I-Bracket Rigging System Manual

Version 1.2

This manual is optimized to save paper and to print 2 pages per DIN A4 sheet.

Lambda Labs
professional acoustics

LAMBDA LABS

Contents

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1. Safety

This manual contains essential information on product safety, installation and usage. Read this manual carefully in order to become familiar with the operation and usage of the product/s. Read this manual carefully BEFORE operating the product/s for the first time! Read the IMPORTANT GENERAL SAFETY REGULATIONS you can find on the next pages!

- Keep this manual within reach while operating the product/s all the time!

- As a Lambda Labs products rental partner, always attach the appropriate user manuals to the devices. Should you need additional printed manuals, please order them from Lambda Labs or download a latest version!

- When reselling the product/s, hand over the manual to the new owner and provide written documentation about any changes of the system which may have been applied!

- Always use the latest manual edition! Check our website regularly for updates!

While all information in this manual has been prepared to the best knowledge and with the utmost care, Lambda Labs can not guarantee the accuracy of the documentation in all cases. Lambda Labs disclaims any liability for any errors or omissions that may be inferred from this manual or the products described therein. This does not apply to intent and gross negligence. Technical specifications, as well as dimensions, weight and properties do not constitute guaranteed characteristics. Lambda Labs expressly reserves the right to make changes and modifications in accordance with statutory provisions and to improve product features.

1.1. Declaration of symbols and illustrations of this manual

In order to point out potential sources of danger and application errors, the following symbols and illustrations are used in this manual:

	DANGER: The warning symbol "DANGER" indicates that non-observance may pose a danger to the operator or to other persons in close range and the loudspeaker product!
	CAUTION: The warning symbol "CAUTION" requires the operator to take particular precautions to prevent possible damage to the loudspeaker product!

⚠️ ATTENTION!	**ATTENTION:** The warning symbol "ATTENTION" indicates that a special attention should be given to certain setup activities or applications!
💡	**NOTE:** This illustration notifies the operator about hints and help to simplify and to accelerate the use of the loudspeaker, the setup process or to better understand some contexts.

1.2. IMPORTANT GENERAL SAFETY REGULATIONS

⚠️ DANGER!	**Intended use!** The rigging components described in this manual may ONLY be used with Lambda Labs loudspeakers in accordance with the setup procedures explained! Follow the explanations and instructions strictly! Use only ORIGINAL and APPROVED Lambda Labs rigging parts and equipment!
⚠️ DANGER!	**Supplementary rigging equipment and suspension points!** Lambda Labs is not responsible for any additional and 3rd party rigging components which may be used in the entire rigging process! It is the responsibility of the executing operators that the additional attachment or suspension points are suitable for the intended use and the WLL (Working Load Limit) for ALL used parts is sufficiently dimensioned!
⚠️ DANGER!	**Qualified operators!** The operation as well as the planning of the setup may only be carried out by qualified personnel who are familiar and experienced with the instructions and the implementation of the operating procedures!
⚠️ DANGER!	**Work safety!** 🔵 🔵 🔵 🔵 In order to avoid accidents, it is the responsibility of the operator and the contractor to ensure that the local accident prevention regulations are always fulfilled. During the set up process of the loudspeakers and especially the entire rigging process, the operators should always wear head and foot protection, hand protection and possibly ear protection! Never climb on stacked or flown loudspeakers!
⚠️ DANGER!	**Using the I-Bracket Rigging System!** As the Lambda Labs loudspeakers can be flown in various ways with the I-Bracket Rigging System, always refer strictly to the given rigging operations and the related safety instructions of this manual! In the case of any doubt, recheck your setup and/or get in contact with the Lambda Labs support!

⚠ **DANGER!**	**Local safety regulations!** Other safety regulations may apply in different countries. If changes occur, get to know the local regulations and if necessary, adapt them to the respective loudspeaker setup. It is the duty and responsibility of the operator to carry out any ground setup and any flown installation in accordance with the local regulations!
⚠ **DANGER!**	**Inspection of rigging components!** Check ALL rigging components which are involved in the rigging process of the I-Bracket Rigging System before every use! Even with the slightest doubts about the function and safety of the components, these should not be used! Please refer to Chapter **5** for further instructions about caring and maintaining the rigging components!
⚠ **DANGER!**	**Flown loudspeakers!** When lifting a loudspeaker to make it a flown system, the lifting area of the speaker/ cluster must be secured and cleared! Standing under the speaker when being raised, is strictly forbidden! Never leave the loudspeaker unattended during the entire installation process. Always keep watching all rigging components and connection joints during the uplifting procedure! Stop the uplifting procedure if any uncertainty occurs! Lambda Labs recommends to always use a second and independent safety link to upper located suspension points after the setup is ready.
⚠ **DANGER!**	**Dynamic Load (Wind Load)!** Lambda Labs does not recommend the use of Lambda Labs loudspeakers with wind forces greater than 6 bft (12.3 m / s, 44 km / h,). If the wind force exceeds 8 bft ((17.8 m / s, 62 km / h), clear the loudspeaker area, bring down the loudspeakers and secure them!
⚠ **DANGER!**	**Setup area protection!** When setting up a system with stacked or flown loudspeaker arrays, secure the entire work area with crowd control barriers. Make sure that the secured area is sufficiently large in proportion to the height of the stack!
⚠ **DANGER!**	**Maintenance!** Please refer to Chapter **5** „Maintenance". If any damage or failure of the I-Bracket Rigging System occurs, please contact the Lambda Labs technical support and wait for further instructions! Do NOT repair or exchange rigging components by yourself and without support from qualified service personnel!
⚠ **DANGER!**	**Manual!** Keep this manual within easy reach for operating the I-Bracket Rigging System all the time!
⚠ **CAUTION!**	**Storing!** Store the devices in a dry, cool and clean environment!

1.3. EC declaration and conformity

Lambda Labs
Austria

Declares that the following products:
Express Pin System „EPS"
I-Bracket

Are in conformity with the provisions of:
Machinery Directive 2006/42/EC
2011/65/EU, RoHS

To guarantee the safety of the components, the following standards and rules have been complied:
EN ISO 12100-1: 2011 (Mechanical Safety)
DIN 18800 (Mechanical Structure)
BGV-C1 / DGUV Regulation 17 & 18 (Mechanical Standard applied in Germany)

Graz, 17/02/2020

Steffen Kroschel, Chief Technology Officer (CTO)

2. I-Bracket Rigging System: Rigging components

The rigging component **I-Bracket** can be used with all loudspeakers from the TX- or CX Series. Because of a wide range of possible rigging configurations the I-Bracket Rigging System can provide, the number and types of required rigging components can vary as well. The following chart shows the main rigging components. This is an introduction to make you familiar with the components and their functions.

2.1. Introducing I-Bracket & „EPS" Express Pin System

The **I-Bracket** is the key element of the I-Bracket Rigging System. It can be mounted to the EPS Rigging Points on the Lambda Labs loudspeakers. The load transfer takes place via the integrated **„EPS" Express Pin System**. It provides vertical and horizontal rigging options from ceilings, trusses and walls with the additional opportunity to mount the loudspeaker upside down. The loudspeaker can be continuously tilted, rotated by optionally 360 degrees and even swivelled to provide a setup in almost all directions. The I-Bracket can be mounted to ceilings and walls directly or using the **Ceiling/Truss Adapter**. The I-Bracket is suitable for fixed installations and available in a short and a long version.

2.1 Figure 1: I-Bracket Short Installation (I) (Delivery State)
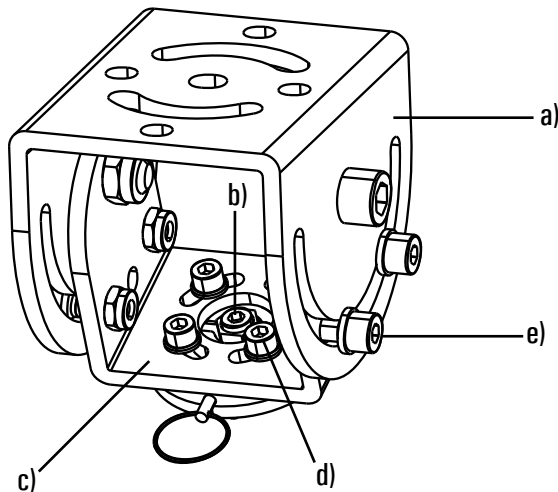
2.1 Figure 2: I-Bracket Long Installation (I) (Delivery State)
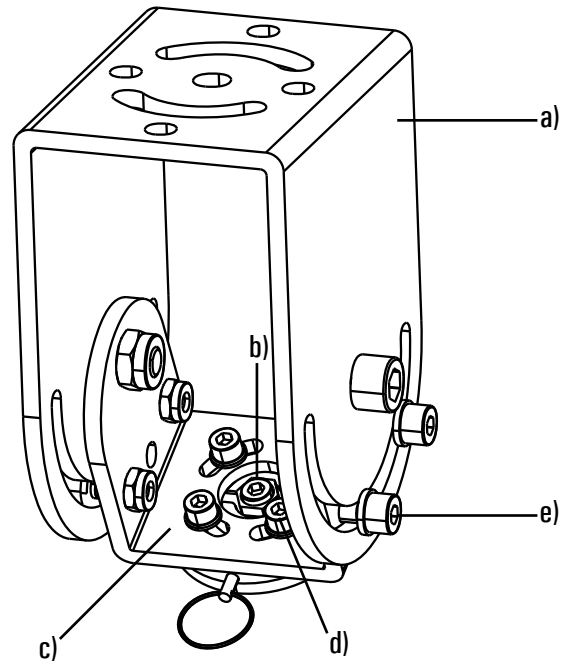
2.2. Introducing I-Bracket & Ceiling/Truss Adapter
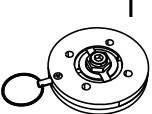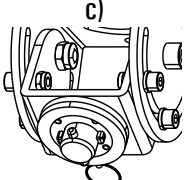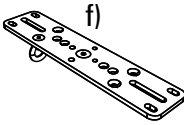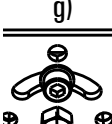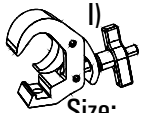
The **I-Bracket** in combination with **Ceiling/Truss Adapter** is designed for the suspension of individual loudspeakers of the TX- and CX-Series from ceilings, walls or triangle truss. The connection between the I-Bracket and the Ceiling/Truss Adapter can be rotated +/- 45 degrees from its center position. The I-Bracket & Ceiling/Truss Adapter is suitable for fixed installations.
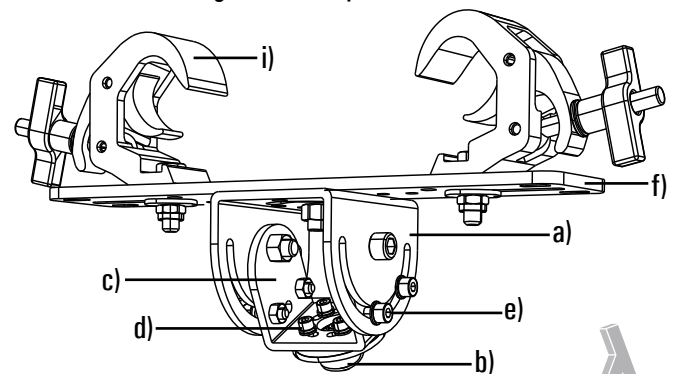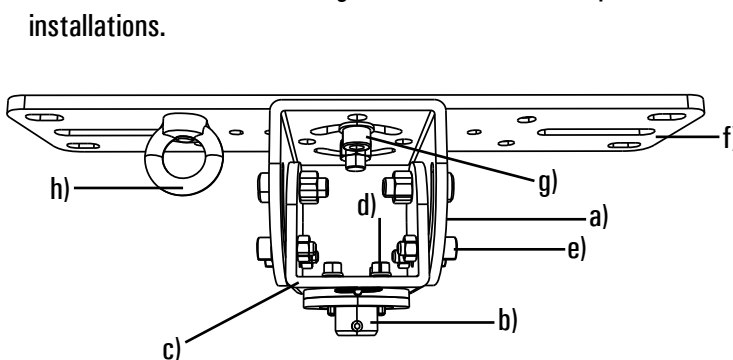
2.2 Figure 1: I-Bracket Short & Ceiling Adapter

2.2 Figure 2: I-Bracket Short & Truss Adapter

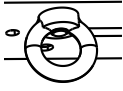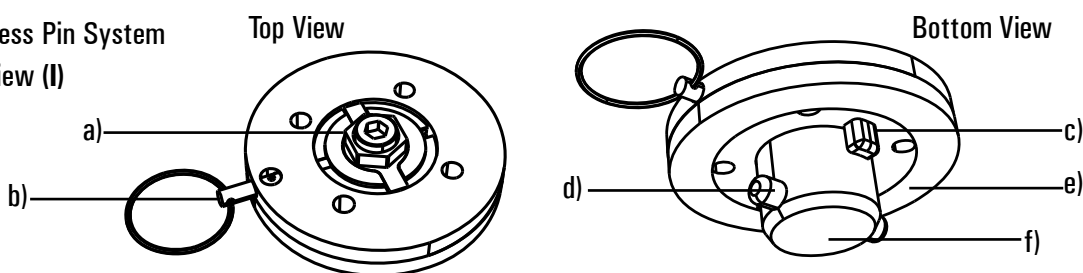| PART	DESCRIPTION of 2.1 Figure 1 & 2 DESCRIPTION of 2.2 Figure 1 & 2	REFERENCE
a)	**I-Bracket Main Structure** The I-Bracket is the key element of the I-Bracket Rigging System. Using the I-Bracket, the following Lambda Labs speakers can be flown: • TX-Series: TX-1A, TX-2A, TX-3A • CX-Series: CX-1A, CX-2A, CX-3A The weight of the I-Bracket Short (I) is 1.9 kg including all components. The weight of the I-Bracket Long (I) is 2.6 kg including all components. I-Bracket Short allows smallest installation requirements. I-Bracket Long allows larger possible rigging angles.	Chapter **3**
b) I	**„EPS" Express Pin System** The I-Bracket is preassembled and is available with the installation version of the Lambda Labs EPS System only: **I (Installation) Version** The EPS enables a fast, safe and optionally backlash free connection at the EPS Rigging Point of the respective loudspeaker.The EPS Installation (I) version provides additional tamper-proof properties to protect the components from unauthorized access and needs additional tools to operate.	Chapter **3**
c)	**Rotation Fixture** By moving the Rotation Fixture, the angle of the I-Bracket can be adjusted and fixed with 4 x M8 DIN 912 screws.	Chapter **3**
d)	**M6 DIN 912 Screw** 4 x M6 DIN 912 screws connect the EPS System to the I-Bracket and are tightened after the desired position of the EPS System/loudspeaker has been achieved. There is a washer and a snap ring under each screw.	Chapter **3**
e)	**M8 DIN 912 Screw** 4 x M8 DIN 912 screws are connected to 4 x self clinching nuts and are tightened after the desired position of the Rotation Fixture/loudspeaker has been achieved.	Chapter **3**
f)	**Ceiling / Truss Adapter** Adapter plate for direct ceiling mount or for rigging the loudspeaker /cluster on a standard triangle truss. The Ceiling Adapter comes with an M10 Ring Nut to provide a suspension point for the mandatory safety rope. The M10 Ring Nut can be mounted at 4 different positions.	Chapter **3**
g)	**Locking Screw** M10 DIN 912 Screw to fix the I-Bracket and the rotational position of the loudspeaker.	Chapter **3**
l) Size: 107x85x50mm WLL: 250 kg SF 1:5	**Quick Clamp** Quick Clamp with M12 Screw admission for pipes of 38 to 51mm diameter. The Quick Clamp establishes the load connection from external rigging structures to the Truss Adapter.	Chapter **3**

PART	DESCRIPTION of 2.1 Figure 1 & 2 and 2.2 Figure 1	REFERENCE
h) Size: 40 mm WLL: (0° load) 230kg SF 1:5 DIN EN 580	**M10 Ring Nut** 10mm suspension point to mount the mandatory safety rope. The M10 Ring Nut can be mounted at 4 different positions.	Chapter **3**

2.2.1. Introducing „EPS" Express Pin System

The **Express Pin System „EPS"** is a preassembled key element to attach all external Lambda Labs rigging equipment like **I-Bracket**, **Half-Bracket** and **T-Bracket** to the loudspeakers of the TX & CX Series. Its Express Pin enables a fast, safe and optionally backlash free connection at the EPS Rigging Point of the respective loudspeaker. The EPS Mobile version differs from the Installation version in aspects of safety, tool free usage, size and weight. The EPS Installation version provides additional tamper-proof properties to protect the components from unauthorized access and needs additional tools to operate. In this manual, the EPS Installation version is presented only.

