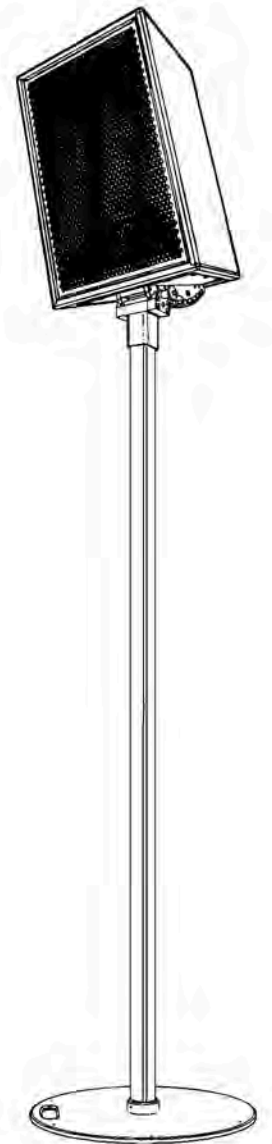
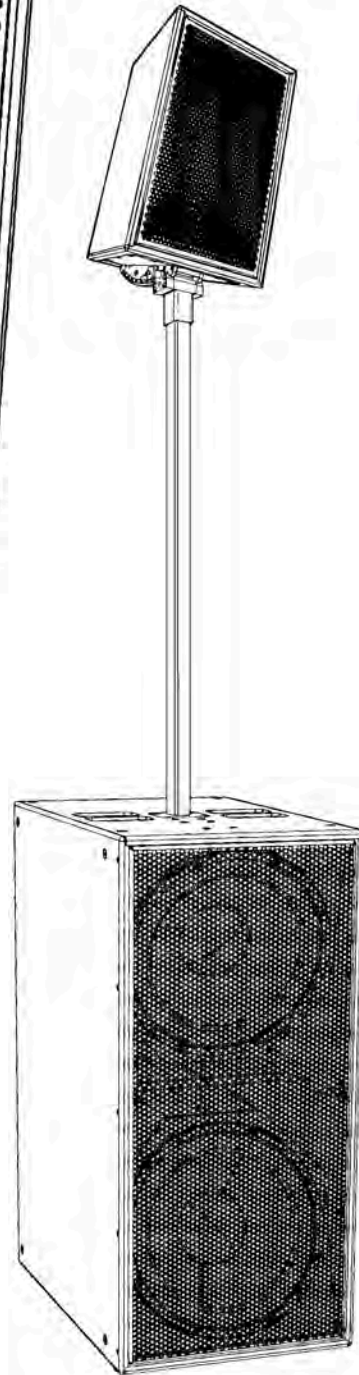
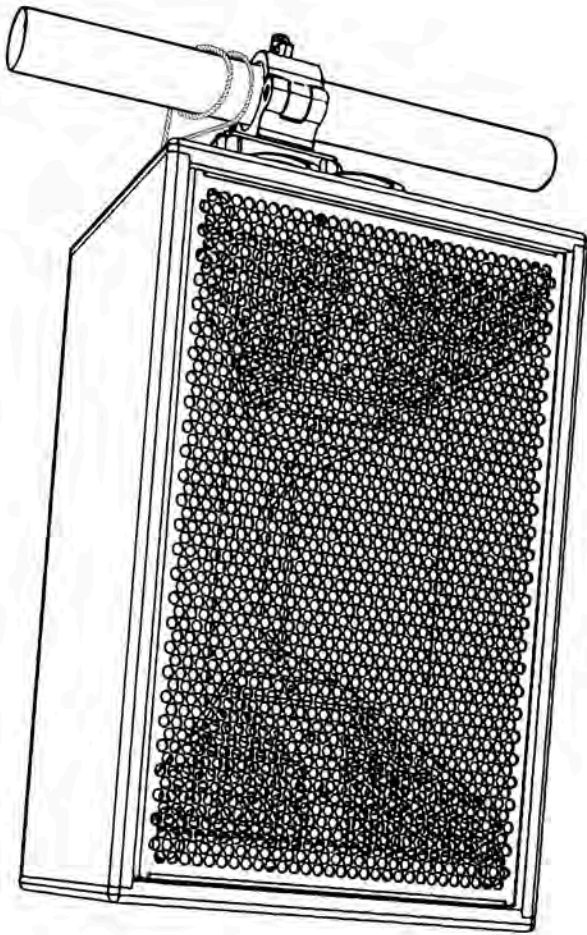


1 SOUND



THE CONTOUR CT28 RIGGING SYSTEM

Contents

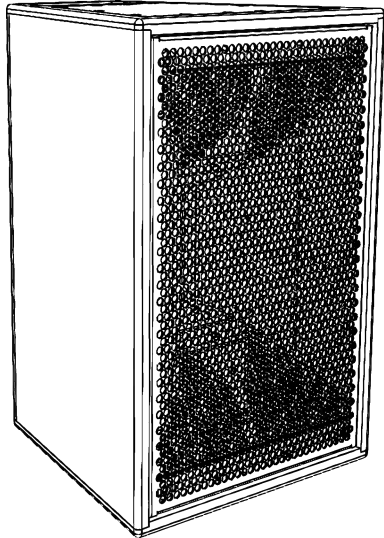
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Chapter 1. Speaker models

Contour CT28

Horn-Loaded Point Source Speaker Enclosure

Figure 1. Contour CT28



The Contour CT28 is a compact, 3-way passive loudspeaker capable of delivering a maximum SPL of 140 dB. This is a powerful speaker that sounds intimate at lower volumes.

The Contour combines two 8" low-frequency drivers and a coaxial 4" + 2.5" mid-high compression driver in a horn-loaded point-source enclosure that delivers a controlled 100° x 50° coverage down to 200 Hz, with a bass response down to 70 Hz. It is a medium-to-long throw point-source that maintains its directivity in the far field.

With its compact format coupled with its versatile accessories, this loudspeaker is useful for small to large installations and live production audio.

CT28 Specifications

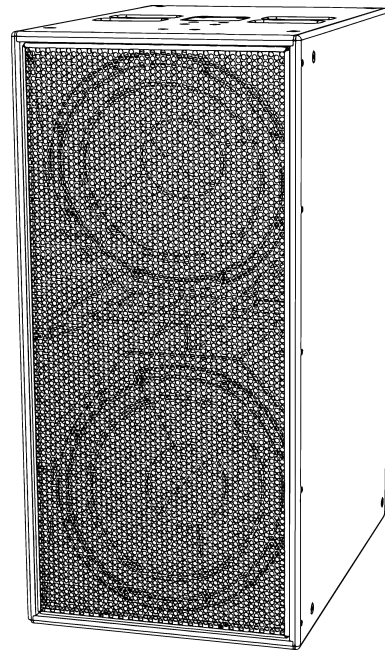
Table 1. CT28 Specifications

Description	Passive, compact, 3-way loudspeaker, lightweight horn-loaded point source
Bandwidth	70 Hz - 18 kHz (-6 dB preset dependent)
Max SPL	140 dB @ 1 m with preset
Power	1780 W (program)
Directivity	100° x 50°
Elements	(2) 8" low frequency drivers, (1) 4" + 2.5" coaxial mid-high compression driver
Impedance	8 Ω
Connectors	(2) NL4 audio input and link, (1) Neutrik NDL dummyPLUG
IP Rating	IP55 indoor/outdoor and salt water resistant
Rigging	(8) M5 points, (4) M6 points
Weight	44 lbs / 20 kg
Construction	Construction: Finland birch plywood (urea glue), matte salt and UV resistant polyurea coating, 316 stainless steel and aluminum
Dimensions	13.6" (345 mm) x 13.6" (345 mm) x 20" (510 mm)
Colors	Stocking black and white, custom colors and fabrics available
Accessories	CT28 Horizontal Mounting Bracket, CT28 Angle Bar, CT28 Wall Bracket, CT28 Fly Bar, CT28 Rigging System, Tube Mount, Active Speaker Stand and Tubes, removable magnetic front grille [included]

SUB215

Twin 15" Subwoofer

Figure 2. SUB215



The SUB215 is a fast-responding, deep bass subwoofer capable of producing a maximum SPL of 140 dB. This cabinet is equipped with (2) 15" low frequency drivers with the latest tetracoil technology. This subwoofer is deep but also delivers clear and punchy upper bass. The SUB215 cabinet is only 17.7" (450 mm) wide when deployed vertically or 17.7" tall when deployed horizontally.

SUB215 can be equipped with the pole cup accessory which allows you to deploy a CT28 full-range enclosure atop it using a 1 SOUND Active Speaker Tube, or to mount any other satellite speaker on top. This subwoofer is also equipped with rigging points in order to attach the proprietary Tower Rigging System, allowing the Tower LCC44 or LCC84 to be coupled atop it with variable splay angles.

SUB215 Specifications

Table 2. SUB215 Specifications

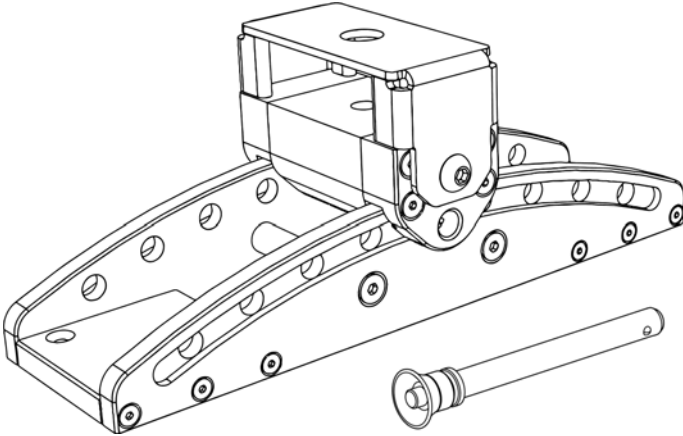
Description	Passive dual 15" subwoofer
Bandwidth	30 Hz - 120 Hz (-6 dB preset dependent)
Max SPL	140 dB SPL @ 1 m with preset
Power	3600 W (program) / 1800 W (AES)
Directivity	Omnidirectional
Elements	(2) 15" low frequency tetracoil drivers
Impedance	4 Ω
Connectors	(2) NL4, (1) Neutrik NDL dummyPLUG
IP Rating	IP55 indoor/outdoor and salt water resistant
Rigging	(16) points M8 / (6) points M6 for Tower Rigging System
Weight	133.8 lbs / 60.7 kg
Construction	Finland birch ply (urea glue), matte salt and UV resistant coating, 316 stainless steel hardware, 3D spacer mesh fabric
Dimensions	37.4" (950 mm) x 17.7" (450 mm) x 26.7" (680 mm)
Colors	Stocking black and white, custom colors and fabrics available
Accessories	Sub Pole Cup, Tower Rigging System, detachable wheels for easy transport, removable rubber feet [included]

Chapter 2. Accessories

Contour CT28 Rigging System

Angle-adjustable mount for pole or flown deployment

Figure 3. The Contour Rigging System



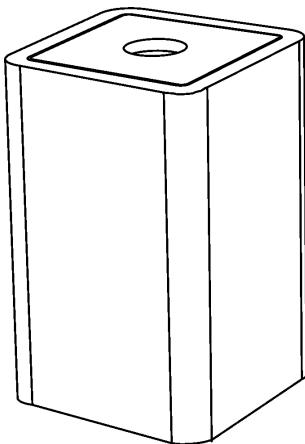
This adjustable rigging system attaches to the top or bottom of the CT28 and allows for various rigging options such as hanging or attaching to the Tube Mount. The angle can be easily adjusted and securely fixed using the included M10x100 ball-lock pin. The Rigging System allows for up to ± 20 degree tilt, in 5-degree increments. The mount is made from stainless steel 316 and aluminum, with stainless steel or black powder-coated finish.

