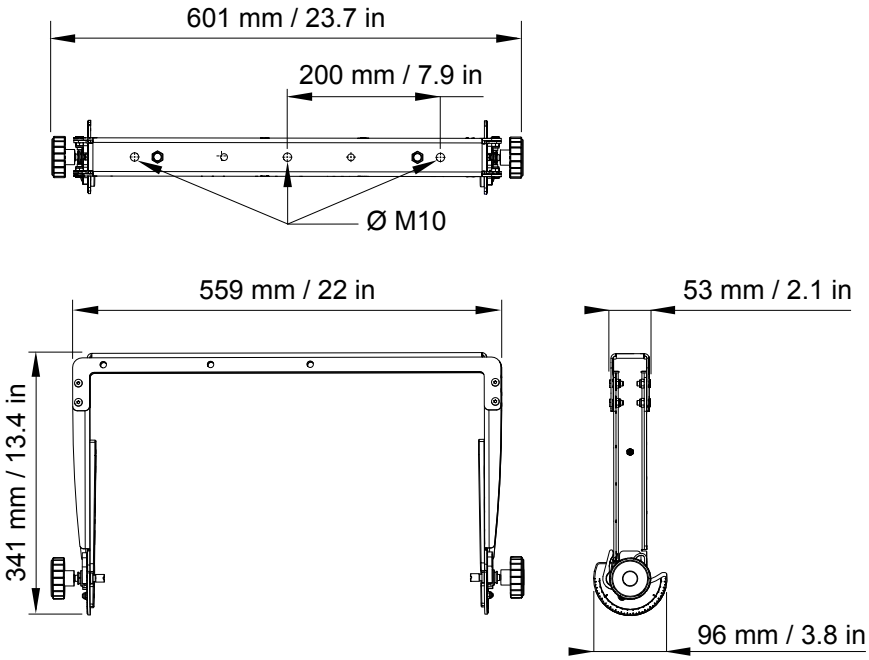




X-UL12 specifications

Description	Long U-bracket for X12
Weight (net)	2.7 kg / 5.9 lb
Material	high grade steel with anti-corrosion coating

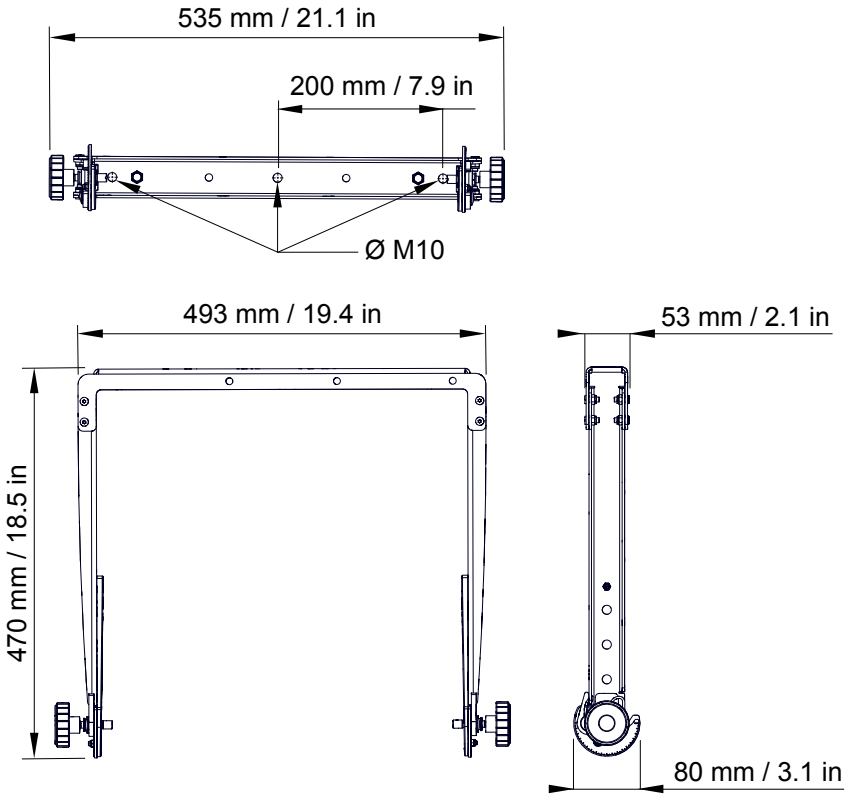
X-UL12 dimensions



X-US1215 specifications

Description	Short U-bracket for X12 and X15 HiQ
Weight (net)	3 kg / 6.6 lb
Material	high grade steel with anti-corrosion coating