2.1.1 Figure 1: Express Pin System Installation Single View **(I)**

| PART	DESCRIPTION of 2.2.1 Figure 1	REFERENCE
a)	**EPS Socket Adapter** Using the EPS Socket Adapter, the Express Pin can be plugged into the EPS Rigging Point on the loudspeaker and rotated 90° with a 14mm Socket Wrench to establish the connection. By optional screwing down the center positioned M6 DIN 912 screw, the connection can also be tightened without backlash.	Chapter **3**
b)	**EPS Safety Pin** The Safety Pin secures the EPS from accidental opening and must always be plugged in!	Chapter **3**
c)	**EPS Lock Studs** The EPS Lock Studs ensure correct positioning of the EPS to the EPS Rigging Point on the loudspeaker.	Chapter **3**
d)	**EPS Lock Pin** With the Express Pin fully inserted and turning the Express Pin by 90°, the EPS Lock Pin provides a form-fitting and loadable connection.	Chapter **3**
e)	**EPS Foam Ring** The EPS Foam Ring seals the EPS rigging connection and protects it from dust and splashing water.	Chapter **3**
f)	**EPS Express Pin** The Express Pin can be plugged into the EPS Rigging Point on the loudspeaker and rotated 90° with a 14mm Socket Wrench to establish the connection.	Chapter **3**

3. Operating the I-Bracket Rigging System

3.1. Operating the „EPS" Express Pin System

The following **„EPS" Express Pin System** operation instructions are explained using a single „EPS" **I** (Installation) unit without I-**Bracket** to better demonstrate the functions and the correct way of use. The rigging procedure of I-Bracket with the preassembled „EPS" is corresponding to these instructions and always follows the same scheme.
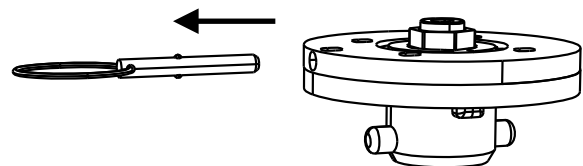
Express Pin System Installation **I**

1. In addition to the fast and safe EPS connection from the I-Bracket to the loudspeaker, the connection can also be tightened without backlash. To achieve this, the distance between the EPS Lock Pins and the inside of the EPS Rigging Point is shortened by tightening the M6 DIN 912 screw. In order to insert and lock the EPS into the EPS Rigging Points, the EPS must be in a released state (Delivery State). If this state is needed to be reached or if you want to check it, use a ratchet with with a HEX BIT Number 5 (Wrench Size 5mm) or use your fingers to loosen the M6 DIN 912 screw a bit by turning it **anti-clockwise**. Do not screw out the screw completely.
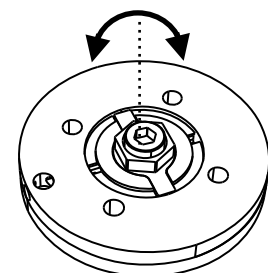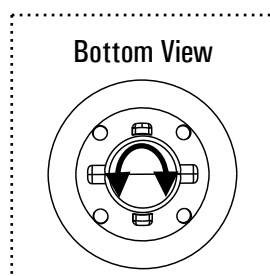
M6 DIN 912 Screw
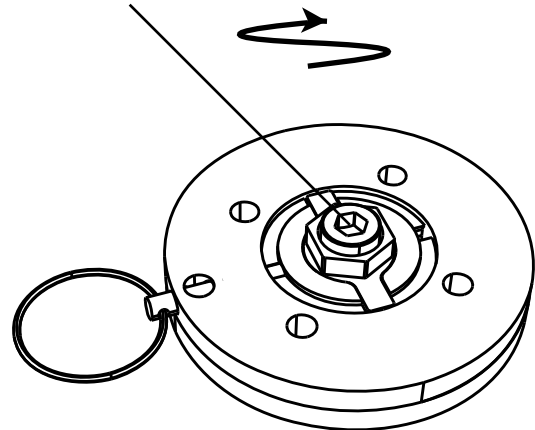
- Ratchet
- HEX Bit Number 5

2. Pull out the EPS Safety Pin...

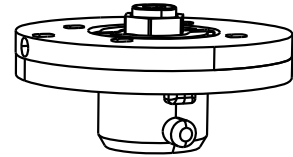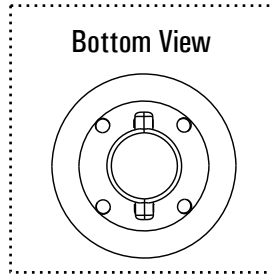...and turn the EPS Express Pin on the EPS Socket Adapter with the help of a 14mm Socket Wrench...

Bottom View

- 14mm Socket Wrench

Express Pin System Installation **I**

...until the EPS Lock Pin has the same position as the EPS Lock Studs. Alternatively, turn the EPS Express Pin with your fingers.

Bottom View

3. Keep the position and push the EPS Express Pin straight and aligned with the cutouts into the EPS Rigging Point. As a result, the EPS Rigging Point`s closing lid is pushed automatically into   the EPS Rigging Point and comes up again after releasing the EPS. Make sure that there is no dirt or sand on the EPS Rigging Point.
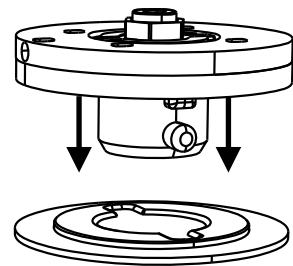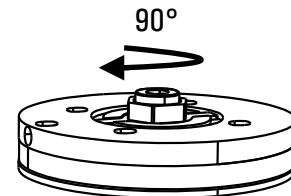
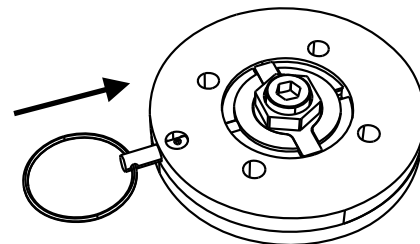Push it down until the EPS Express Pin is inserted completely.
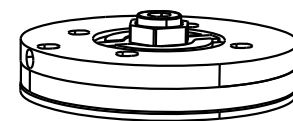
Express Pin System Installation **I**

4. When the EPS Express Pin is fully inserted, turn the EPS Socket Adapter with a 14mm Socket Wrench **clockwise** 90 degrees to establish the form-fitting and loadable connection to the EPS Rigging Point.

	• 14mm Socket Wrench

90°

5. Reinsert the EPS Safety Pin to lock the EPS. The EPS Safety Pin can only be inserted when the 90 degree position of the EPS Express Pin has been reached. Verify the correct position if necessary.

Danger: Always check the correct function of the EPS Safety Pin! Although the EPS Rigging Point is equipped with an additional unlocking safety mechanism inside, never forget to use the EPS Safety Pin! Doublecheck in the case of any doubt!

M6 DIN 912 Screw

6. Optionally, the connection between the EPS and the EPS Rigging Point can be tightened without backlash. To achieve this, the distance between the EPS Lock Pins and the inside of the EPS Rigging Point by tightening the M6 DIN 912 screw. To do this, use a ratchet with with a HEX BIT Number 5 (Wrench Size 5mm) to screw down the M6 DIN 912 screw by turning it **clockwise**.
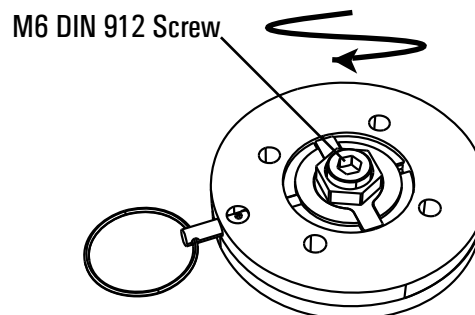
Caution: Fix the screw with a maximum torque of 8 Nm!

	• Ratchet
	•HEX Bit Number 5
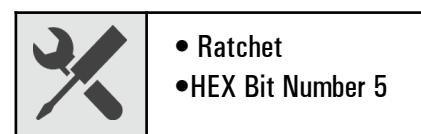
3.2. Operating the I-Bracket: Ceiling Mount

The rigging component I-**Bracket Short and I-Bracket Long** can be used for all loudspeakers from the TX- and CX-Series. The following I-Bracket operation instructions for ceiling mount are explained using the I-Bracket Short together with a vertically flown TX-2A loudspeaker. The rigging procedure of the I-Bracket Short shown in this chapter is corresponding to I-Bracket Long and all other loudspeakers of the TX- and CX-Series and always follows the same scheme. I-Bracket Short allows smallest installation space. I-Bracket Long allows larger possible rigging angles. Wall mounting procedure is different for TX- and CX Series and is discussed in Chapter **3.5** separately. Please refer to Chapter **3.1 „ Operating the „EPS" Express Pin System"** as well!

I-Bracket **I** (Installation)

1. Mount the I-Bracket to the ceiling. Use an M12 roof anchor and an M12 self-locking nut for the central mounting hole. Optionally, you can use an M10 roof anchor and an M10 self-locking nut for the semicircular oblong holes to further fix the loudspeaker's rotational position. Do not tighten the nuts until the final position of the loudspeaker assembly has been reached, but make sure that the I-Bracket cannot fall down during the mounting procedure! Alternatively, mount the I-Bracket to the loudspeaker first and then to the ceiling.

M10

M12

- 17mm & 19mm Socket Wrench

2. Check if the I-Bracket can be rotated easily when you turn it to the left or the right. (Roof anchors are not shown in the further depictions). If using the M12 roof anchor only, the I-Bracket can be rotated by 360 degrees. If using the additional M10 roof anchor, the I-Bracket can be rotated by +/- 45 degrees from its center position.
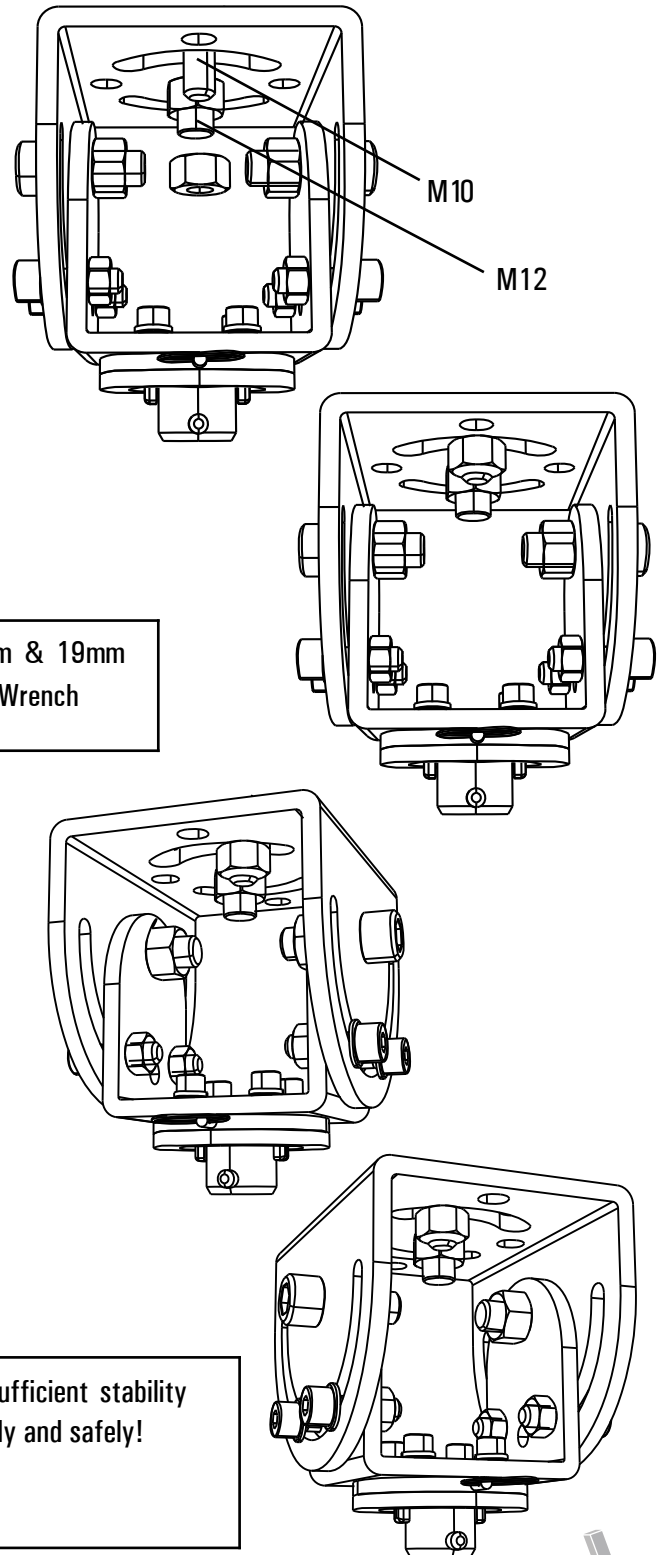
Danger: Make sure that the ceiling provides sufficient stability for the installation. Anchor the roof anchors firmly and safely!
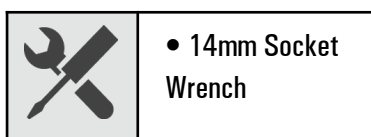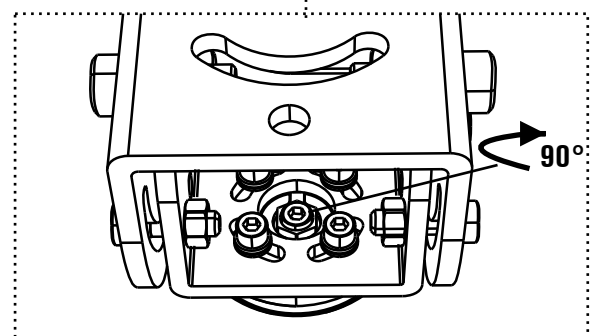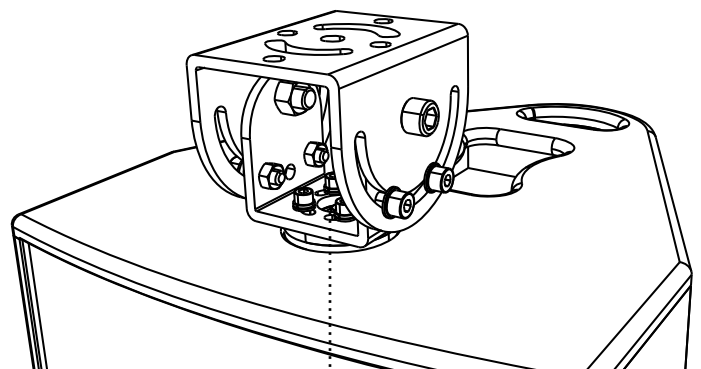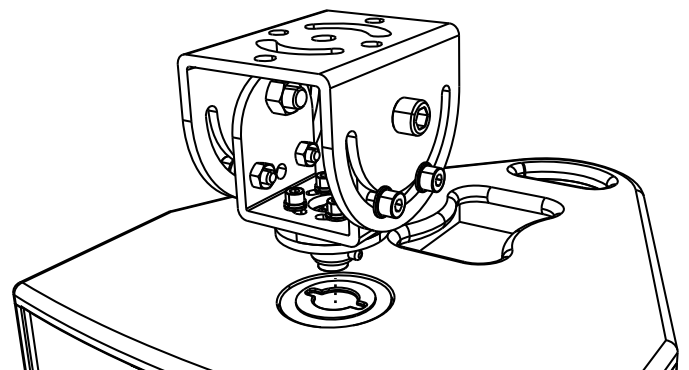
DANGER!