The kit includes:

- The fully assembled Contour Rigging System
- An M10x100 mm ball-lock pin

Tube Mount

Figure 4. The Tube Mount.



The Tube Mount enables a Contour loudspeaker to be coupled with the proprietary square-section Active Speaker Tubes or an industry-standard $\varnothing 40$ mm round speaker tube for deployment of a CT28 or Cannon Series enclosure on a free-standing base or a CT28 or CT212 atop a SUB215 or SUB2112 subwoofer. The mount attaches to the Contour Rigging System. The Tube Mount is made of galvanized, zinc plated and black or white powder coated steel.

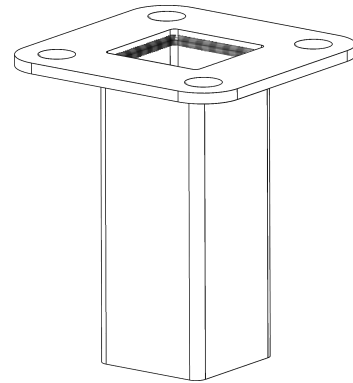
The kit includes:

- The Tube Mount adaptor
- A $\frac{1}{2}$ "x $\frac{3}{4}$ " zinc hex bolt
- A $\frac{1}{2}$ " split locking washer

Sub Pole Cup

Square adapter for subwoofer M20 flange to Active Speaker Tube

Figure 5. Sub Pole Cup



The Sub Pole Cup is made from 4 mm steel and fits in various 1 SOUND subwoofers in order to mount a satellite speaker enclosure. It couples with all 1 SOUND Active Speaker Tubes, as well as standard round poles that have a M20 screw-in bolt. It is available with a black or white finish.

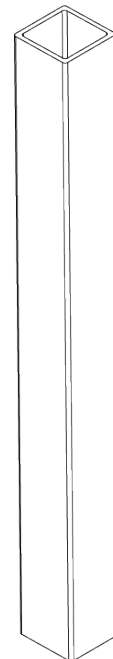
The kit includes:

- Sub Pole Cup
- Gasket (pre-installed on the Sub Pole Cup)

Passive 40 cm Speaker Tube

For mounting mounting satellite speaker enclosures atop subwoofers.

Figure 6. The 40 cm (16 in) Speaker Tube.



The 40 cm (≈ 16 ") Speaker Tube is a simple steel square-section speaker pole for mounting satellite speaker enclosures atop subwoofers. It is available with a black or white finish.

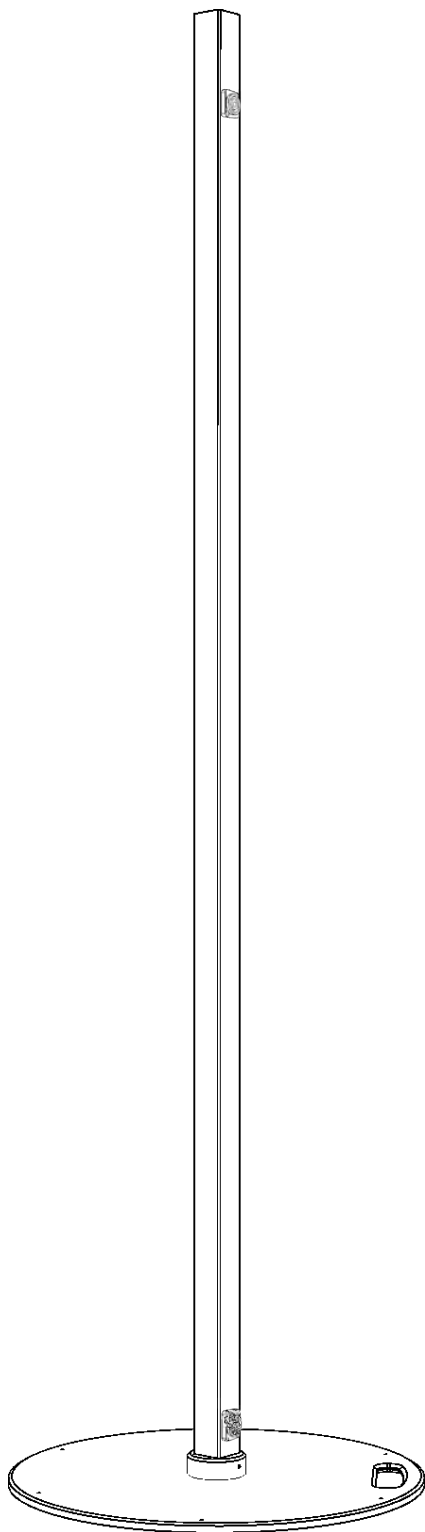
The kit includes:

- The Speaker Tube

Active Speaker Tube & Base

Free-standing Speaker Stand for LCC44 or CT28 with Round Steel Base.

Figure 7. Active Speaker Tube & Base



The Active Speaker Tube & Base is an elegant speaker stand 176 cm tall (≈69"), made of square-section steel on a stable, round steel base 50 cm (≈20") in diameter. This accessory incorporates a Speakon NL4 connector at each end, to avoid unsightly and precarious cable connections and achieve a sleek, clean look. It is available with a black or white finish.

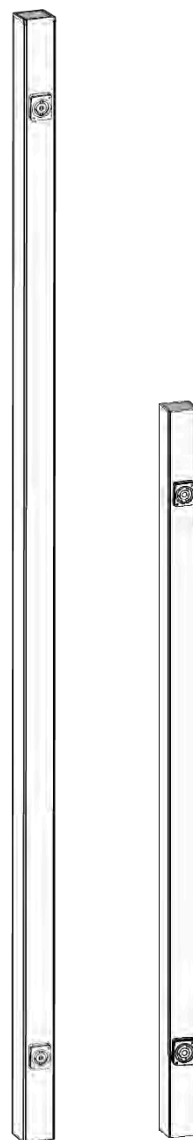
The kit includes:

- The fully assembled Active Speaker Tube
- The steel base

Active Speaker Tubes

For mounting satellite speaker enclosures atop subwoofers.

Figure 8. Active Speaker tubes: 145 cm and 95 cm.

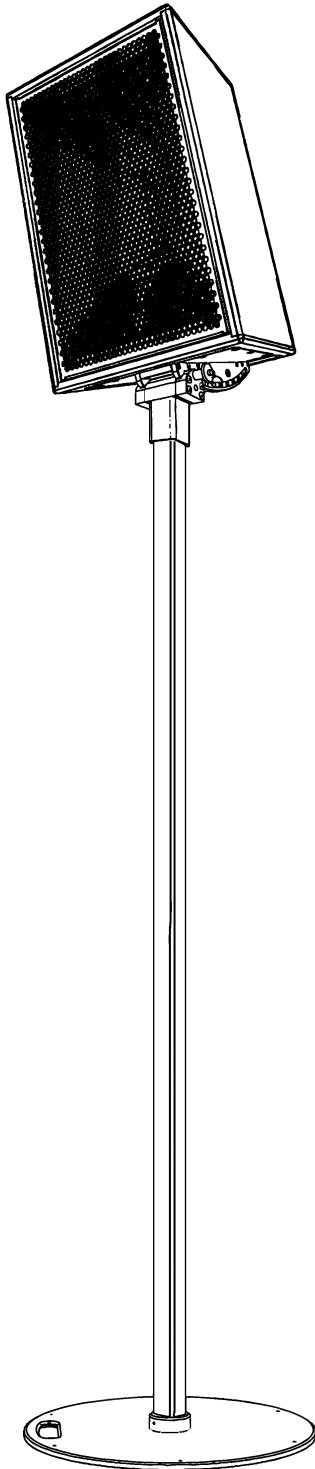


The Active Speaker Tubes are steel square-section speaker poles available in lengths of 145 cm (≈57") and 95 cm (≈37.4"). These are used to mount satellite speaker enclosures atop subwoofers, and incorporate a Speakon NL4 connector at each end, to avoid unsightly and precarious cable connections and achieve a sleek, clean look. They are available with a black or white finish.

The kit includes:

- The fully assembled Active Speaker Tube

Chapter 3. Deploying CT28 on an Active Speaker Tube and Base



Critical information

Attention: This equipment is intended for installation by qualified professionals.

Notice: Please read these instructions carefully and completely before attempting deployment of speaker enclosures on floor stands.

WARNING



Tipping Hazard
Speaker enclosures mounted on poles or stands represent a tipping hazard. Exercise care when deploying speaker enclosures on poles or stands. In the case of mechanical failure or accidental tipping, there is a risk of serious injury or even death, as well as likely damage to the enclosures themselves and nearby equipment.

WARNING



Tipping Hazard
DO NOT MOUNT THE MODEL CT212 SPEAKER ENCLOSURE ON THE ACTIVE SPEAKER TUBE WITH BASE
The Active Speaker Tube with Base is designed only for the safe deployment of the CT28 unit using the Contour Rigging System and Tube Mount.

CAUTION



Tripping/Falling Hazard
Speaker enclosures mounted on poles or stands represent a tripping hazard. Exercise care when deploying speaker enclosures on poles or floor stands. Free-standing loudspeaker supports and accompanying cables should be positioned at a safe distance from walkways, trafficked areas and the general public to minimize risk of injury or damage to the enclosures themselves and associated equipment.

Notice: This product must be installed in compliance with all applicable local, state and national regulatory provisions. The responsibility rests with the installer to verify that the installation is carried out in accordance with any applicable legislation.

Important: The installer must assess the appropriate stability and sturdiness of the deployment surface.

Restriction: Only hardware and accessories included with the product or specified by 1 Sound should be used for its installation.

Restriction: Do not modify or alter the loudspeaker or any accessory. Any modification by the user or installer could render the product or the installation unsafe.

Restriction: Do not install a loudspeaker or any accessory near any open flame or heat source.