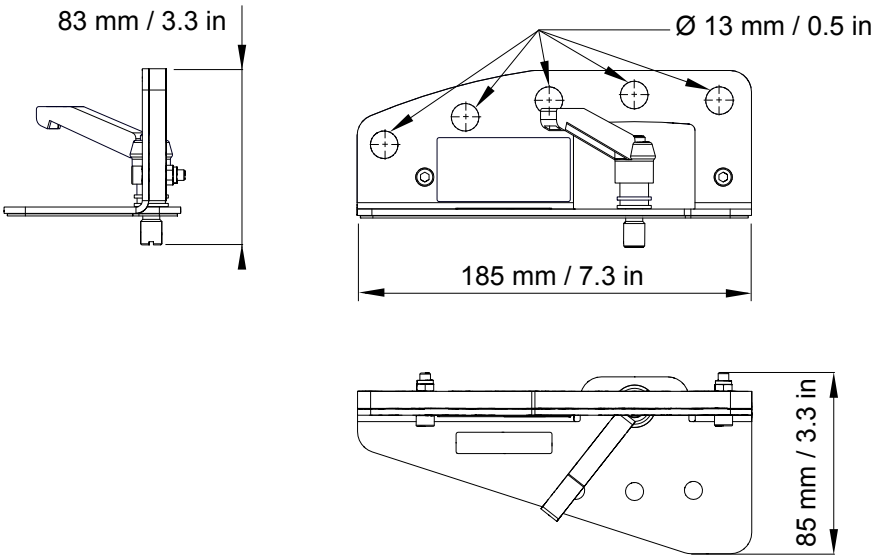
X-US1215 dimensions



X-BAR specifications

Description	Rigging bar for X series
	1 × Ø12 mm shackle WLL 1 t
Weight (net)	1.1 kg / 2.4 lb
Material	high grade steel with anti-corrosion coating

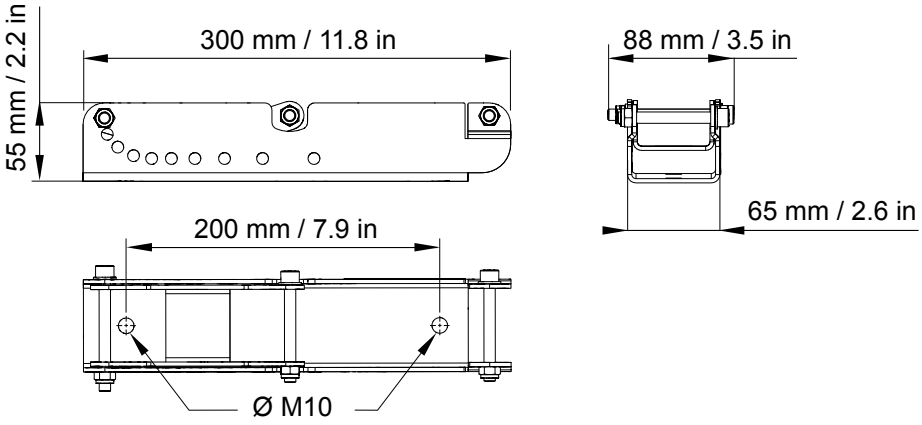
X-BAR dimensions



X-UTILT specifications

Description	U-bracket wallmount for X series with tilt adjustment
Weight (net)	1.5 kg / 3.3 lb
Material	high grade steel with anti-corrosion coating

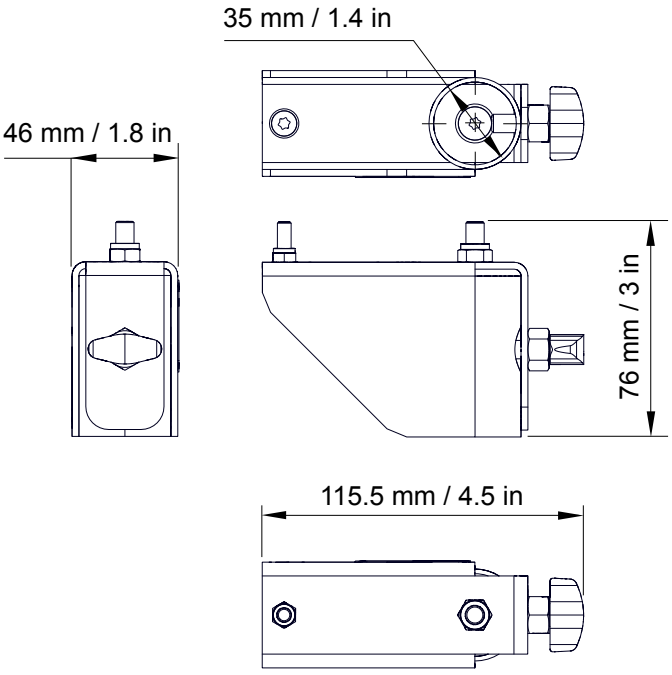
X-UTILT dimensions



EMBi specifications

Description	Pole mount socket: 8XTi/12XTi and X series
Weight (net)	0.5 kg / 1 lb
Material	high grade steel with anti-corrosion coating

EMBi dimensions



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