I-Bracket **I** (Installation)

3. Prepare the preassembled EPS for connection to the EPS Rigging Point. Make sure the EPS is in a released state. For details on EPS preparation, please refer to Chapter **3.1.**
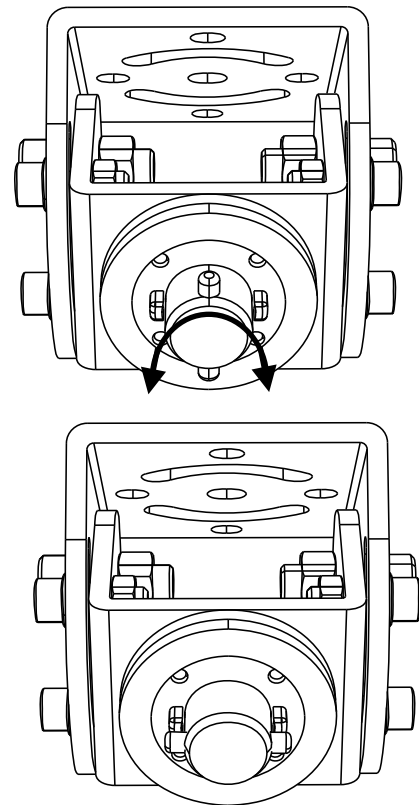
4. Hold the loudspeaker`s top plate surface/side plate surface parallel to the I-Bracket and push the EPS Express Pin straight and aligned with the cutouts into the EPS Rigging Point of your choice. The preassembled EPS System is **NOT** tightened with the 4 x M6 DIN 912 screws to the I-Bracket when delivered. Do not tighten the screws until the final position of the loudspeaker assembly has been reached, but make sure that the EPS System and therefore the loudspeaker cannot fall down during the mounting procedure! Please refer to **STEP 8** as well! For further EPS System details, please refer to Chapter **3.1.**
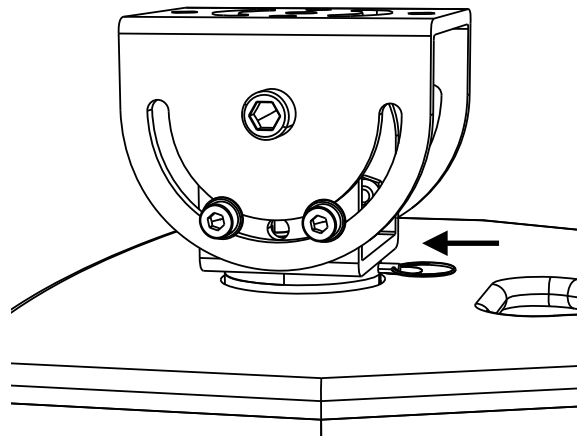
    Push it down until the EPS Express Pin is inserted completely. When the EPS Express Pin is fully inserted, turn the EPS Socket Adapter with a 14mm Socket Wrench **clockwise** 90 degrees to establish the form-fitting and loadable connection to the EPS Rigging Point. For further details, please refer to Chapter **3.1.**
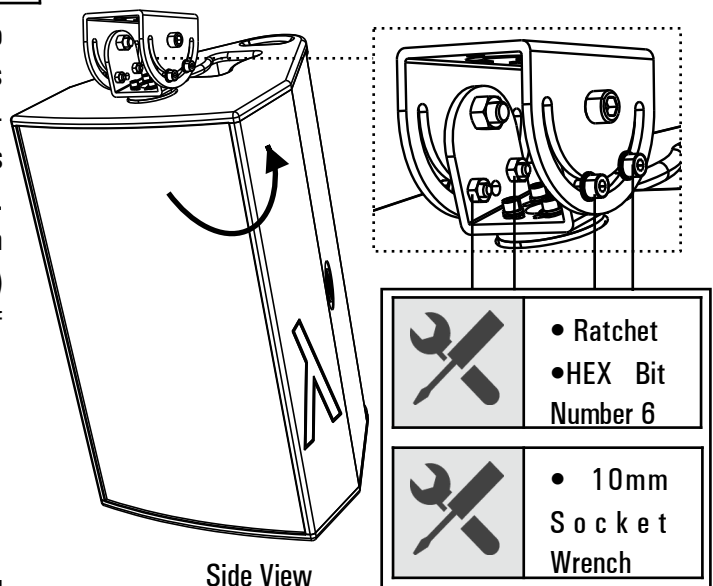
⚒	• 14mm Socket Wrench

I-Bracket **I** (Installation)

5. Reinsert the EPS Safety Pin to lock the EPS. Optionally, the connection between the EPS and the EPS Rigging Point can be tightened without backlash. For further details, please refer to Chapter **3.1.**

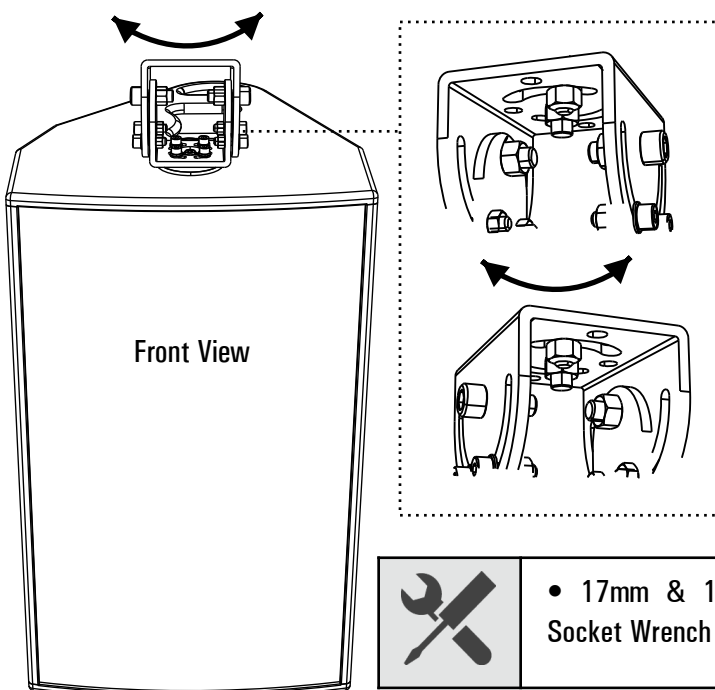| ⚠ DANGER!	**Danger:** Always check the correct function of the EPS Safety Pin! Although the EPS Rigging Point is equipped with an additional unlocking safety mechanism inside, never forget to use the EPS Safety Pin! Doublecheck in the case of any doubt!

6. Tilt the loudspeaker to the desired tilting angle. Refer to Chapter **4** to see the maximum possible tilting angles for every loudspeaker of the TX- and CX Series. I-Bracket Long provides larger possible tilting angles before the back of the loudspeaker touches the ceiling. Tighten the 4 x M8 DIN 912 screws with the help of a ratchet with a HEX BIT Number 6 (Wrench Size 6mm) and a 10mm Socket Wrench after the desired tilting of the loudspeaker has been achieved.

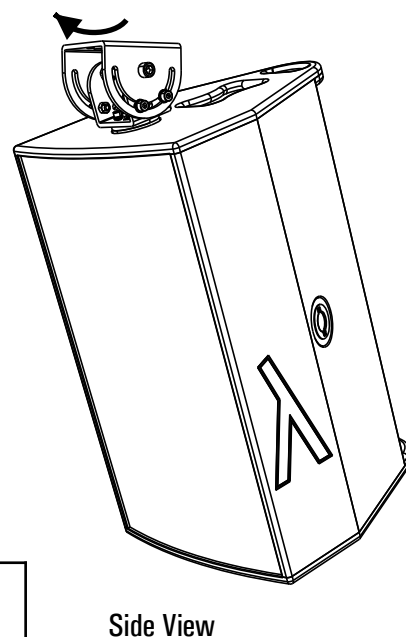| ✕	• Ratchet •HEX Bit Number 6
✕	• 10mm Socket Wrench

Side View

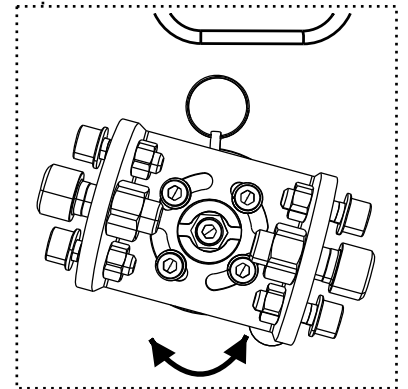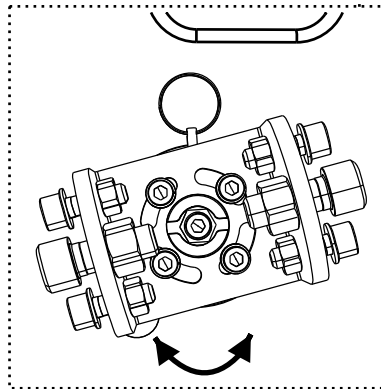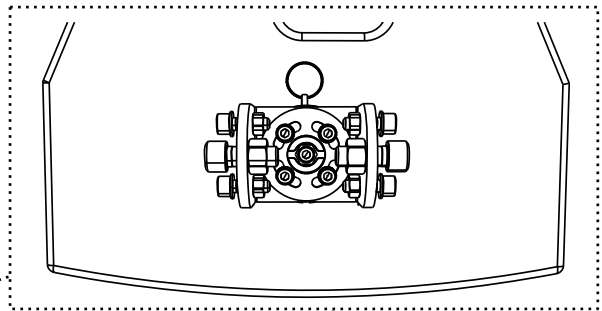7. Rotate the tilted loudspeaker to the desired position and tighten the nuts of the roof anchors firmly.
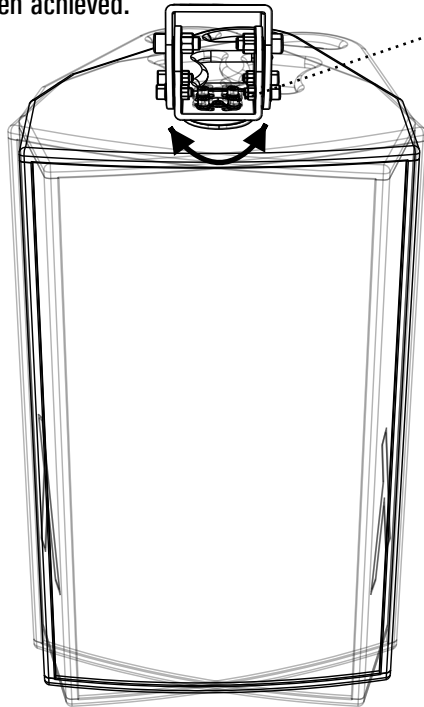
Front View

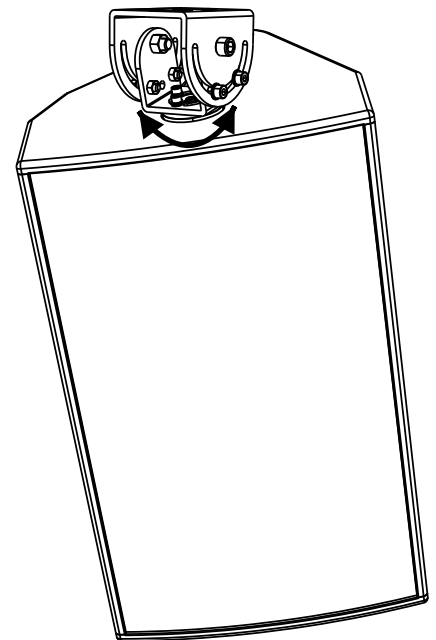| ✕	• 17mm & 19mm Socket Wrench

Side View

I-Bracket **I** (Installation)

8. After being rotated and tilted, the loudspeaker can be even swiveled by rotating the cabinet at the EPS System directly. The Rotation Fixture allows the EPS System to be rotated by +/- 24 degrees from its center position. Tighten the 4 x M6 DIN 912 screws with the help of a ratchet with a HEX BIT Number 5 (Wrench Size 5mm) after the desired swiveled position of the loudspeaker has been achieved.

• Ratchet
• HEX Bit Number 5

⚠ **DANGER!**	**Danger:** Fix the screws with a minimum torque of **10 Nm**! Maximum torque is **12 Nm**! In the case of any doubt, add some Loctite 290, which can be applied to the already fastened screws of the EPS system.
💡	**Note:** The swivel angle of the loudspeaker is dependent on its tilting angle.

⚠ **DANGER!**	**Danger:** The loudspeaker must be secured with a Second Independent Safety Link in every case! A 6mm Safety Rope is to be attached to the back of the loudspeaker. For further details, refer to the individual Loudspeaker Manuals as well!
⚠ **DANGER!**	**Danger:** Always check all screws involved for tightness. Do not forget any screw! Recheck in the case of any doubt!

3.2.1. I-Bracket Ceiling Mount Rigging Options

The rigging component I-**Bracket** can be used with all loudspeakers from the TX- and CX-Series. It provides a wide range of vertical and horizontal rigging options:
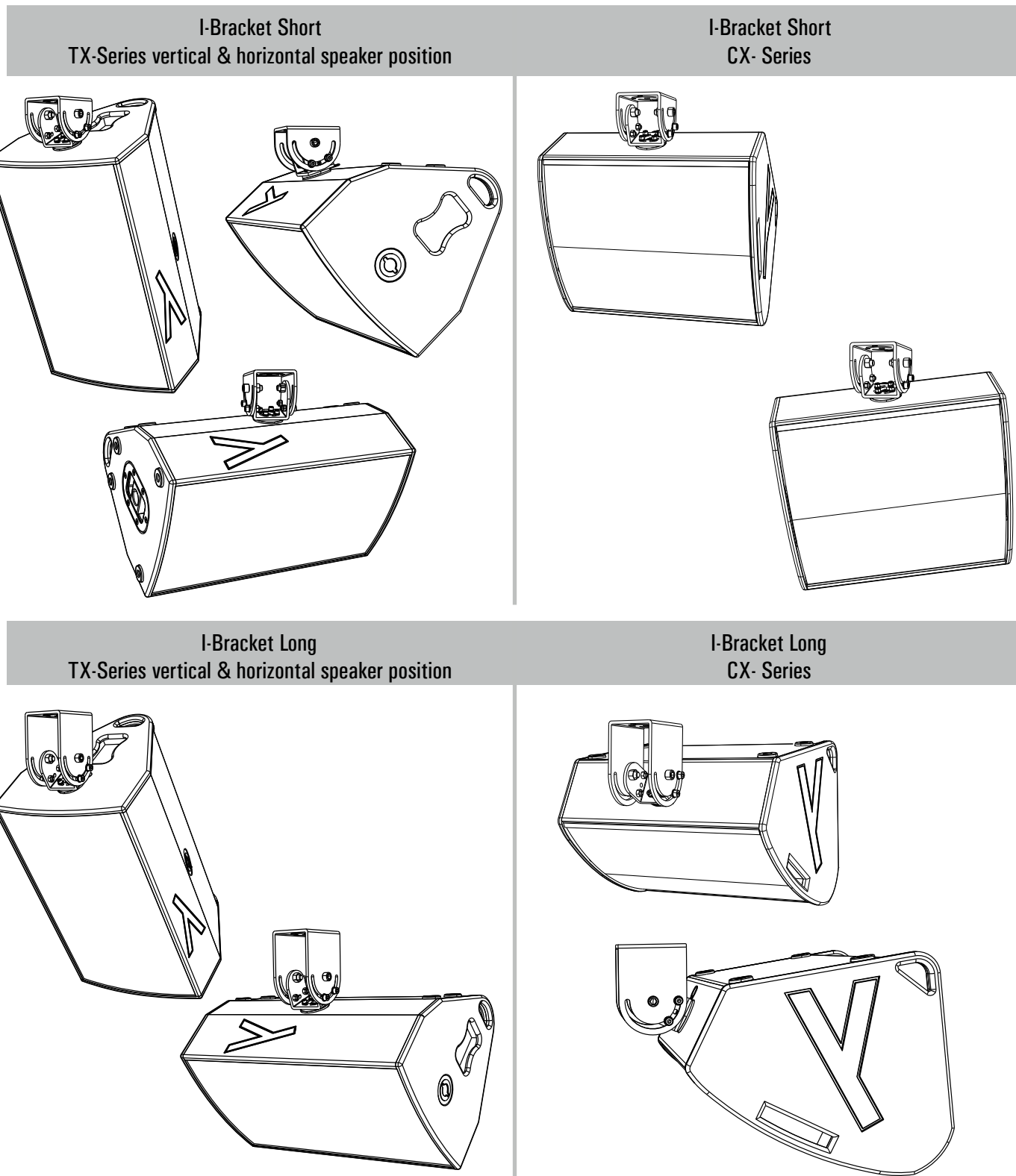
I-Bracket Short TX-Series vertical & horizontal speaker position	I-Bracket Short CX- Series

| I-Bracket Long TX-Series vertical & horizontal speaker position	I-Bracket Long CX- Series

Note: Refer to Chapter **4** to see the maximum possible tilting angles for every loudspeaker of the TX- and CX Series with I-Bracket Short and I-Bracket Long.