Products, accessories and tools required

To deploy a Contour CT28 enclosure on an Active Speaker Tube with Base you will need the following:

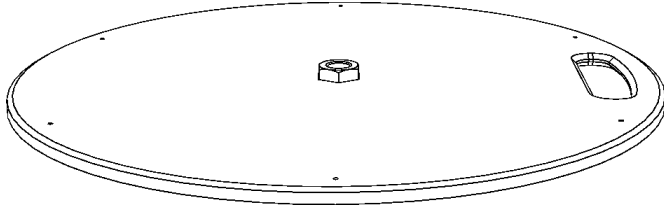
- A [CT28 \(on page 3\)](#) loudspeaker enclosure
- The [Contour CT28 Rigging System \(on page 4\)](#)
- The [Active Speaker Tube & Base \(on page 5\)](#) speaker stand kit
- The [Tube Mount \(on page 4\)](#) adapter kit
- A 3 mm hex driver or Allen wrench
- A 5 mm hex driver or Allen wrench
- A 19 mm socket driver with at least an 80 mm shaft
- Thread-locking compound

Procedures

Assembling Active Speaker Tube with Base

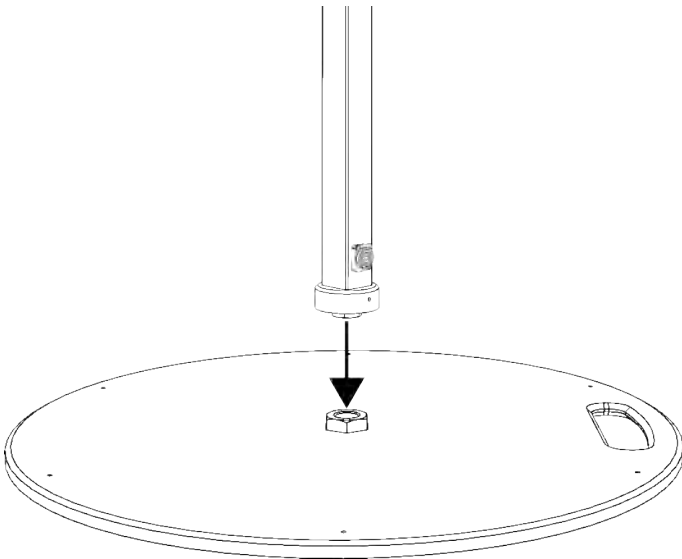
The 175 cm Active Speaker Tube and base can be used to deploy a single, freestanding LCC44 unit. The stand and base must be properly assembled prior to coupling with the speaker enclosure.

Figure 9. The Active Speaker Tube base.



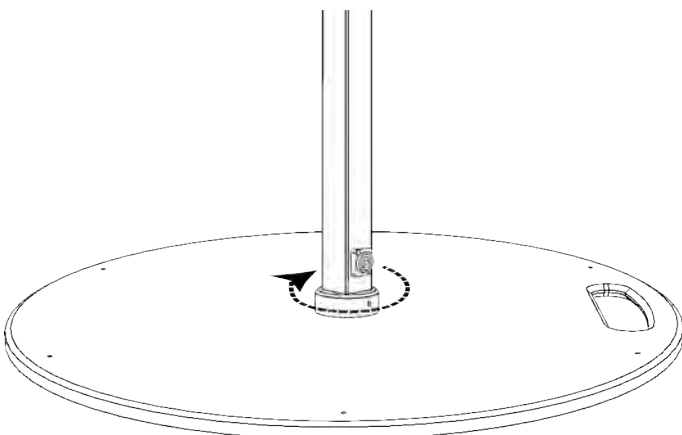
- Place the round base of the Active Speaker Tube on a flat surface so that it rests flat and the M20 threaded nut at the center protrudes above.

Figure 10. Attaching the 175 cm Active Speaker Tube to its base.



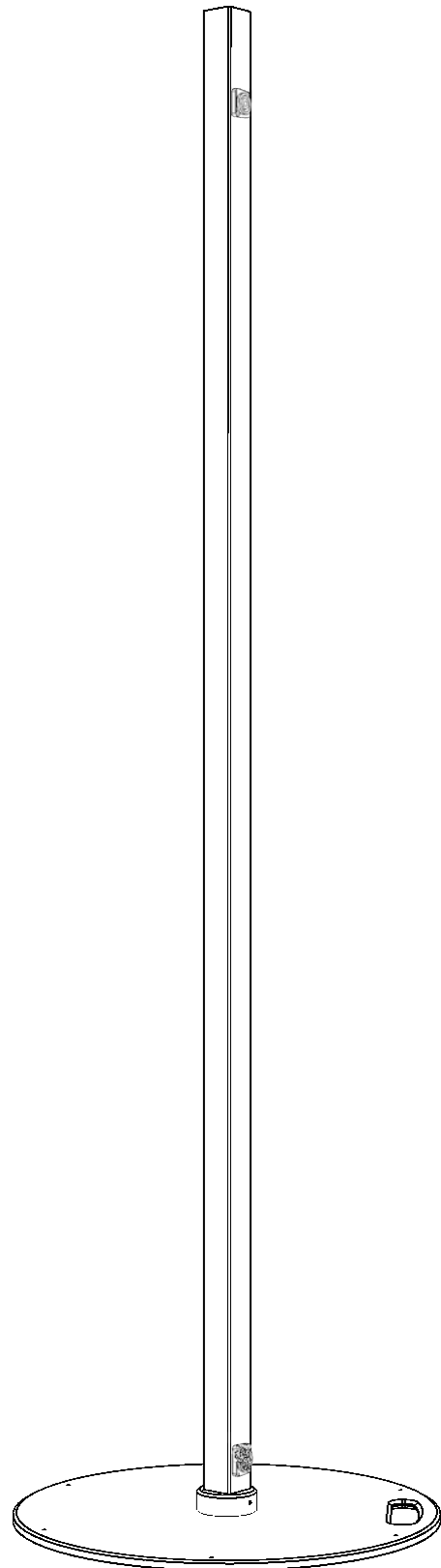
- Align and thread the M20 threaded rod at the bottom of the 175 cm Active speaker Tube into the captive M20 nut on the base .

Figure 11. Screwing the 175 cm Active Speaker tube to its base.



- Screw the Active Speaker Tube into the base until the outer ring of the Speaker tube is firmly seated against the base. Check to see that there is no movement possible of the Speaker Tube with respect to the base plate.

Figure 12. The fully Assembled Active Speaker Tube and Base



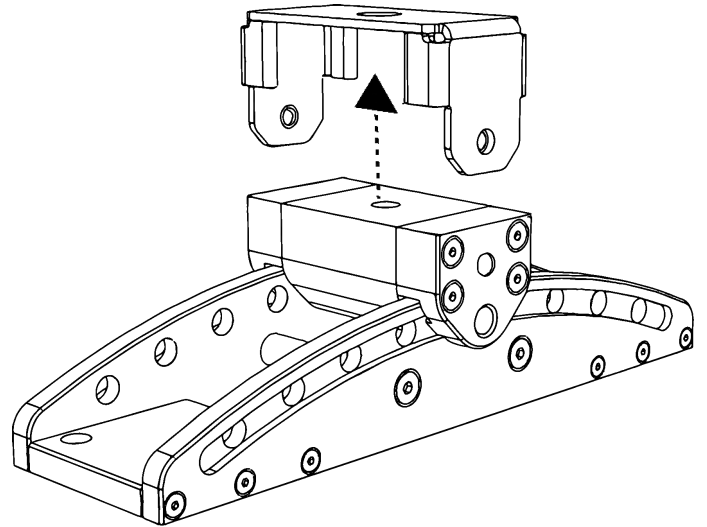
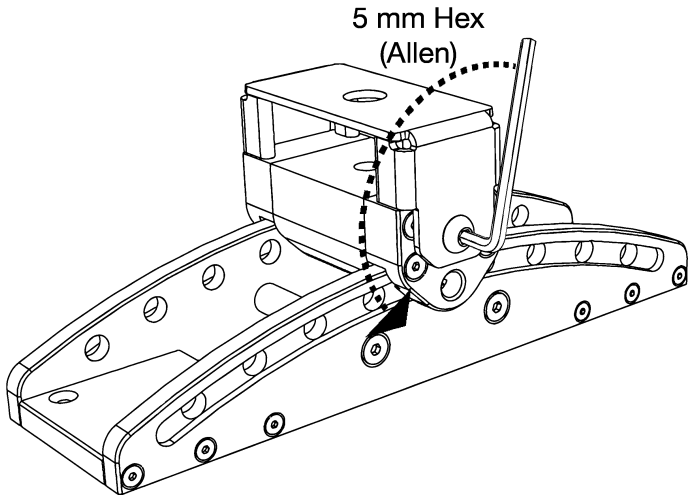
Removing the Suspension Yoke from the Contour Rigging System

Before the Contour CT28 Rigging System can be equipped with the Tube Mount adaptor, the suspension yoke must be removed.



Note: The Yoke can be installed on or removed from the Contour Rigging System while either before or after the Rigging System is installed on the CT28.

Figure 13. Removing the M8 x 20 mm bolts to remove the suspension yoke.



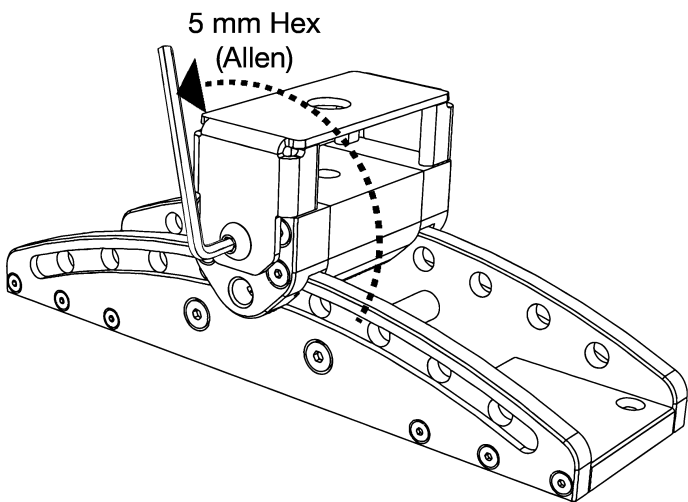
- Once these two bolts have been removed, the yoke can simply be lifted off of the Contour Rigging System.

Installing the Contour Rigging System on the CT28 bottom

In order to mount the CT28 unit on a subwoofer or pole mount and to allow for variable tilt angles of the enclosure in sub/satellite configurations using the Tube mount and Active Speaker Tube, the speaker enclosure needs to be equipped with the Contour Rigging System.

If the CT28 unit is not pre-equipped with the Contour Rigging System, this can be mounted by the user.

! Attention: For the installation of the Contour Rigging System on the CT28 or CT212 enclosure, the use of medium-strength thread-locking compound is REQUIRED on all user-installed screws.



- Use a 5 mm hex wrench to loosen the two M8 x 20 mm button-head bolts on either side of the suspension yoke.

Figure 14. Removing the suspension yoke.

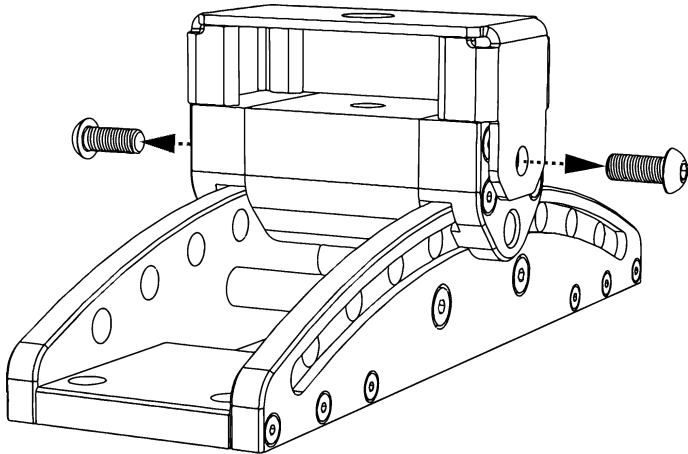


Figure 15. Threaded inserts for the Contour Rigging System on the bottom of CT28.