3.3. Operating the I-Bracket & Ceiling Adapter: Ceiling/Wall Mount (Only I-Bracket Short shown)

The assembly procedure of the I-Bracket Short shown in this chapter is corresponding to the procedure of I-Bracket Long and always follows the same scheme.
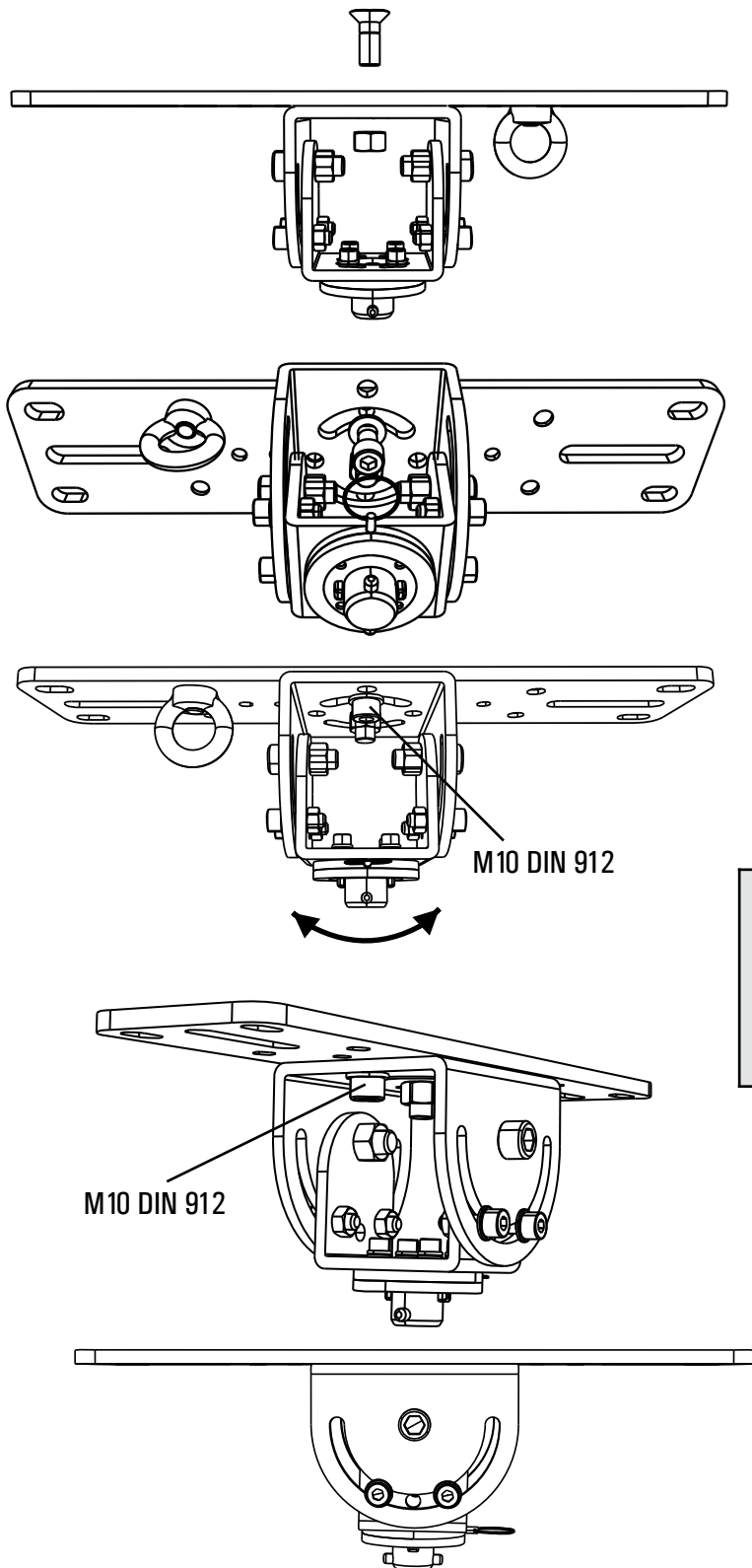
- First mount the I-Bracket to the Ceiling Adapter by inserting the M12 DIN 7991 screw through the central hole and locking it with the self-locking M12 nut. Make sure that the I-Bracket rotates easily, but allows as little backlash as possible. Adding some grease can help to rotate it more easily.

- In the next step the M10 DIN 912 screw and an M10 washer should be inserted. The I-Bracket can be rotated by +/- 45 degrees from its center position.

| | • Ratchet |
| | • HEX Bit Number 8 |

- Check if the I-Bracket can be rotated easily to the left or the right. Tighten the M10 screw to fix the desired rotational position.

M10 DIN 912

Note: Order the mentioned items above as an I-Bracket/Ceiling Adapter Mounting Set. Only use Lambda Labs original and approved items!

M10 DIN 912

- The I-Bracket can also be used in a 90 degrees rotated position on the Ceiling Adapter. To do this, you need to reposition the M10 screw.
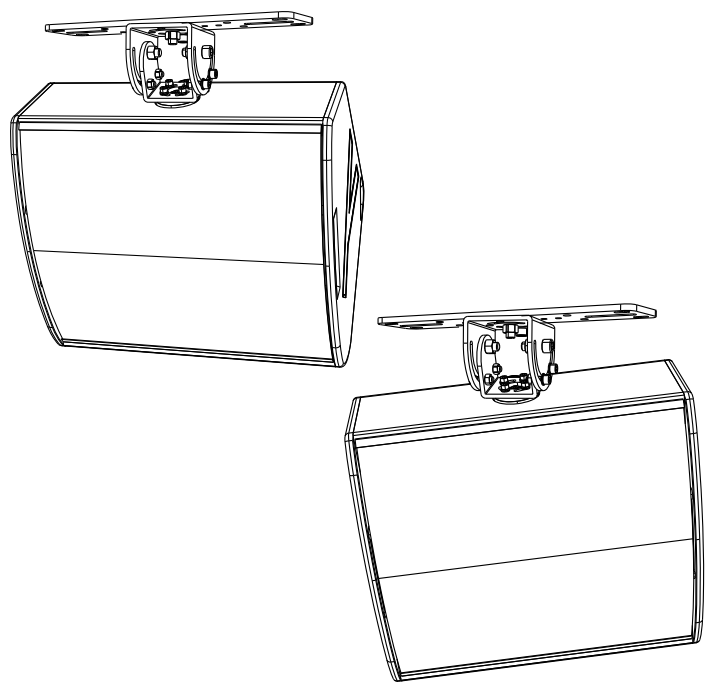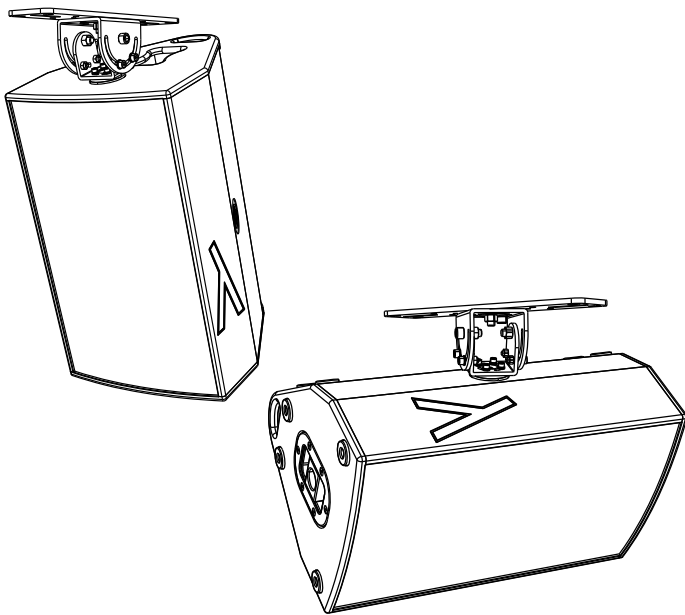
Danger: Always check all screws involved for tightness. Do not forget any screw! Recheck in the case of any doubt!

3.3.1. I-Bracket & Ceiling Adapter Rigging Options (Only I-Bracket Short shown)

I-Bracket Short & Ceiling Adapter TX-Series vertical & horizontal speaker position	I-Bracket Short & Ceiling Adapter CX- Series

💡	**Note:** Refer to Chapter **4** to see the maximum possible tilting angles for every loudspeaker of the TX- and CX Series with I-Bracket Short and I-Bracket Long.
⚠️ DANGER!	**Danger:** Always check all screws involved for tightness. Do not forget any screw! Recheck in the case of any doubt!

3.4. Operating the I-Bracket & Truss Adapter: Usage with truss (Only I-Bracket Short shown)
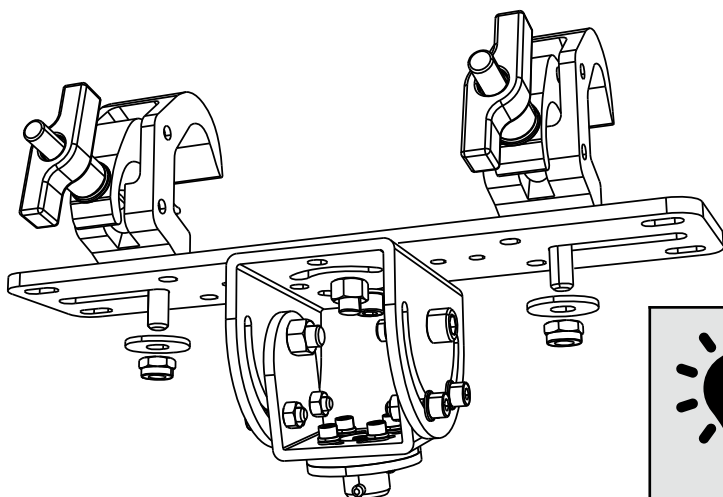
● For further details and instructions, refer to Chapter **3.2.2** .

💡	**Note:** Order the shown items as an I-Bracket/Truss Adapter Mounting Set. Only use Lambda Labs original and approved items!

3.4.1. I-Bracket & Truss Adapter Rigging Options (Only I-Bracket Short shown)

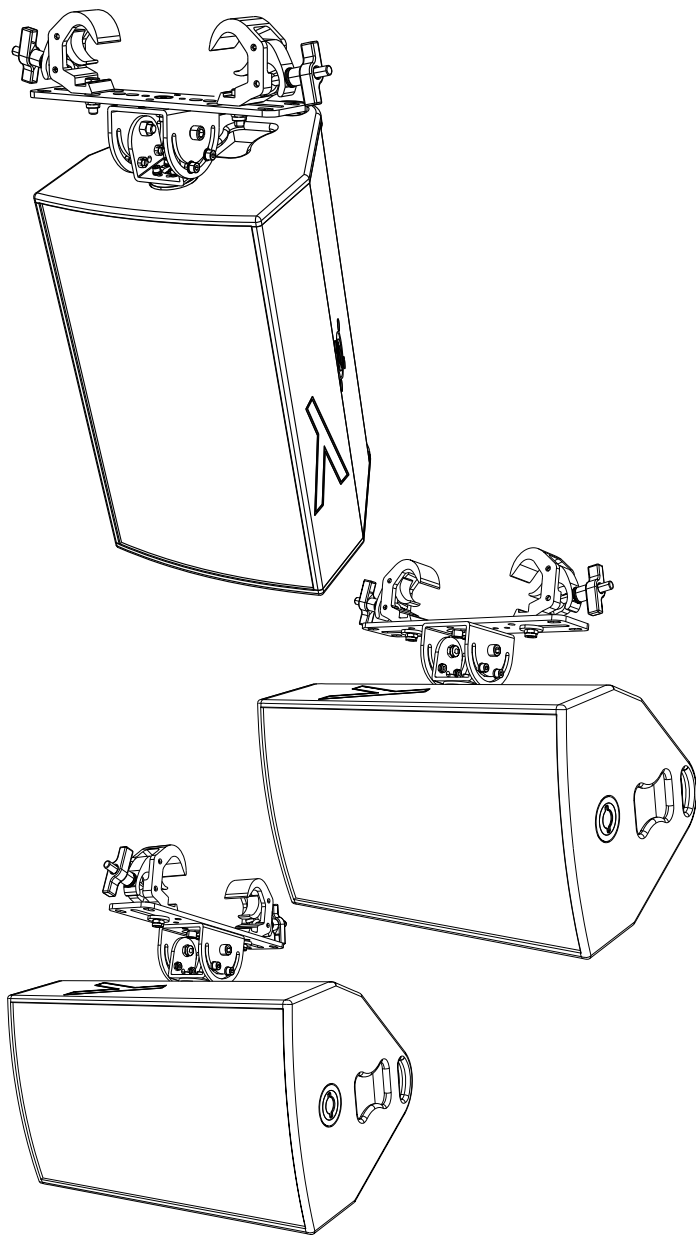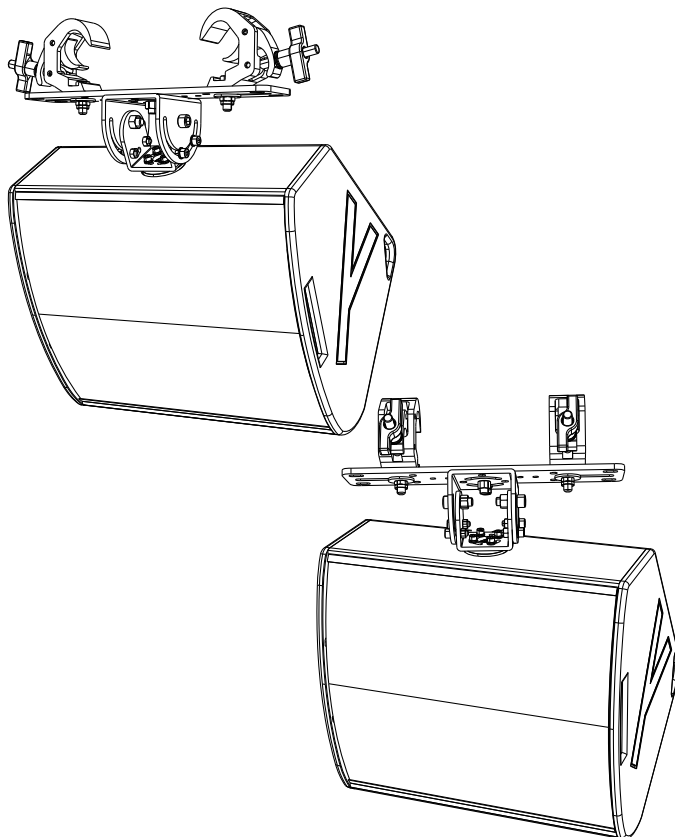| I-Bracket Short & Truss Adapter TX-Series vertical & horizontal speaker position	I-Bracket Short & Truss Adapter CX- Series

💡	**Note:** Refer to Chapter **4** to see the maximum possible tilting angles for every loudspeaker of the TX- and CX Series with I-Bracket Short and I-Bracket Long.
⚠️ DANGER!	**Danger:** Always check all screws involved for tightness. Do not forget any screw! Recheck in the case of any doubt!

3.5. Operating the I-Bracket: Wall Mount

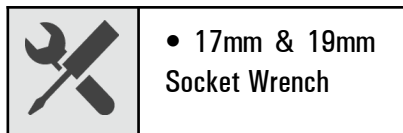The rigging component I-**Bracket Short and I-Bracket Long** can be used for all loudspeakers from the TX- and CX-Series. **Wall mounting procedure is different for TX- and CX Series and is discussed in this chapter.** The following I-Bracket operation instructions for wall mount are explained using the I-Bracket Short together with a CX-2A and a TX-2A. Please refer to Chapter **3.1 „ Operating the „EPS" Express Pin System"** as well!

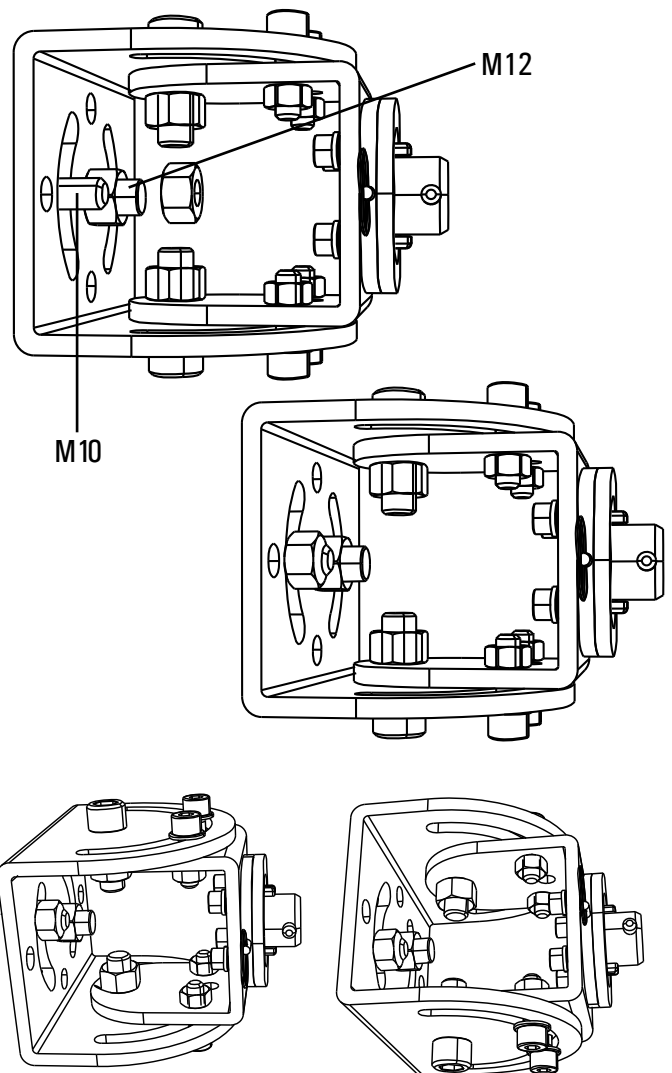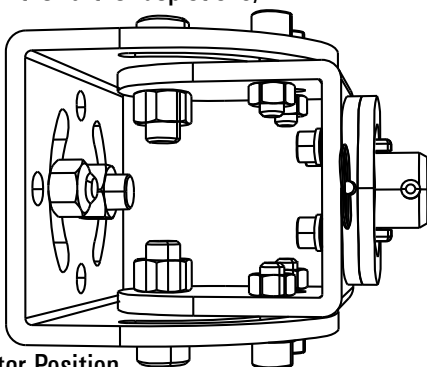#### 3.5.1. Operating the I-Bracket: CX- Series Wall Mount

The I-Bracket provides rigging options to walls and vertical trusses with the additional opportunity to mount the loudspeaker upside down. The loudspeaker can be horizontally adjusted to reach a certain angle to the wall/truss and can be continuously tilted and even swivelled to provide a setup in almost all directions. The I-Bracket can be mounted to trusses or walls directly or using the **Ceiling/Truss Adapter**. The I-Bracket is suitable for fixed installations and available in a short and a long version. I-Bracket Short allows smallest installation space. I-Bracket Long allows larger possible rigging angles.

I-Bracket **I** (Installation)

1. Mount the I-Bracket to the wall. Use an M12 roof anchor and an M12 self-locking nut for the central mounting hole. Use an M10 roof anchor and an M10 self-locking nut for the semicircular oblong holes to further fix the loudspeaker's rotational position. Alternatively, mount the I-Bracket to the loudspeaker first and then to the wall.

	• 17mm & 19mm Socket Wrench

2. Check if the I-Bracket can be rotated easily to the left or the right. Bring the M10 screw to the center position and tighten the nuts to get a stable initial position. You may need to open the nuts later to adjust the loudspeakers position. The I-Bracket can be rotated by +/- 45 degrees from its center position. (Roof anchors are not shown in the further depictions).
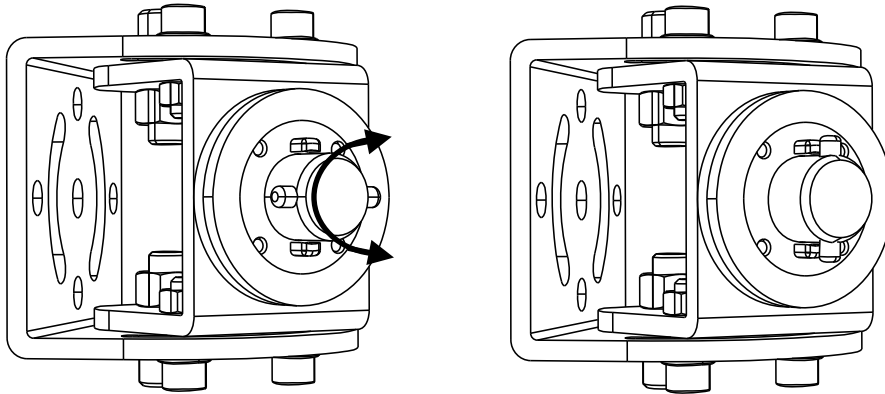

M12

M10

Center Position

Danger: Make sure that the wall provides sufficient stability for the installation. Anchor the roof anchors firmly and safely!
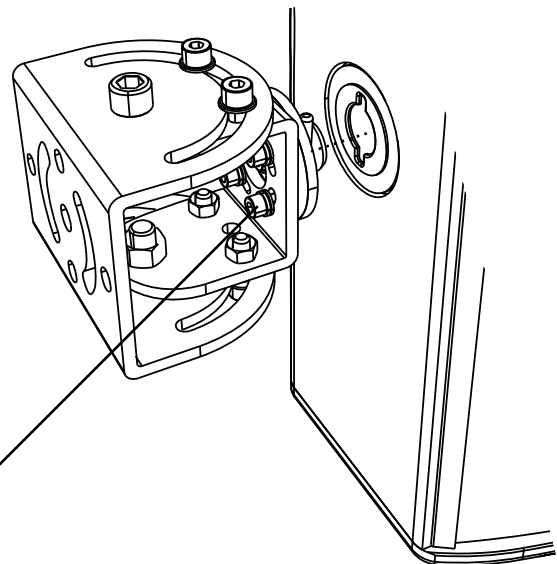
I-Bracket **I** (Installation)

3. Prepare the preassembled EPS for connection to the EPS Rigging Point. Make sure the EPS is in a released state. For details on EPS preparation, please refer to Chapter **3.1.**
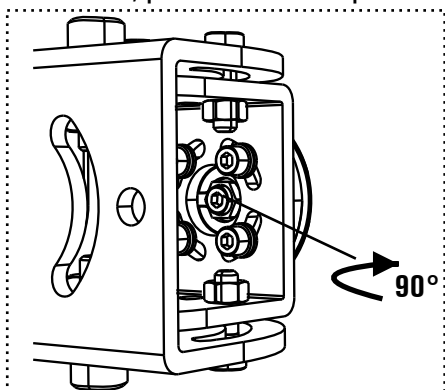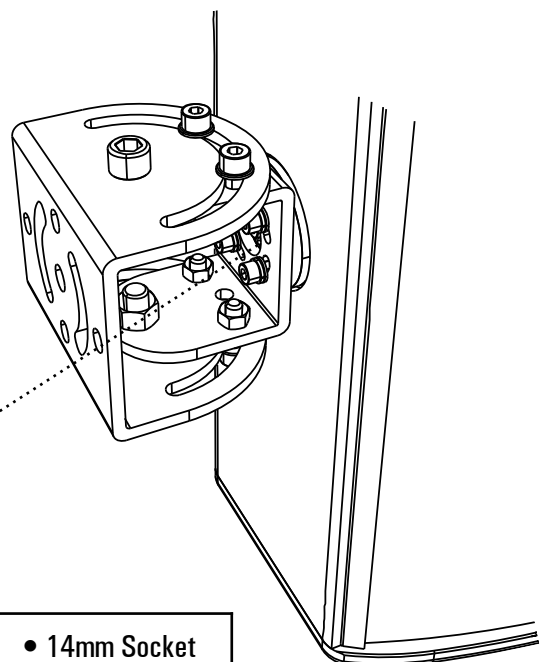

4. Hold the loudspeaker`s side plate surface parallel to the I-Bracket and push the EPS Express Pin straight and aligned with the cutouts into the EPS Rigging Point. The preassembled EPS System is **NOT** tightened with the 4 x M6 DIN 912 screws to the I-Bracket when delivered. Tighten the screws slightly with the help of a ratchet with a HEX BIT Number 5 (Wrench Size 5mm) to get a stable initial position. You may need to open the screws later to adjust the loudspeaker`s tilting position. Please refer to **STEP 7** as well! For further EPS System details, please refer to Chapter **3.1**.

	• Ratchet •HEX Bit Number 5	4 x

Push it sidewards until the EPS Express Pin is inserted completely. When the EPS Express Pin is fully inserted, turn the EPS Socket Adapter with a 14mm Socket Wrench **clockwise** 90 degrees to establish the form-fitting and loadable connection to the EPS Rigging Point. For further details, please refer to Chapter **3.1**.
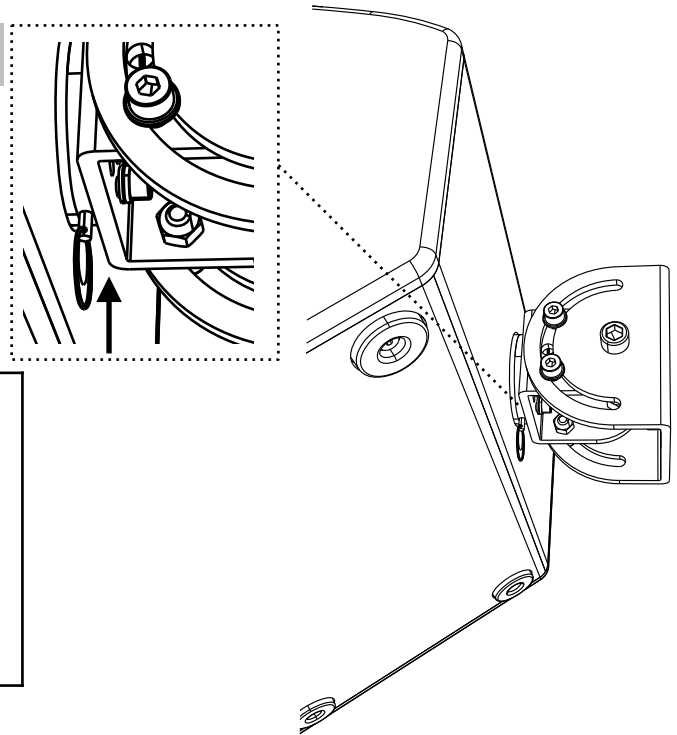
90°

|	• 14mm Socket Wrench

I-Bracket **I** (Installation)

5. Reinsert the EPS Safety Pin to lock the EPS. Optionally, the connection between the EPS and the EPS Rigging Point can be tightened without backlash. For further details, please refer to Chapter **3.1.**

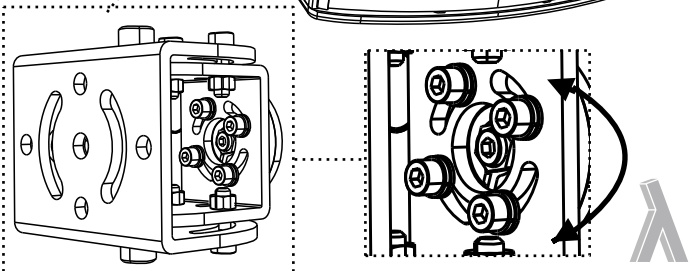|	
⚠ **DANGER!**	**Danger:** Always check the correct function of the EPS Safety Pin! Although the EPS Rigging Point is equipped with an additional unlocking safety mechanism inside, never forget to use the EPS Safety Pin! Doublecheck in the case of any doubt!

6. Move the loudspeaker to the desired horizontal position. Tighten the 4 x M8 DIN 912 screws with the help of a ratchet with a HEX BIT Number 6 (Wrench Size 6mm) and a 10mm Socket Wrench after the desired position of the loudspeaker has been achieved. The horizontal position determines the possible tilting angle of the loudspeaker. The more parallel the speaker is to the wall, the more tilting angle is possible before the bottom side of the loudspeaker touches the wall. For details, refer to **Step 7** as well.

⚒	• Ratchet •HEX Bit Number 6
⚒	• 10mm Socket Wrench

4 x
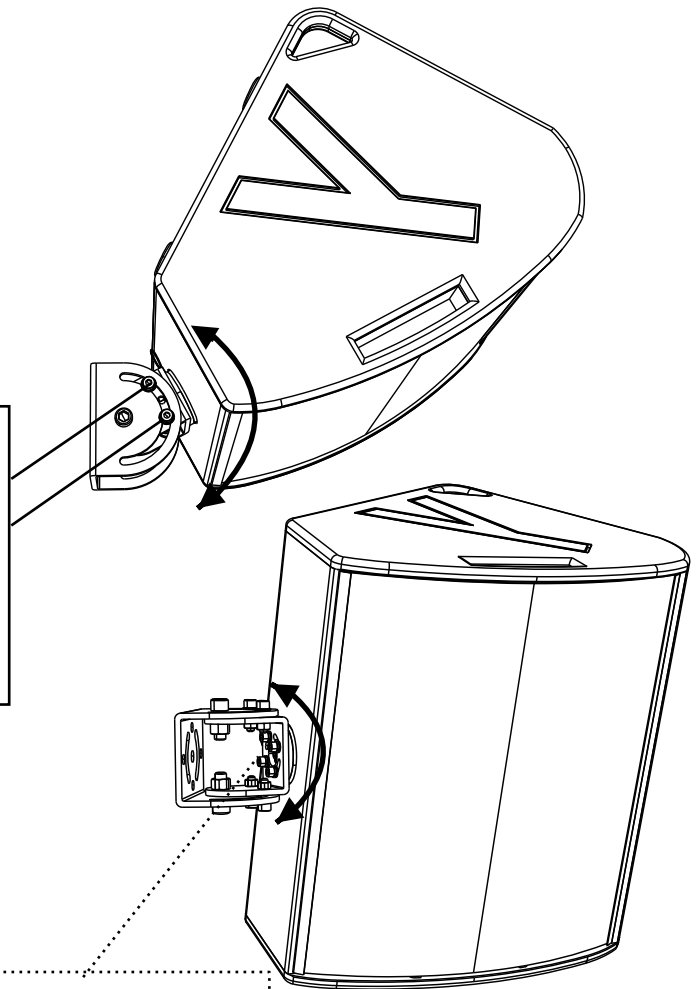
7. Tilt the loudspeaker to the desired tilting angle at the EPS System directly. Tighten the 4 x M6 DIN 912 screws with the help of a ratchet with a HEX BIT Number 5 (Wrench Size 5mm) after the desired tilt angle of the loudspeaker has been achieved. I-Bracket Long provides larger possible tilting angles before the bottom of the loudspeaker touches the wall. The Rotation Fixture allows the EPS System to be rotated by +/- 24 degrees from its center position.