CT28 BOTTOM
(AUDIO CONNECTOR END)

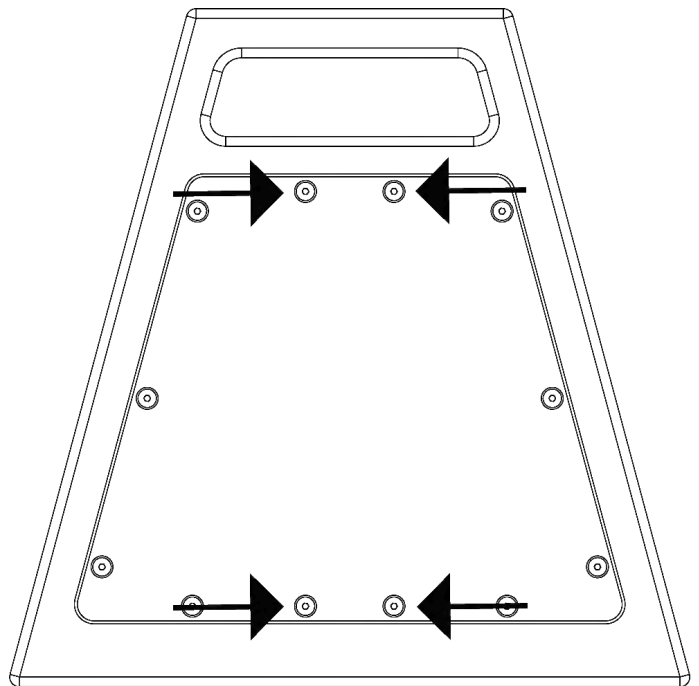
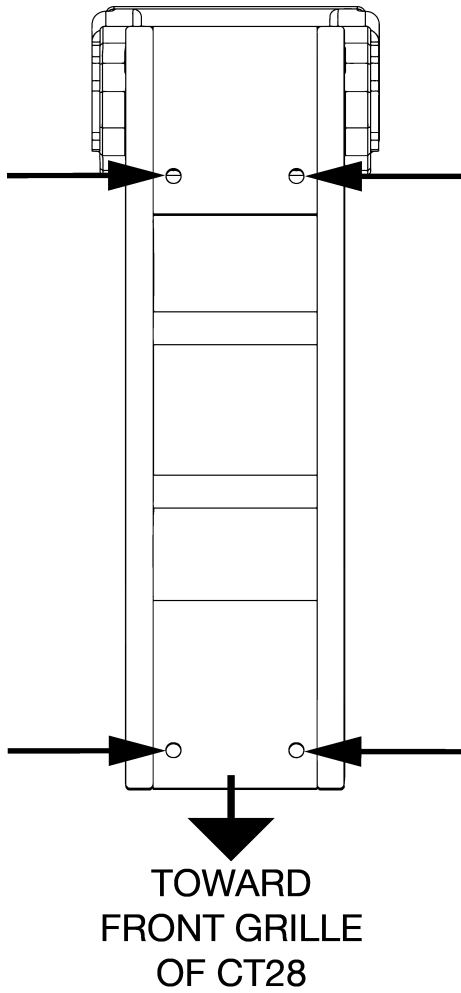
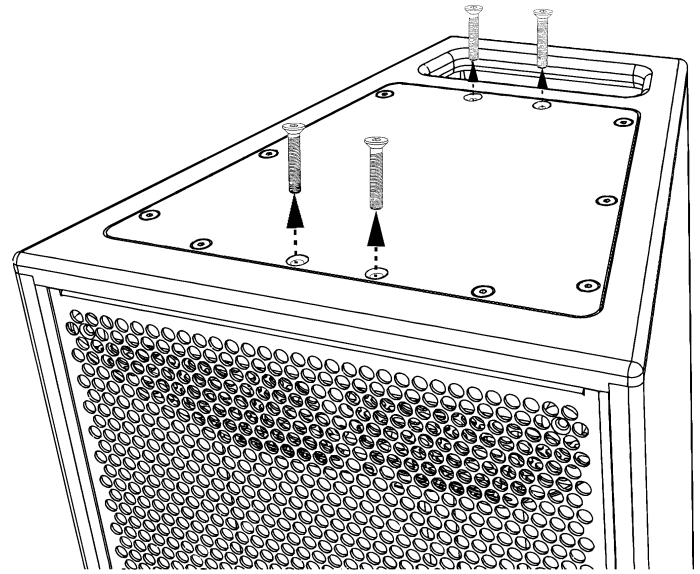
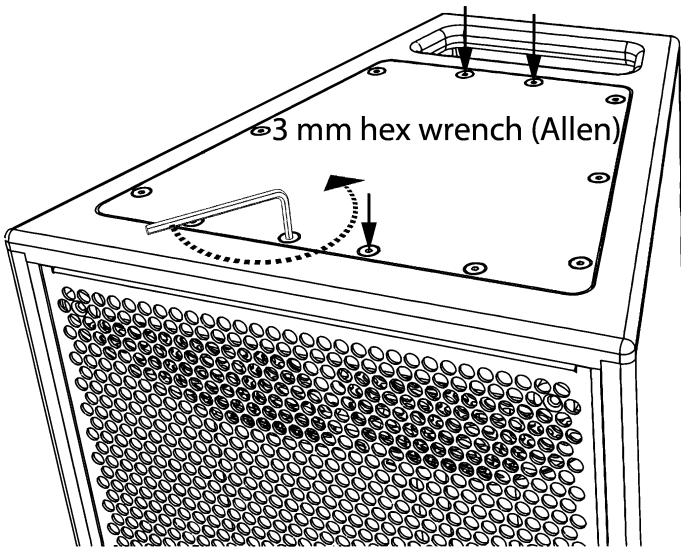


Figure 16. The corresponding mounting holes on the Contour CT28 Rigging System (bottom view).



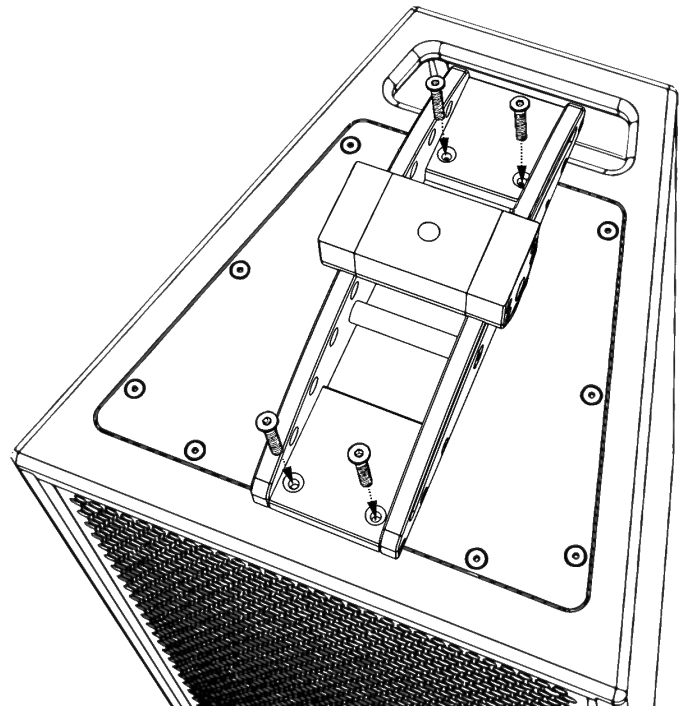
- Invert the CT28 enclosure, with the bottom (audio connector) side up.

Figure 17. Removing the M5 screws from the Contour Rigging System mounting points.



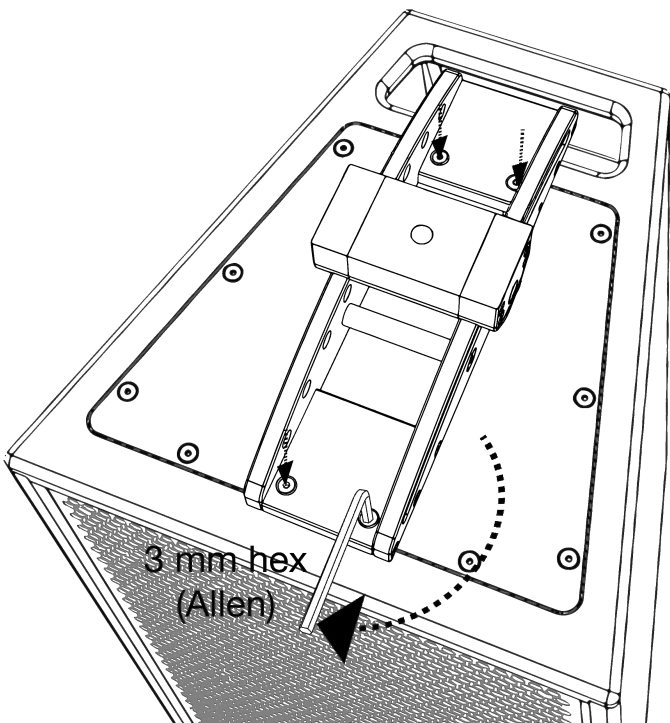
- Use a 3 mm Allen wrench or hex driver to remove the four M5x25 mm screws from the rigging points indicated above on the bottom side of the cabinet. Put these screws aside, as they will be needed to install the Rigging System.
- Position the CT28 Contour Rigging system as shown on the bottom surface of the CT28, aligning the four countersunk holes in the base plates of the Rigging System with the threaded inserts in the rigging points from which the screws were removed.

Figure 18. Inserting the four M5x25 mm screws.



- Insert the four M5x25 mm screws into the four holes in the Rigging System, and thread them into the underlying threaded inserts on the CT28.

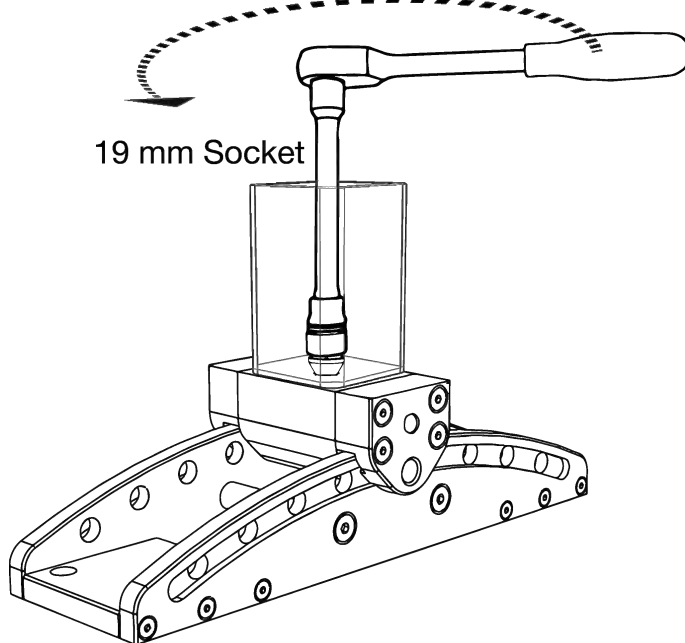
Figure 19. Installing the Contour Rigging System on CT28



- Using a 3 mm hex key (Allen type) with a length that allows for sufficient leverage, tighten the screws into the inserts in opposing pairs to firmly attach the Rigging System to the CT28. The bottom surface of the Rigging System should be perfectly flush with the cabinet at every point and there should be no movement possible.