⚒	• Ratchet •HEX Bit Number 5

I-Bracket **I** (Installation)

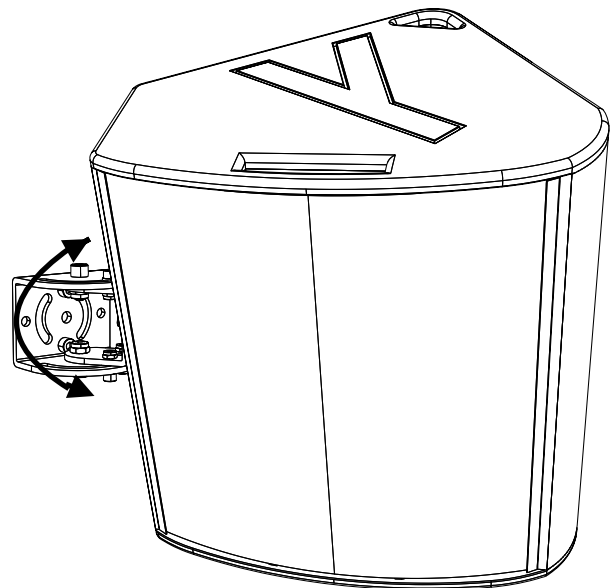| ⚠ **DANGER!**	**Danger:** Fix the screws with a minimum torque of 10 Nm! Maximum torque is 12 Nm! In the case of any doubt, add some Loctite 290, which can be applied to the already fastened screws of the EPS system.

💡	**Note:** The tilting angle of the loudspeaker is dependent on its horizontal position. The more parallel the speaker is to the wall, the more tilting angle is possible before the bottom side of the loudspeaker touches the wall. I-Bracket Long provides larger possible tilting angles.

8. After being horizontally adjusted and tilted, the loudspeaker can be even swiveled by rotating the cabinet at the I-Bracket`s roof anchors. The I-Bracket can be rotated by +/- 45 degrees from its center position.

💡	**Note:** The swivel angle of the loudspeaker is dependent on its tilting angle.

| ⚠ **DANGER!**	**Danger:** The loudspeaker must be secured with a Second Independent Safety Link in every case! A 6mm Safety Rope is to be attached to the back of the loudspeaker. For further details, refer to the individual Loudspeaker Manuals as well!
⚠ **DANGER!**	**Danger:** Always check all screws involved for tightness. Do not forget any screw! Recheck in the case of any doubt!
💡	**Note:** Refer to Chapter **4** to see the maximum possible tilting angles for each loudspeaker of the CX Series with I-Bracket Short and I-Bracket Long.

3.5.1.1. I-Bracket CX Wall Mount Rigging Options (Only I-Bracket Short shown)
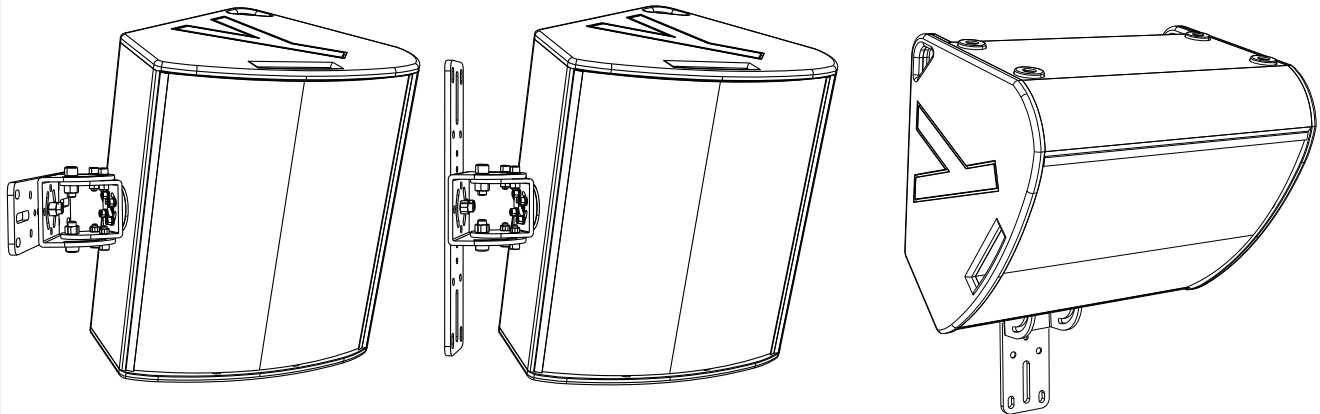
I-Bracket Short
CX- Series
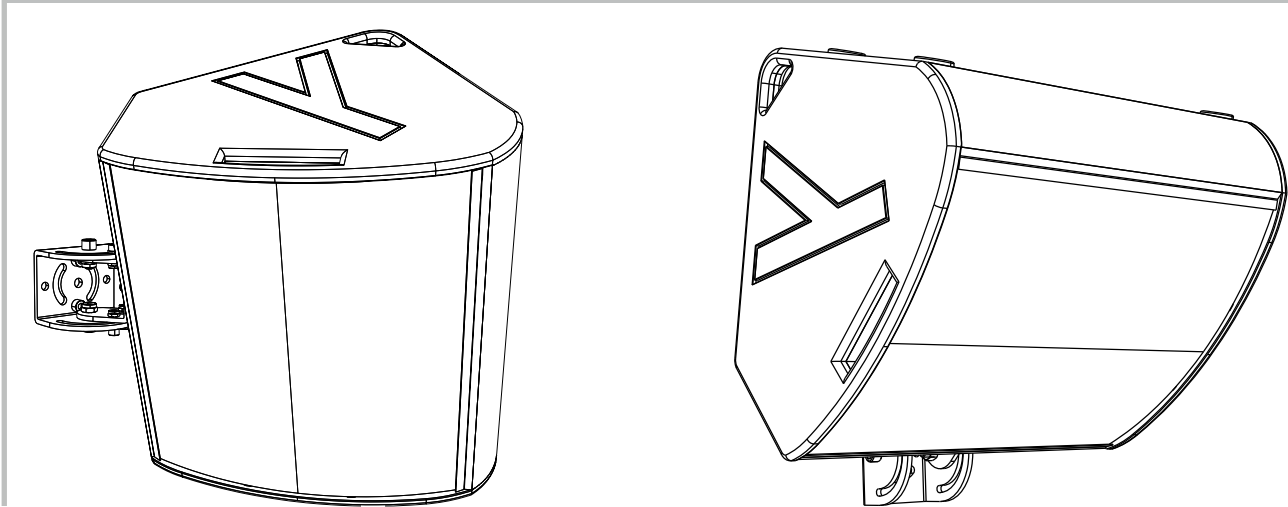
3.5.1.2. I-Bracket & Ceiling Adapter CX Wall Mount Rigging Options (Only I-Bracket Short shown)

I-Bracket Short & Ceiling Adapter
CX- Series

For further details, please refer to Chapter **3.3 „Operating the I-Bracket & Ceiling Adapter: Ceiling/Wall Mount".**

3.5.1.3. I-Bracket & Truss Adapter CX Rigging Options (Only I-Bracket Short shown)

I-Bracket Short & Truss Adapter
CX- Series

For further details, please refer to Chapter **3.4 „Operating the I-Bracket & Truss Adapter: Usage with truss".**
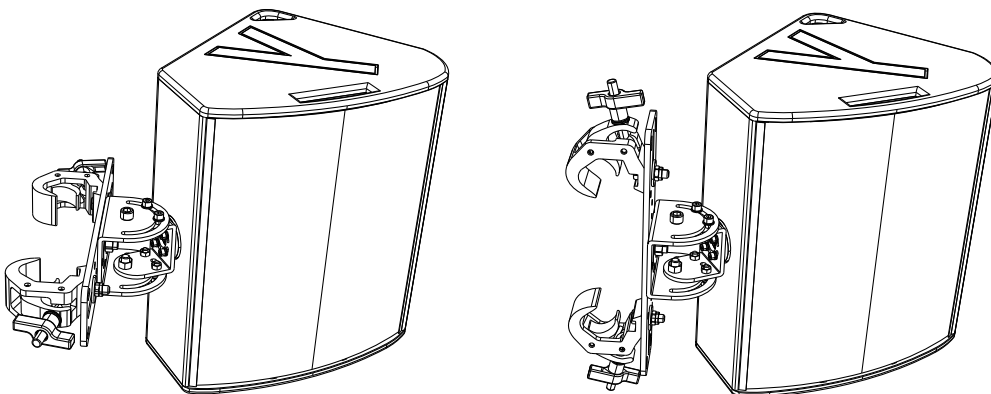
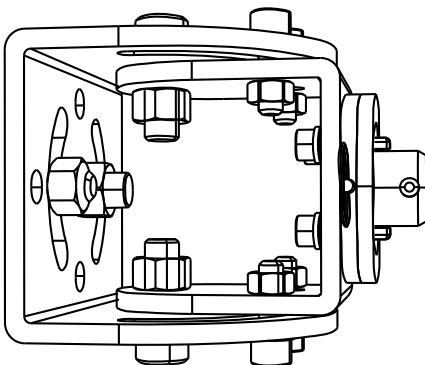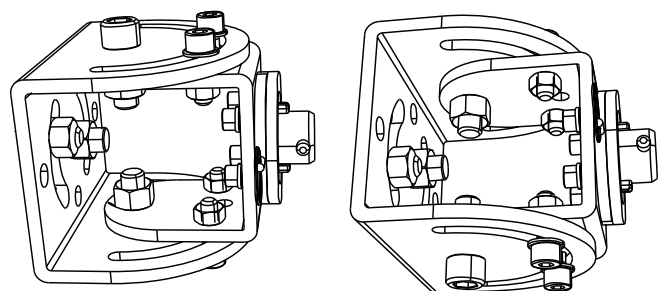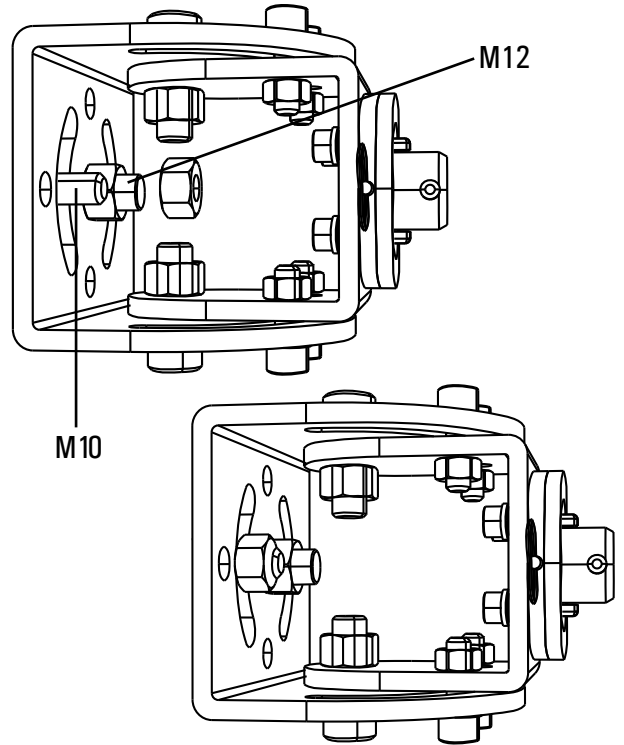### 3.5.2. Operating the I-Bracket: TX- Series Wall Mount

The I-Bracket provides rigging options to walls and vertical trusses with the additional opportunity to mount the loudspeaker upside down. The loudspeaker can be horizontally adjusted to reach a certain angle to the wall/truss and can be continuously tilted and even swivelled to provide a setup in almost all directions. The I-Bracket can be mounted to trusses or walls directly or using the **Ceiling/Truss Adapter**. To mount a TX-Series loudspeakers correctly, the I-Bracket needs to be combined with the **Universal Plate,** which can be ordered separately. The I-Bracket is suitable for fixed installations and available in a short and a long version. I-Bracket Short allows smallest installation space. I-Bracket Long allows larger possible rigging angles.

I-Bracket **I** (Installation)

1. Mount the I-Bracket to the wall. Use an M12 roof anchor and an M12 self-locking nut for the central mounting hole. Use an M10 roof anchor and an M10 self-locking nut for the semicircular oblong holes to further fix the loudspeaker's rotational position.

	• 17mm & 19mm Socket Wrench

2. Check if the I-Bracket can be rotated easily to the left or the right. Bring the M10 screw to the center position and tighten the nuts to get a stable initial position. You may need to open the nuts later to adjust the loudspeakers position. The I-Bracket can be rotated by +/- 45 degrees from its center position. (Roof anchors are not shown in the further depictions).
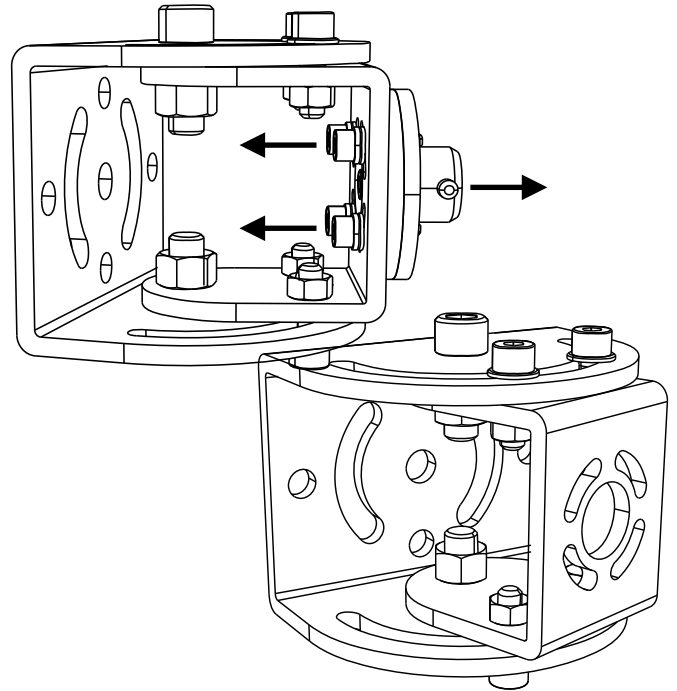
M12

M10

| ⚠ DANGER!	**Danger:** Make sure that the wall provides sufficient stability for the installation. Anchor the roof anchors firmly and safely!

I-Bracket **I** (Installation)

3. Now disassemble the EPS System from the I-Bracket by loosening the 4 x DIN 912 screws. Keep the screws and other items at a safe place.

4. Take the Universal Plate and mount the EPS System to its center position with 4 x DIN 7991 screws. Add some medium strength thread-locker on every screw before tightening it.
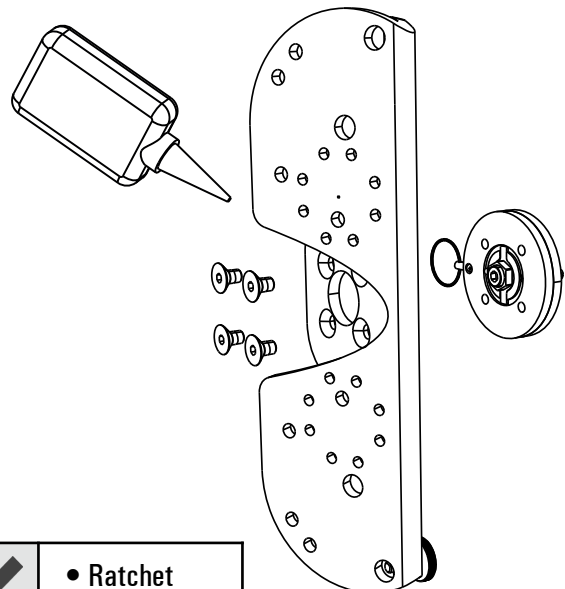
⚠ **DANGER!**	**Danger: Danger:** Fix the screws with a minimum torque of 9 Nm! Maximum torque is 11 Nm! In any case, add some medium strength thread-locker on every screw!

| 💡	**Note:** Order the mentioned items above as a TX-Series WALL Mounting Set. Only use Lambda Labs original and approved items!

| 💡	**Note:** The Universal Plate is necessary to compensate against the angled side of the TX loudspeaker. Without the Universal Plate, a parallel tilt in relation to the wall is not possible.

✕	• Ratchet • HEX Bit Number 4
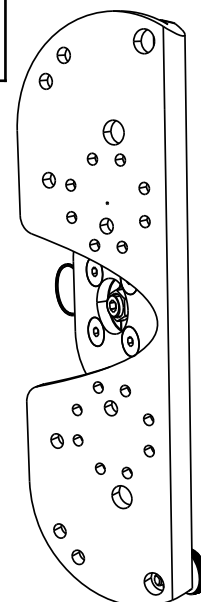
I-Bracket **I** (Installation)

5. Mount the prepared Universal Plate to the I-Bracket with the help of the 4 x DIN 912 screws. Make sure to use the washers and snap rings as well. Do not tighten the screws with full force in this step as you may need to adjust them later to tilt the loudspeaker. Before you mount the Universal Plate to the I-Bracket, check **STEP 11** to decide for the ideal mounting position on the Universal Plate.

- Ratchet
- HEX Bit Number 5
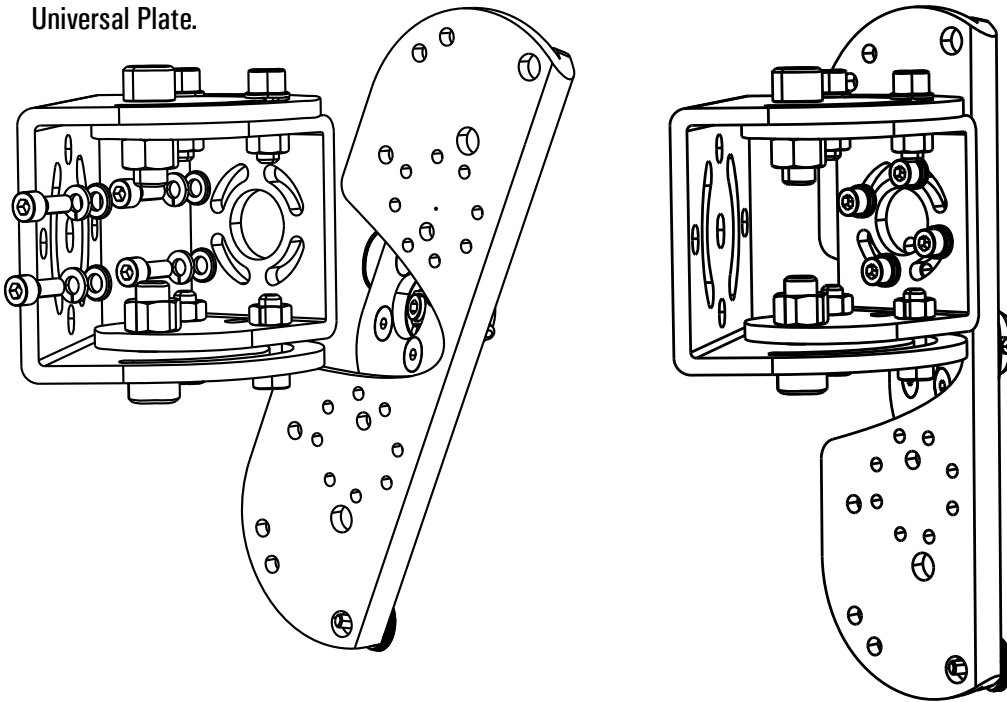
6. Prepare the preassembled EPS for connection to the EPS Rigging Point. Make sure the EPS is in a released state. For details on EPS preparation, please refer to Chapter **3.1.**
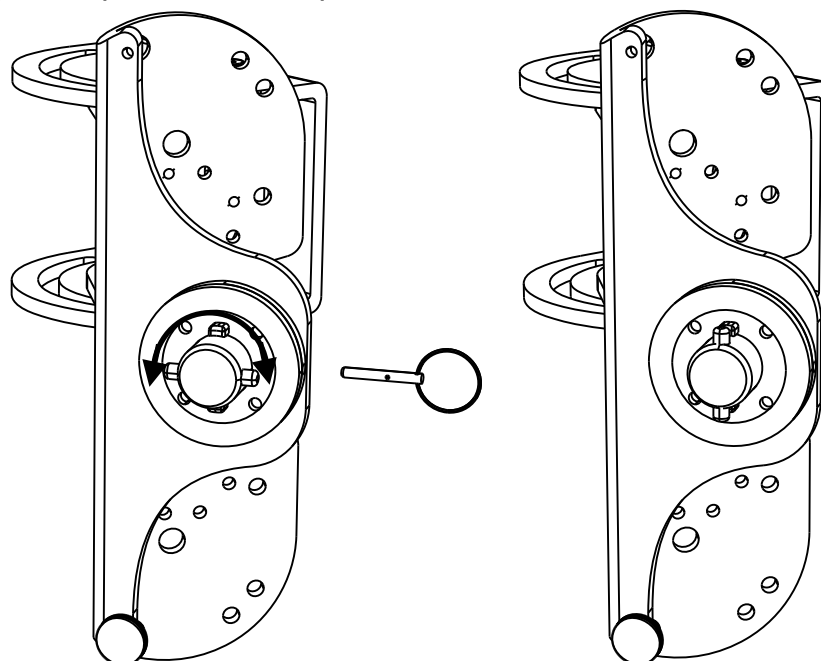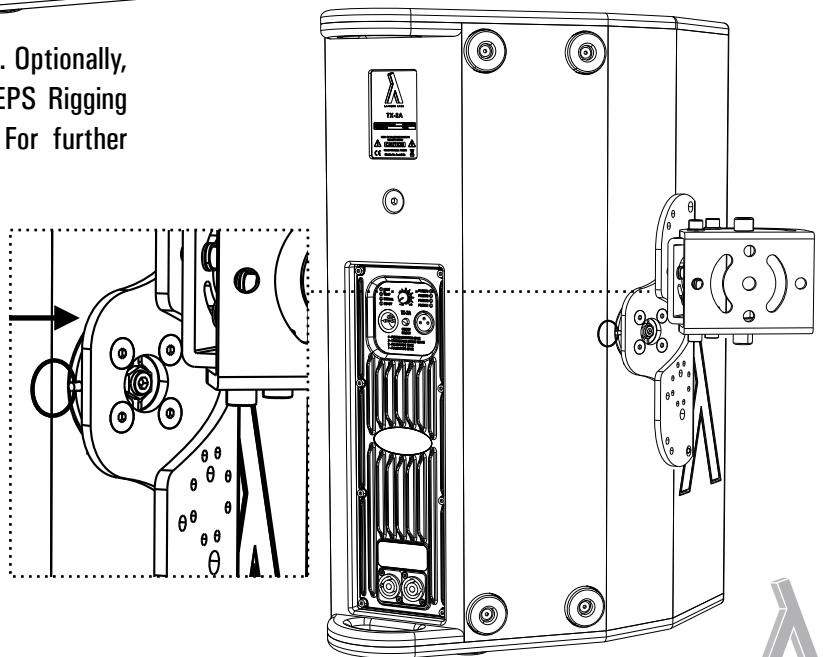
I-Bracket **I** (Installation)

7. Hold the loudspeaker`s side plate surface parallel to the I-Bracket and push the EPS Express Pin straight and aligned with the cutouts into the EPS Rigging Point. Push it sidewards until the EPS Express Pin is inserted completely. When the EPS Express Pin is fully inserted, turn the EPS Socket Adapter with a 14mm Socket Wrench **clockwise** 90 degrees to establish the form-fitting and loadable connection to the EPS Rigging Point. For further details, please refer to Chapter **3.1**

90°

• 14mm Socket Wrench
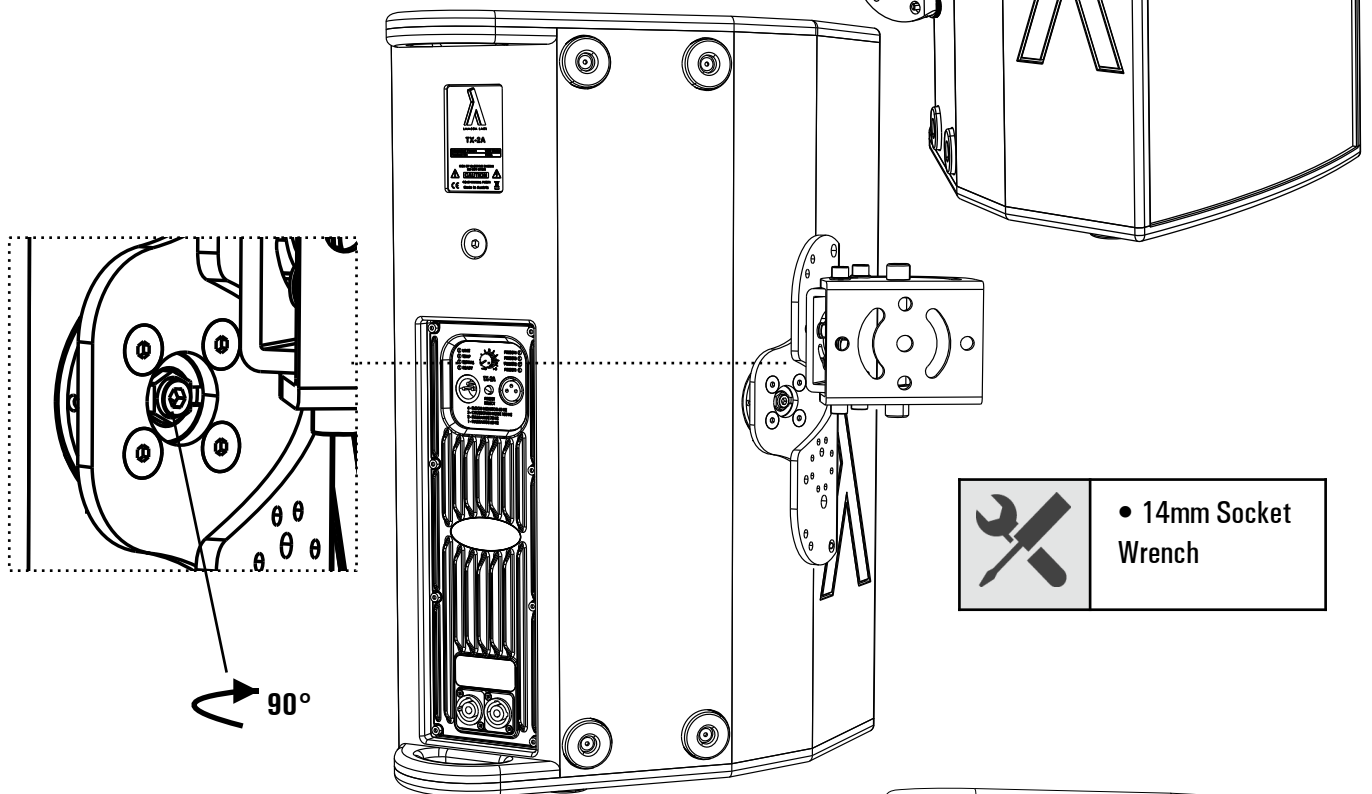
8. Reinsert the EPS Safety Pin to lock the EPS. Optionally, the connection between the EPS and the EPS Rigging Point can be tightened without backlash. For further details, please refer to Chapter **3.1.**

Danger: Always check the correct function of the EPS Safety Pin! Although the EPS Rigging Point is equipped with an additional unlocking safety mechanism inside, never forget to use the EPS Safety Pin! Doublecheck in the case of any doubt!

DANGER!

I-Bracket I (Installation)

9. Turn the Support Bolt until it slightly touches the side of the loudspeaker. This will further stabilize the connection of the I-Bracket to the loudspeaker and ensures a straight alignment.
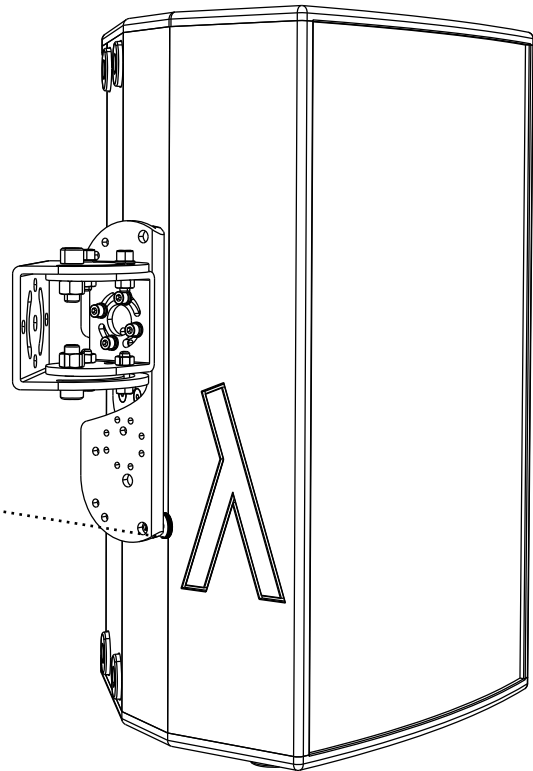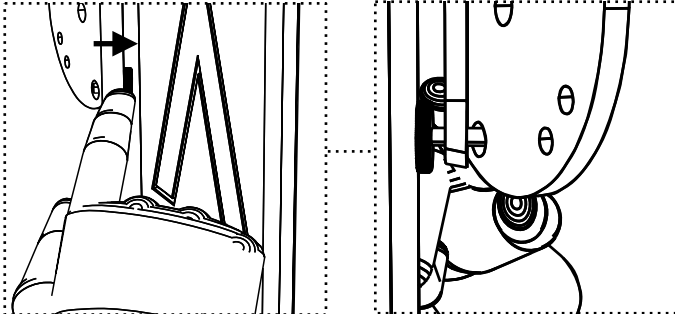

10. Move the loudspeaker to the desired horizontal position. Tighten the 4 x M8 DIN 912 screws with the help of a ratchet with a HEX BIT Number 6 (Wrench Size 6mm) and a 10mm Socket Wrench after the desired position of the loudspeaker has been achieved. The horizontal position determines the possible tilting angle of the loudspeaker. The more parallel the speaker is to the wall, the more tilting angle is possible before the bottom side of the loudspeaker touches the wall. For details, refer to **Step 11** as well.

⚒	• Ratchet •HEX Bit Number 6
⚒	• 10mm Socket Wrench

4 x
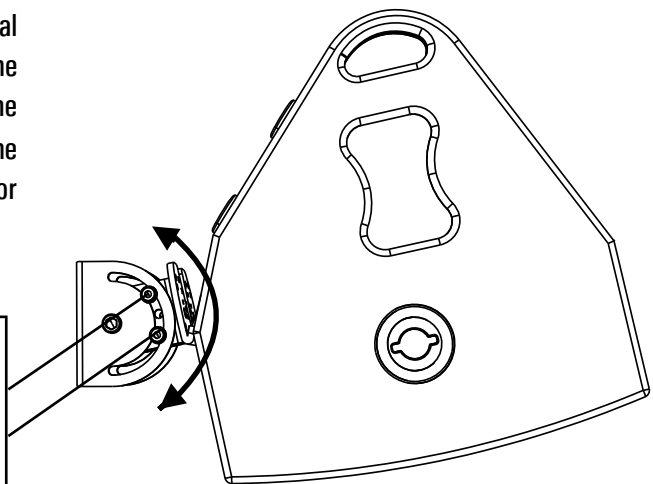
I-Bracket **I** (Installation)

11. Tilt the loudspeaker to the desired tilting angle at the Universal Plate. Tighten the 4 x M6 DIN 912 screws with the help of a ratchet with a HEX BIT Number 5 (Wrench Size 5mm) after the desired tilt angle of the loudspeaker has been achieved. I-Bracket Long provides larger possible tilting angles before the bottom of the loudspeaker touches the wall. The Rotation Fixture allows the Universal Plate to be rotated downwards by 48 degrees from its starting position.
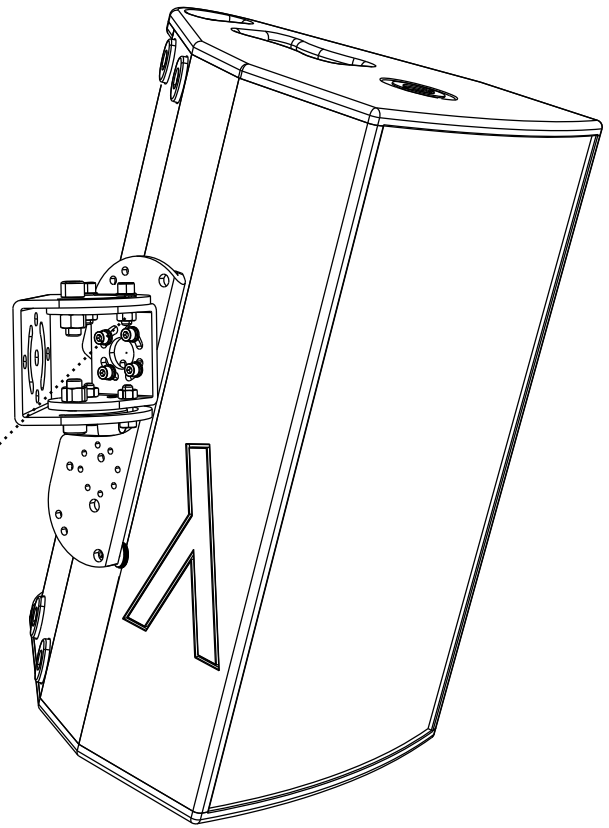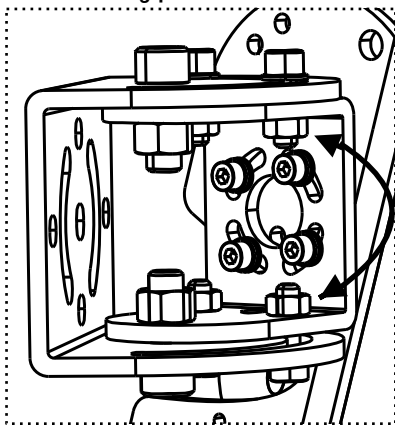
Danger: Fix the screws with a minimum torque of 10 Nm! Maximum torque is 12 Nm! In the case of any doubt, add some Loctite 290, which can be applied to the already fastened screws of the EPS system.