- Place the Tube Mount with the drilled-plate end onto the sliding block of the Contour Rigging System, aligning the hole in the Tube Mount with the threaded 1/2" hole in the sliding block.
- Pass the 1/2" bolt through the split locking washer and thread the bolt (both included with the Tube Mount) into the tapped hole in the sliding block, through the hole in the Tube Mount.

Figure 21. Tightening the lug bolt.



- Use a 3/4" (19 mm) socket wrench with a socket extension at least 8 cm long to firmly tighten the lug bolt into the sliding block.

Fixing Tilt Angle of the Contour Rigging System

Installing the Tube Mount on the Contour Rigging System

Once the suspension yoke has been removed, the Contour CT28 Rigging System can be coupled to the Tube Mount adaptor. This procedure can be carried out either before or after the Rigging System has been installed on the CT28.

The Contour Rigging System allows for a variable tilt angle from +20° to -20° in 5° increments. It is convenient to fix the tilt angle before mounting the CT28 atop an Active Speaker Tube, though the angle can be subsequently adjusted if necessary.

Figure 20. Inserting the bolt.

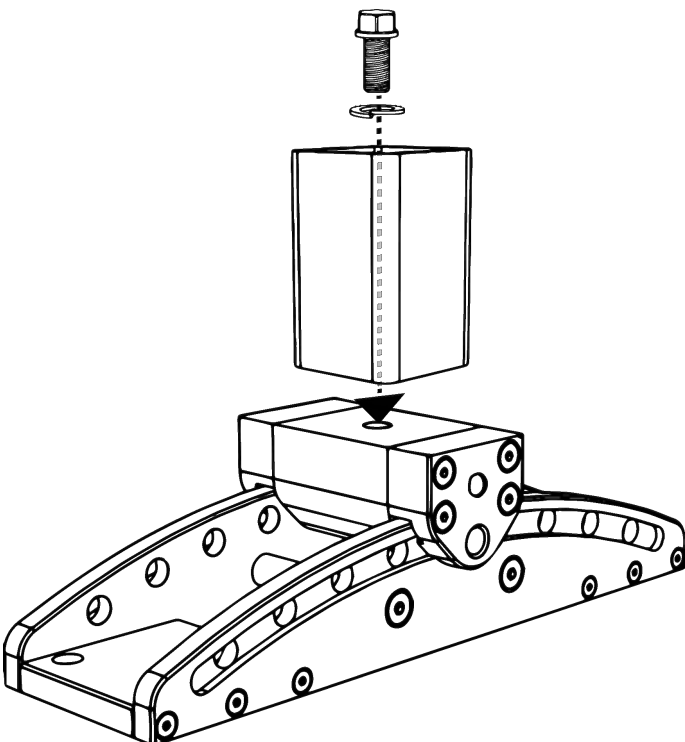


Figure 22. The tilt-locking holes and their corresponding angles in the pole-mount configuration.

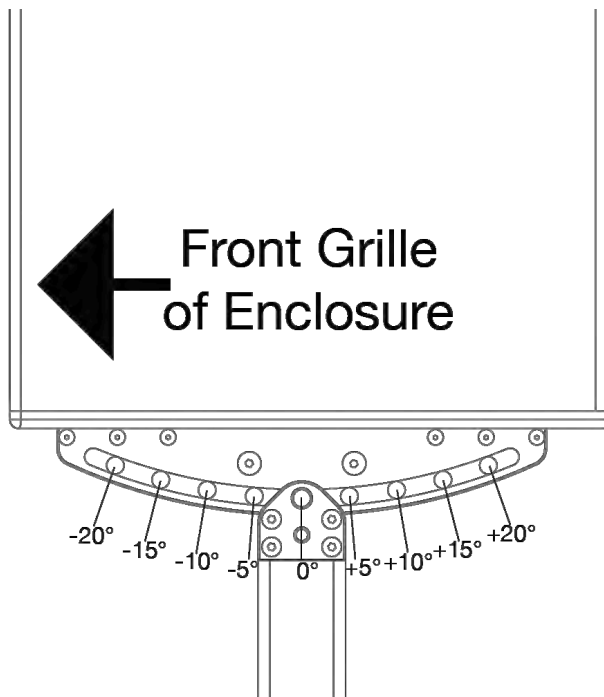


Figure 23. Sliding the mounting block to fix the tilt angle.

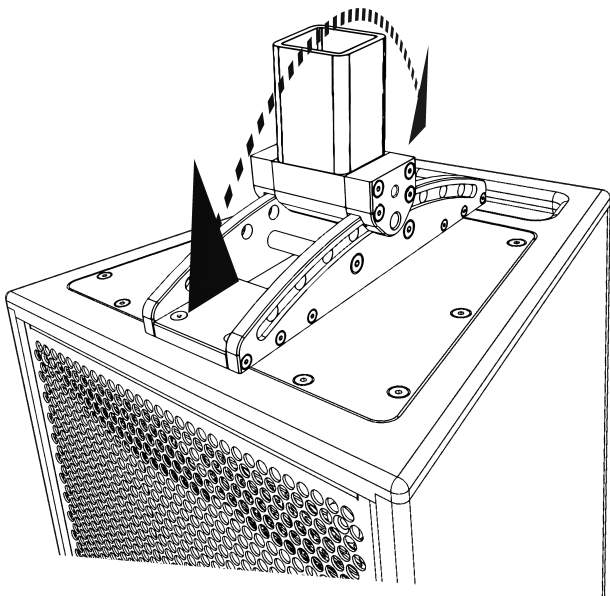
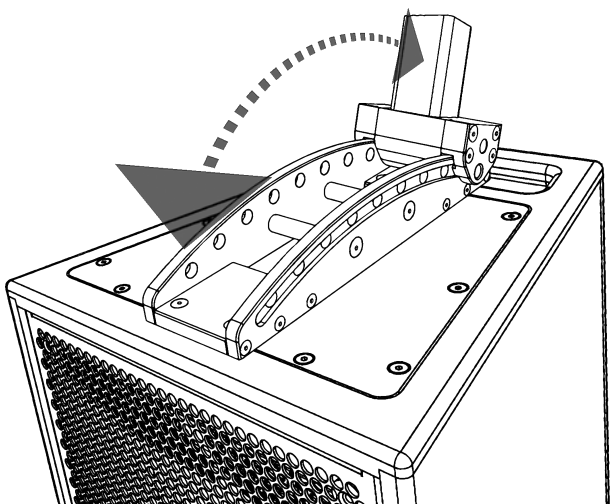
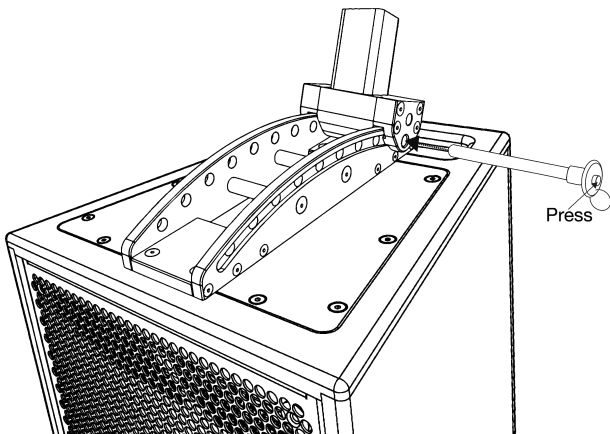


Figure 24. Sliding the tilt mechanism to align the required tilt angle (+20° upward tilt in the pole-mount configuration shown).



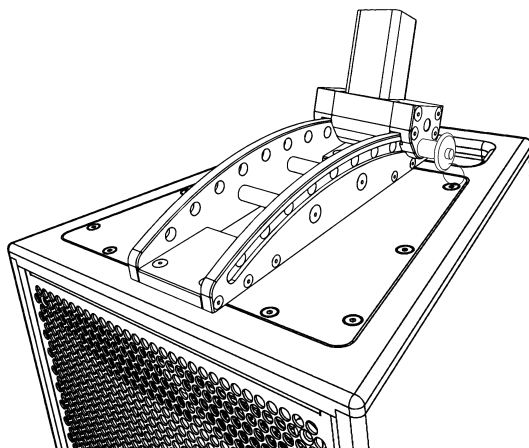
- With the M10x100 ball-lock pin removed, slide the mounting block of the tilt mechanism to align the holes in the block with the holes in the arched plates corresponding to the required tilt angle (see diagrams above).

Figure 25. Inserting the ball-lock pin to fix the tilt angle (+20° tilt in the pole-mount configuration shown).



- When the required holes are perfectly aligned, take the other M10x100 ball-lock pin supplied with the Contour Rigging System and press the lock-release button on the rear of the pin to allow it to pass into the hole. Insert it into the holes, pushing it completely through the aligned holes until the ball-lock emerges from the far side.


Figure 26. A +20° tilt angle fixed for the pole-mount configuration.




- When it emerges, release the button to allow the lock to engage and assure that the pin cannot be removed without again pressing the release. The enclosure is now ready to mount on an Active Speaker Tube.

Mounting CT28 on Active Speaker Tube

Once the Contour CT28 Rigging System has been correctly assembled with the Tube Mount, coupled with a CT28 and the tilt angle has been fixed, the enclosure can then be very simply mounted on an Active Speaker Tube, either atop a SUB215 subwoofer in a sub/satellite configuration, or independently atop an Active Speaker Tube with base.

⚠ WARNING	
	<p>Tipping Hazard Improper assembly of the Active Speaker Tube with Base or improper installation of the Active Speaker Tube or Sub Pole Cup on the SUB215 subwoofer enclosure, or of the Tube Mount, Contour Rigging System and CT28 enclosure could create a hazardous or unstable condition.</p> <p>Follow all specific instructions for the assembly of each of these products and verify their stable and level condition before attempting to mount a speaker enclosure atop the Subwoofer or the Active Speaker Tube and Base. DO NOT ATTEMPT TO MOVE OR REPOSITION A SUB/SATELLITE ASSEMBLY OR A FREE-STANDING SPEAKER STAND WITH AN ENCLOSURE MOUNTED ATOP IT.</p>

⚠ WARNING	
	<p>TIPPING HAZARD DO NOT USE THE 145 cm ACTIVE SPEAKER TUBE TO MOUNT A CT28 UNIT ATOP THE SUB215 SUBWOOFER</p> <p>TO REDUCE THE RISK OF INJURY OR DAMAGE THAT COULD RESULT FROM POSSIBLE TOPPLING OF LOUDSPEAKER ENCLOSURES, ONLY THE 95 cm ACTIVE SPEAKER TUBE OR THE 40 cm SPEAKER TUBE TO MOUNT ENCLOSURES IN SUB/SATELLITE CONFIGURATIONS ATOP THE SUB215 SUBWOOFER.</p>