Note: The tilting angle of the loudspeaker is dependent on its horizontal position. The more parallel the speaker is to the wall, the more tilting angle is possible before the bottom side of the loudspeaker touches the wall. I-Bracket Long provides larger possible tilting angles if needed.

Beside the possibility to gain more tilting angle by using I-Bracket Long, the Universal Plate can be shifted as well. Refer to **Step 5** also.

Smaller possible maximum tilt angle before touching the wall with the lower back of the speaker
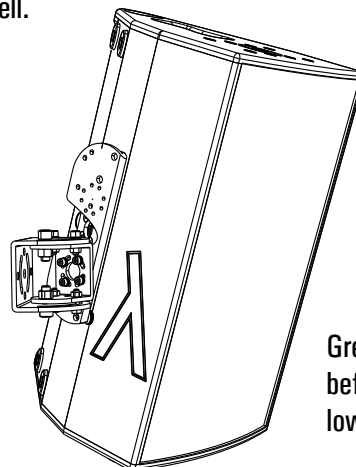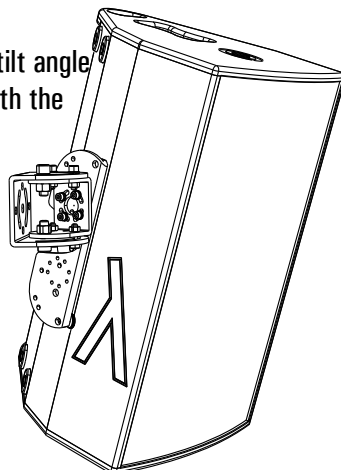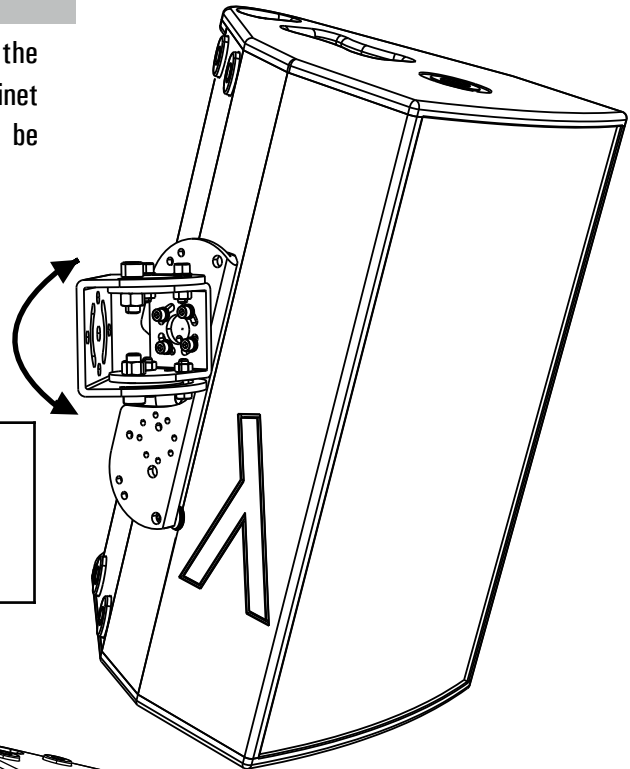
Greater possible maximum tilt angle before touching the wall with the lower back of the speaker
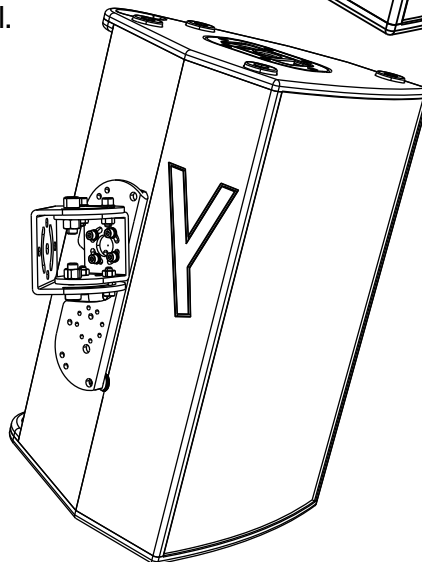
I-Bracket **I** (Installation)

12. After being horizontally adjusted and tilted, the loudspeaker can be even swiveled by rotating the cabinet at the I-Bracket`s roof anchors. The I-Bracket can be rotated by +/- 45 degrees from its center position.
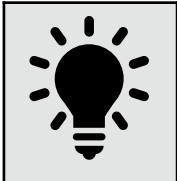
Note: The swivel angle of the loudspeaker is dependent on its tilting angle.

Upside down mounting is possible as well.

|	
⚠ **DANGER!**	**Danger:** The loudspeaker must be secured with a Second Independent Safety Link in every case! A 6mm Safety Rope is to be attached to the back of the loudspeaker. For further details, refer to the individual Loudspeaker Manuals as well!
⚠ **DANGER!**	**Danger:** Always check all screws involved for tightness. Do not forget any screw! Recheck in the case of any doubt!
💡	**Note:** Refer to Chapter **4** to see the maximum possible tilting angles for each loudspeaker of the TX-Series with I-Bracket Short and I-Bracket Long.

3.5.2.1. I-Bracket Wall Mount TX Rigging Options (Only I-Bracket Short shown)
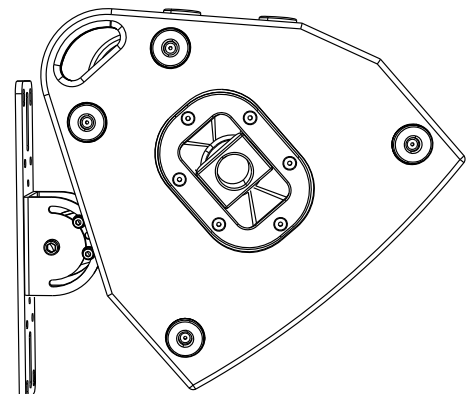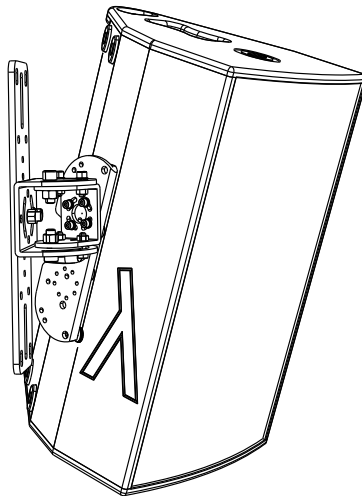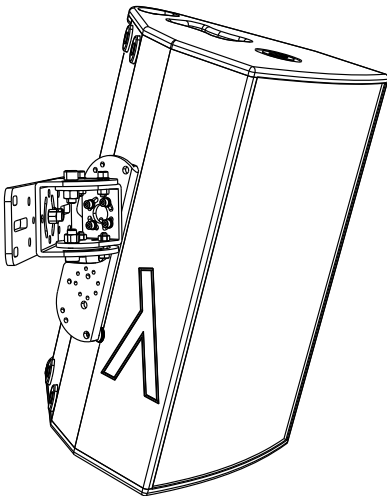
I-Bracket Short
TX- Series
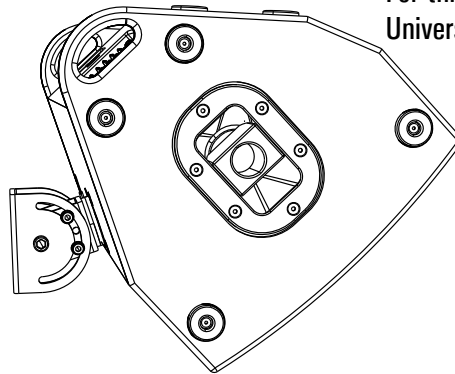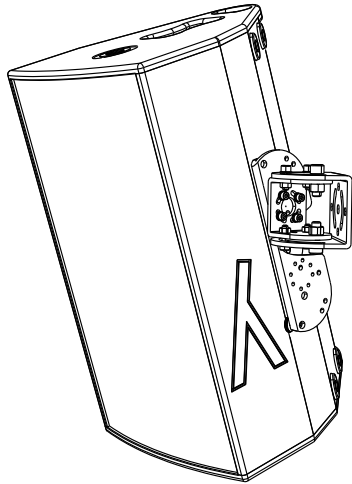
For this kind of wall mount, the Universal Plate is not necessary

3.5.2.2. I-Bracket & Ceiling Adapter TX Wall Mount Rigging Options (Only I-Bracket Short shown)

I-Bracket Short & Ceiling Adapter
TX- Series

For further details, please refer to Chapter **3.3 „Operating the I-Bracket & Ceiling Adapter: Ceiling/Wall Mount".**
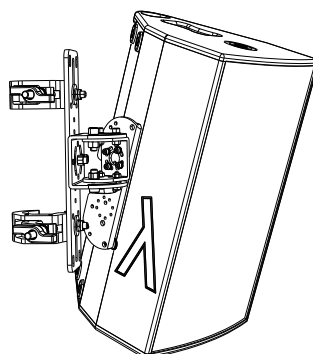
For this kind of wall mount, the Universal Plate is not necessary

3.5.2.3. I-Bracket & Truss Adapter TX Rigging Options (Only I-Bracket Short shown)

I-Bracket Short & Truss Adapter
TX- Series

For further details, please refer to Chapter **3.4 „Operating the I-Bracket & Truss Adapter: Usage with truss".**

4. I-Bracket Maximum Angle Table

4.1. Ceiling Mount

Loudspeaker	I-Bracket Short	I-Bracket Long
TX-1A (vertical)	26°	45°
TX-2A (vertical)	24°	38°
TX-3A (vertical)	15°	28°
TX-1A (horizontal)	65°	81°
TX-2A (horizontal)	64°	79°
TX-3A (horizontal)	60°	71°
CX-1A/B	60°	75°
CX-2A	59°	74°
CX-3A	58°	73°

4.2. Wall Mount

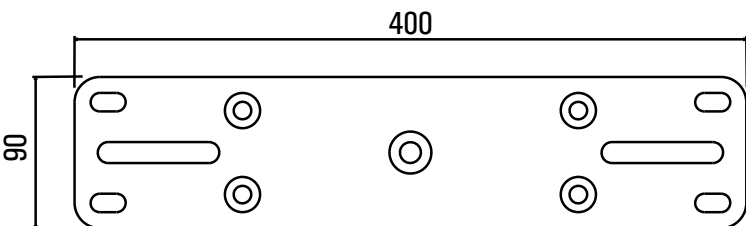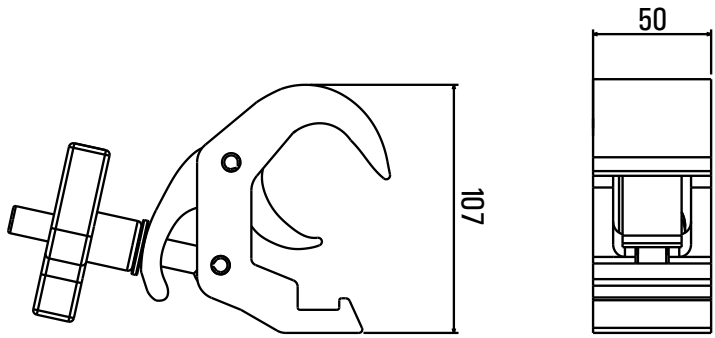| Loudspeaker	I-Bracket Short	I-Bracket Long
TX-1A (horizontal)	65°	81°
TX-2A (horizontal)	64°	79°
TX-3A (horizontal)	60°	71°
CX-1A/B (horizontal)	60°	75°
CX-2A (horizontal)	59°	74°
CX-3A (horizontal)	58°	73°

5. Maintenance
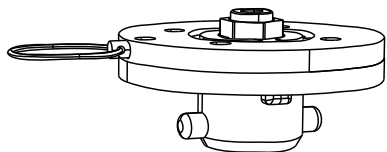
- Clean and protect ALL metal parts of the EPS with WD 40 and/or Rolimeco 1. For salty environments, Rolimeco 5. is recommended. **Do not use ANY other cleaning supplies on these areas!**

6. Dimensions

Dimensions (mm)		Weight
125 / 118 / 105	120	1,9 kg / 4,2 lbs
190 / 118 / 170	120	2,6 kg / 5,7 lbs

Dimensions (mm)	Weight
400 90 Ceiling / Truss Adapter Thickness: 8mm	2,0 kg / 4,4 lbs
50 107 Quick Trigger Clamp Pipe Diameter: 38-51mm	0,8 kg / 1,8 lbs

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7. Drilling Template Ceiling/Truss Adapter

Print the Ceiling/Truss Adapter Drilling Template using a 200% scaling in the print settings. Print on A3 paper or choose cross-page and seamless printing if smaller paper is used.

X: M10

+: M12
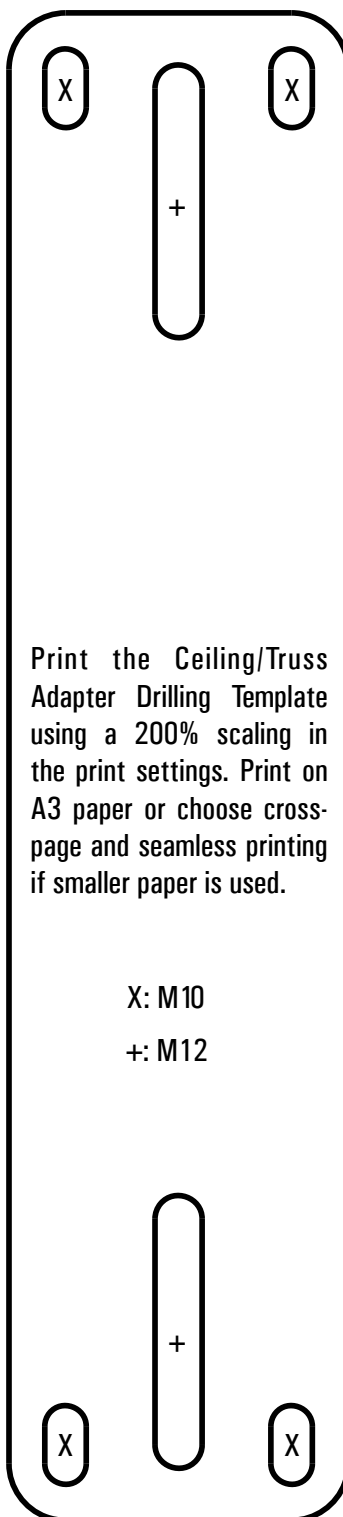
8. Drilling Template I-Bracket

X: M10
+: M12

X   +   X