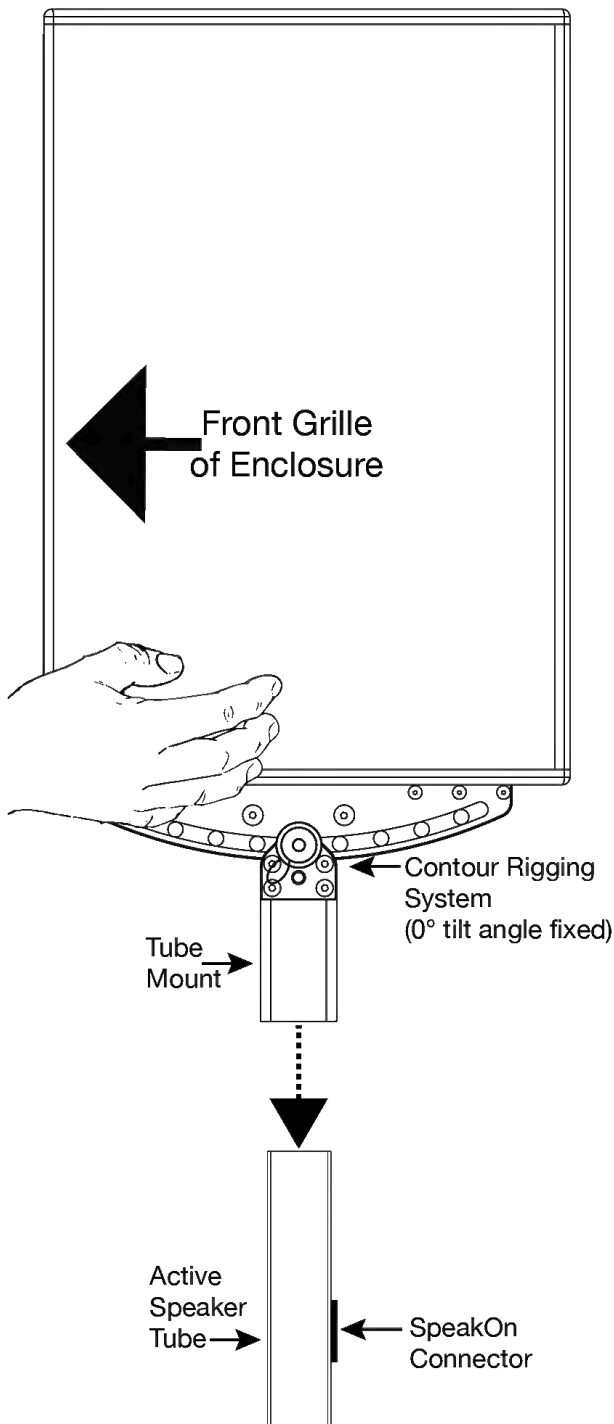
CAUTION



Two People Required
The following task simultaneously requires moderate two-handed lifting and the performance of fine motor operations. To avoid possible injury or damage, this procedure must be performed by two people

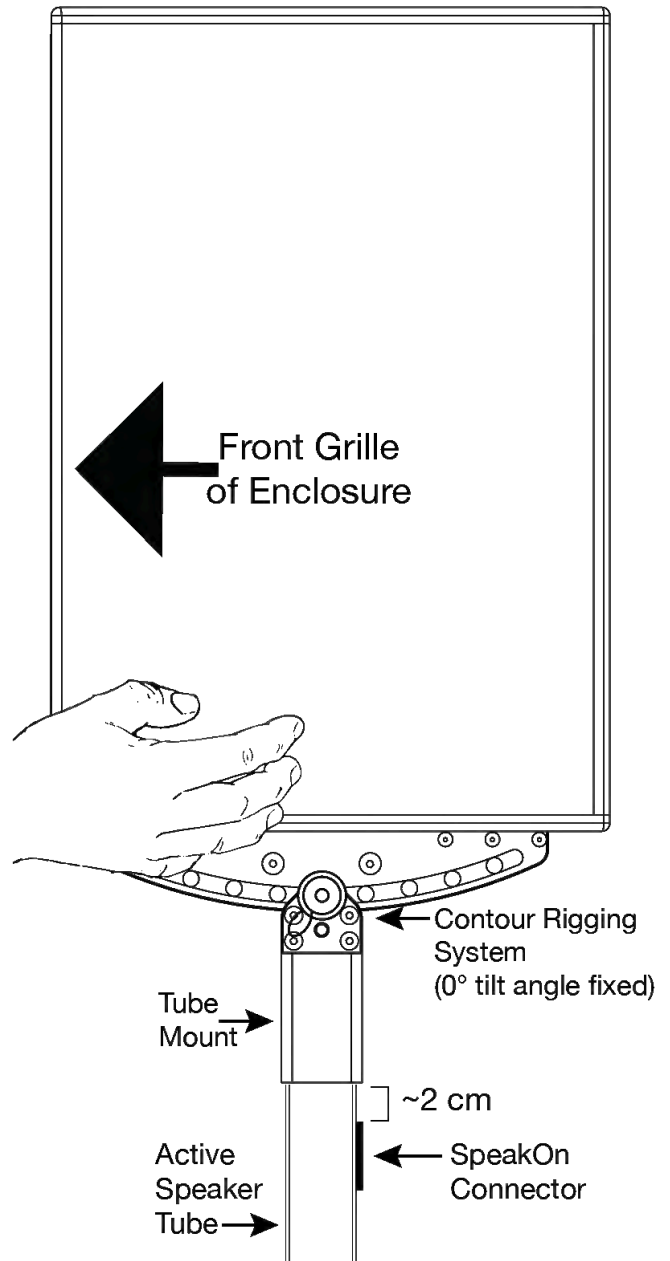
- Make sure that the 95 cm Active Speaker Tube or 40 cm Speaker Tube is properly installed in the SUB215 or that the free-standing 175 cm Active Speaker Tube and Base is safely positioned. Then simply lift the CT28 with the Contour Rigging System and Tube Mount above the Speaker Tube and align it in the desired direction. Though not obligatory, this will generally be with the rear of the CT28 towards the rear of the subwoofer, where the connectors are located.

Figure 27. Mounting a CT28 unit equipped with the Contour Rigging System and Tube Mount to an Active Speaker Tube.



- Lower the CT28 enclosure and allow the Active Speaker Tube to slide into the Tube Mount, making sure that it does not catch or bind as it enters. It should stop firmly when the Tube arrives at the top of the Mount, with the bottom of the Tube Mount coming to 2 cm above the top SpeakOn connector.

Figure 28. CT28 with Rigging System and Tube Mount installed on Active Speaker Tube.



- Physically assure the stability of the installation and that it will not tip with mild force applied in any direction at the highest point of the assembly.

Adjusting tilt

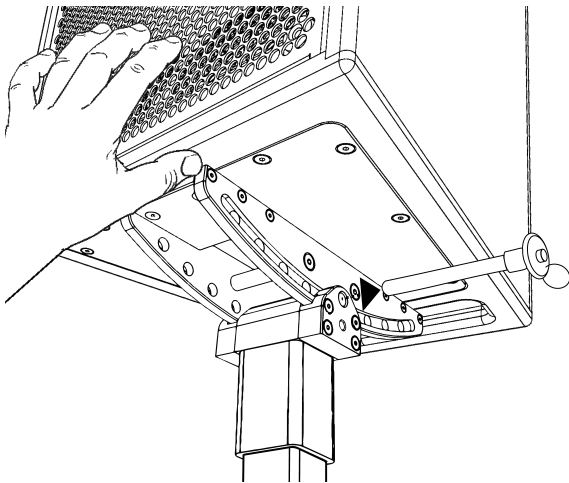
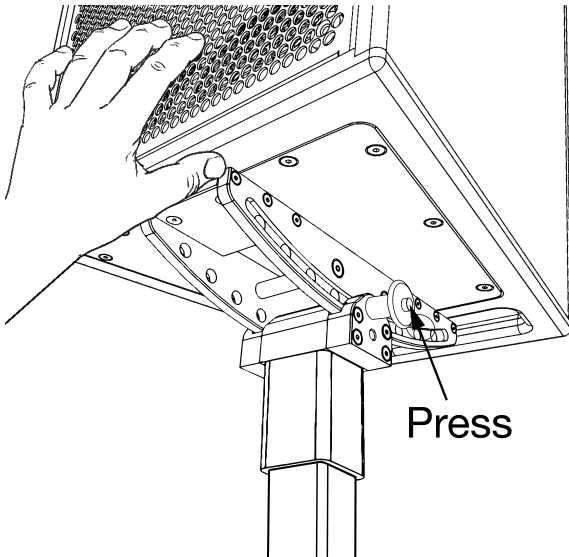
While it is convenient to fix the tilt angle before mounting the CT28 atop an Active Speaker Tube or before flying the enclosure from a truss or spigot mount, if necessary the angle can be adjusted even once the enclosure is mounted.

WARNING



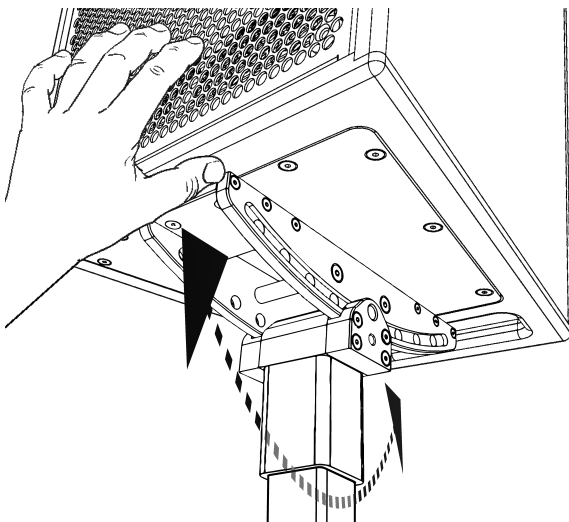
Risk of Hand Injury
When adjusting the tilt angle of a CT28, do not allow your fingers to enter any of the holes.

Figure 29. Removing the ball-lock pin to free the tilt mechanism of the Contour Rigging System on an Active Speaker Tube.



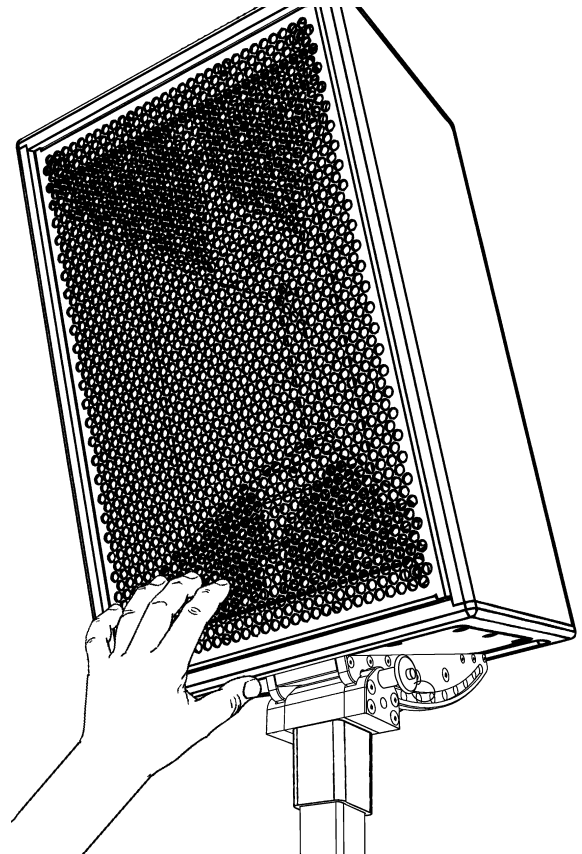
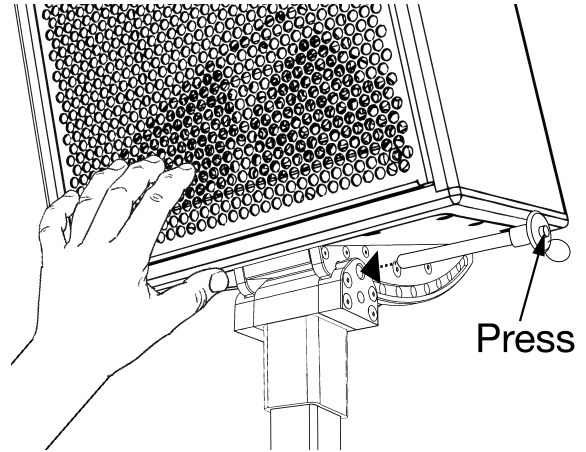
- While firmly holding the CT28 unit, release and remove the ball-lock pin from the mounting block.
- Maintaining at all times the CT28, simply adjust the tilt of the enclosure to align the set of holes in the Contour Rigging System that [Figure 22: The tilt-locking holes and their corresponding angles in the pole-mount configuration.](#) (on page 10)

Figure 30. Adjusting the tilt angle of the Contour Rigging System mounted on a Speaker Tube.



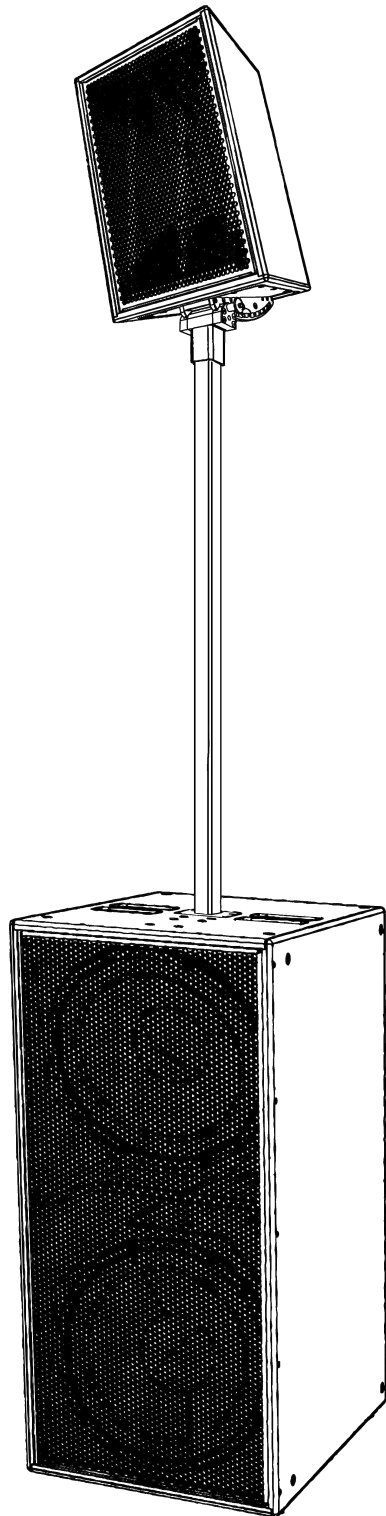
- Re-insert the ball-lock pin into the mounting block, pushing it completely through all four aligned holes until the ball-lock emerges from the far side. When it emerges, allow the lock to engage and assure that the pin cannot be removed without again pressing the release.

Figure 31. Inserting the ball-lock pin to set the tilt of a CT28 while mounted on a Speaker Tube (-20° tilt shown).



- Before releasing the enclosure and allowing the assembly to stand on its own, physically assure the stability of the installation and that it will not tip with mild force applied in any direction at the highest point of the assembly.

Chapter 4. Deploying CT28 atop SUB215



⚠ WARNING



Tipping Hazard

Speaker enclosures stacked atop one another, even when properly coupled, represent a tipping hazard. Exercise extreme care when assembling speaker arrays, as a stack of them toppling or collapsing creates a risk of serious injury or death, as well as likely damage to the enclosures themselves and nearby equipment.



Notice: This product must be installed in compliance with all applicable local, state and national regulatory provisions. The responsibility rests with the installer to verify that the installation is carried out in accordance with any applicable legislation.



Important: The installer must assess the appropriate stability and sturdiness of the deployment surface.



Restriction: Only hardware and accessories included with the product or specified by 1 Sound should be used for its installation.



Restriction: Do not modify or alter the loudspeaker or any accessory. Any modification by the user or installer could render the product or the installation unsafe.



Restriction: Do not install a loudspeaker or any accessory near any open flame or heat source.

Products, accessories and tools required

To deploy a Contour CT28 enclosure on an Active Speaker Tube with Base you will need the following:

- A [CT28 \(on page 3\)](#) loudspeaker enclosure
- The [Contour CT28 Rigging System \(on page 4\)](#)
- The [95 cm Active Speaker Tube \(on page 5\)](#) or the [40 cm Passive Speaker Tube \(on page 4\)](#)
- A [SUB215 \(on page 3\)](#) subwoofer enclosure
- The [Tube Mount \(on page 4\)](#) adapter kit
- A 3 mm hex driver or Allen wrench
- A 4 mm hex driver or Allen wrench
- A 5 mm hex driver or Allen wrench
- A ¾" (19 mm) socket driver with at least an 80 mm shaft
- Thread-locking compound

Procedures

Removing the Suspension Yoke from the Contour Rigging System

Before the Contour CT28 Rigging System can be equipped with the Tube Mount adaptor, the suspension yoke must be removed.



Note: The Yoke can be installed on or removed from the Contour Rigging System while either before or after the Rigging System is installed on the CT28.

Critical information

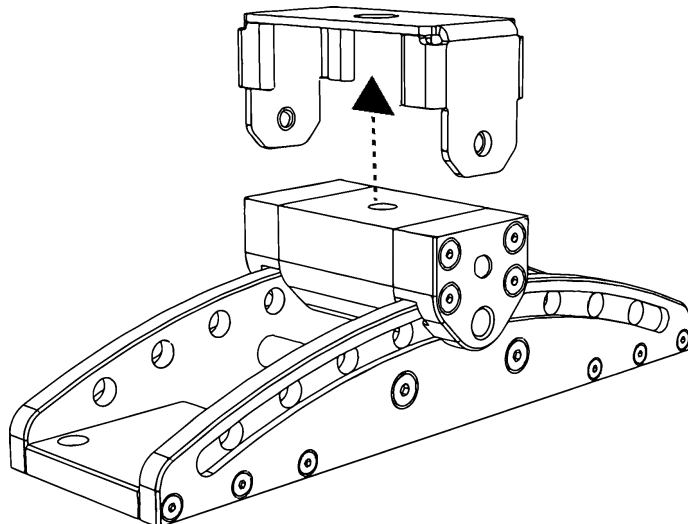
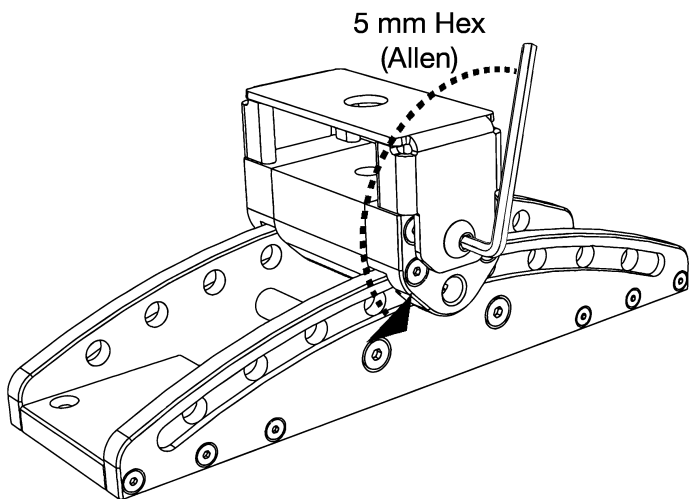


Attention: This equipment is intended for installation by qualified professionals.



Notice: Please read these instructions carefully and completely before attempting deployment of speaker enclosures on floor stands.

Figure 32. Removing the M8 x 20 mm bolts to remove the suspension yoke.



- Once these two bolts have been removed, the yoke can simply be lifted off of the Contour Rigging System.

Installing the Contour Rigging System on the CT28 bottom

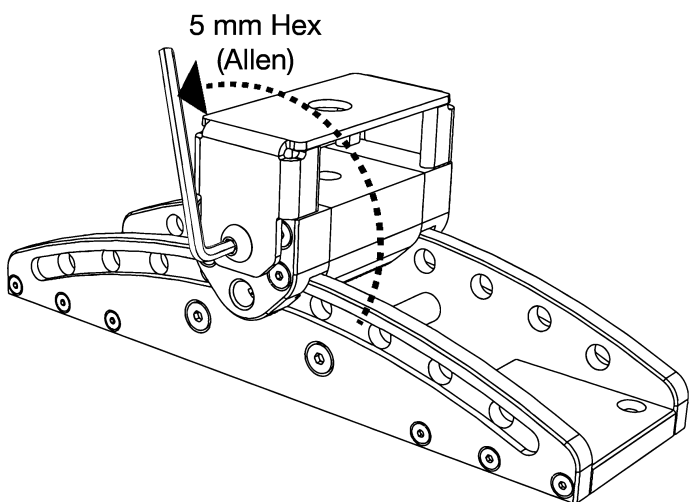
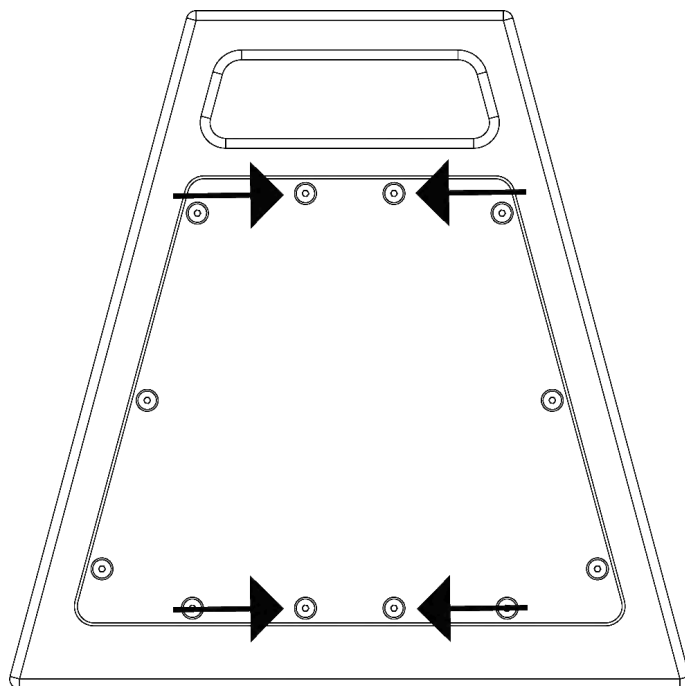
In order to mount the CT28 unit on a subwoofer or pole mount and to allow for variable tilt angles of the enclosure in sub/satellite configurations using the Tube mount and Active Speaker Tube, the speaker enclosure needs to be equipped with the Contour Rigging System.

If the CT28 unit is not pre-equipped with the Contour Rigging System, this can be mounted by the user.

! Attention: For the installation of the Contour Rigging System on the CT28 or CT212 enclosure, the use of medium-strength thread-locking compound is REQUIRED on all user-installed screws.

Figure 34. Threaded inserts for the Contour Rigging System on the bottom of CT28.

**CT28 BOTTOM
(AUDIO CONNECTOR END)**



- Use a 5 mm hex wrench to loosen the two M8 x 20 mm button-head bolts on either side of the suspension yoke.

Figure 33. Removing the suspension yoke.

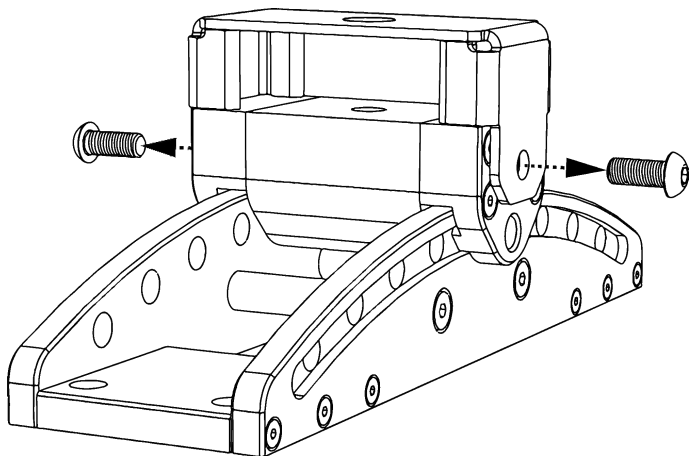
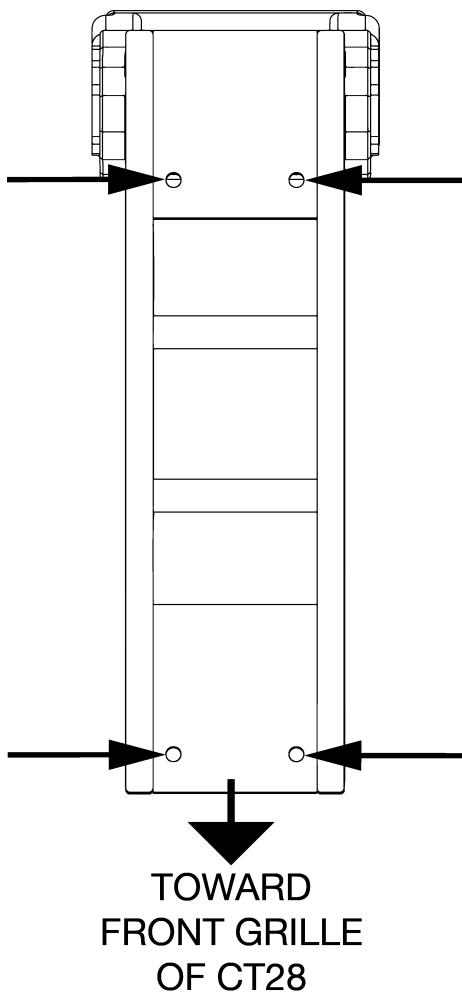
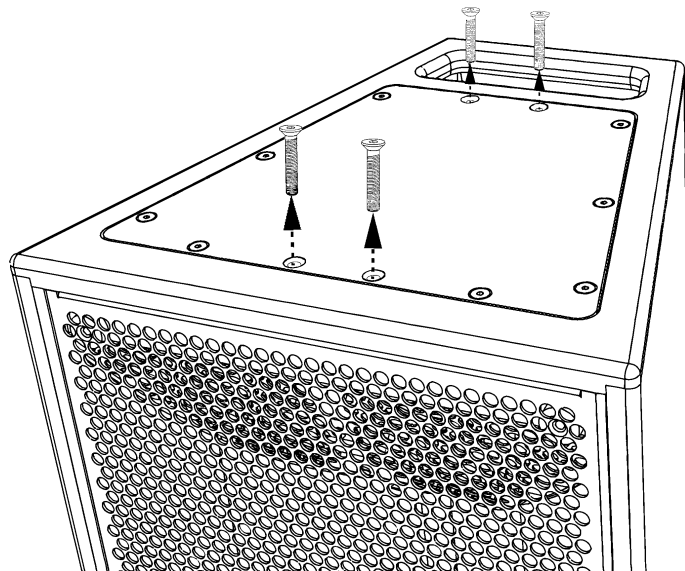
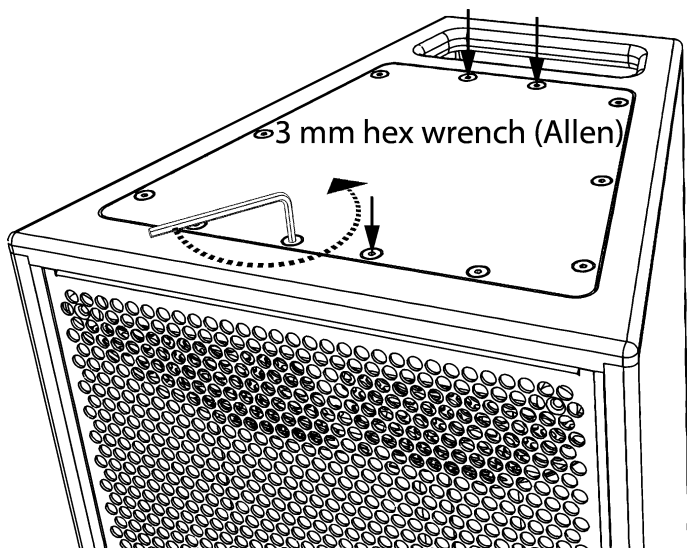


Figure 35. The corresponding mounting holes on the Contour CT28 Rigging System (bottom view).



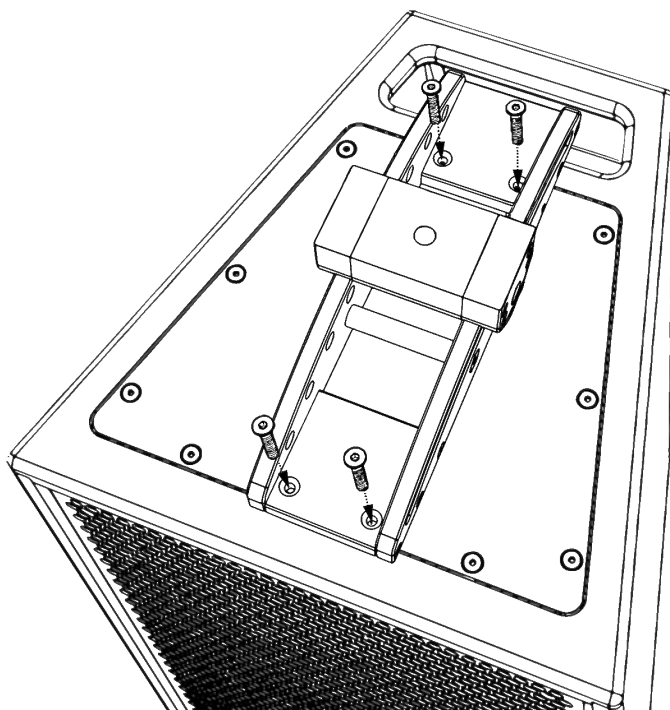
- Invert the CT28 enclosure, with the bottom (audio connector) side up.

Figure 36. Removing the M5 screws from the Contour Rigging System mounting points.



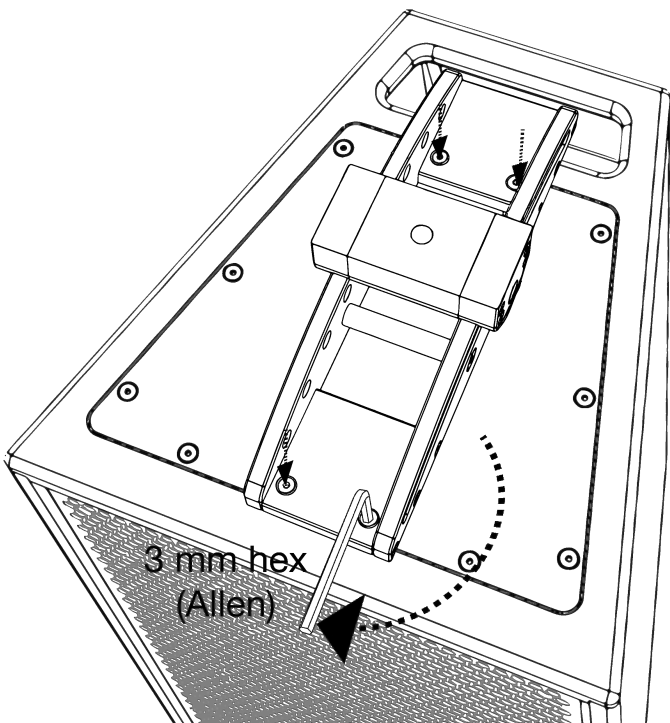
- Use a 3 mm Allen wrench or hex driver to remove the four M5x25 mm screws from the rigging points indicated above on the bottom side of the cabinet. Put these screws aside, as they will be needed to install the Rigging System.
- Position the CT28 Contour Rigging system as shown on the bottom surface of the CT28, aligning the four countersunk holes in the base plates of the Rigging System with the threaded inserts in the rigging points from which the screws were removed.

Figure 37. Inserting the four M5x25 mm screws.



- Insert the four M5x25 mm screws into the four holes in the Rigging System, and thread them into the underlying threaded inserts on the CT28.

Figure 38. Installing the Contour Rigging System on CT28

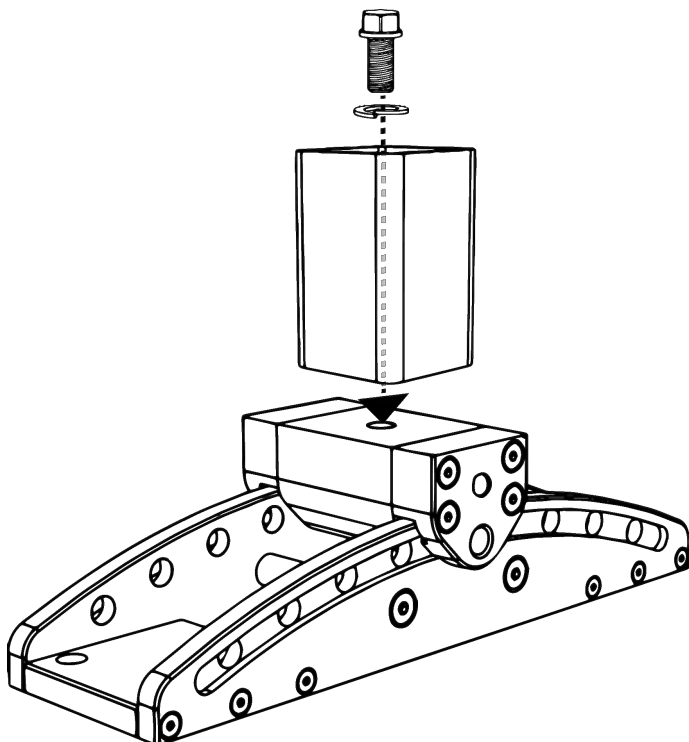


- Using a 3 mm hex key (Allen type) with a length that allows for sufficient leverage, tighten the screws into the inserts in opposing pairs to firmly attach the Rigging System to the CT28. The bottom surface of the Rigging System should be perfectly flush with the cabinet at every point and there should be no movement possible.

Installing the Tube Mount on the Contour Rigging System

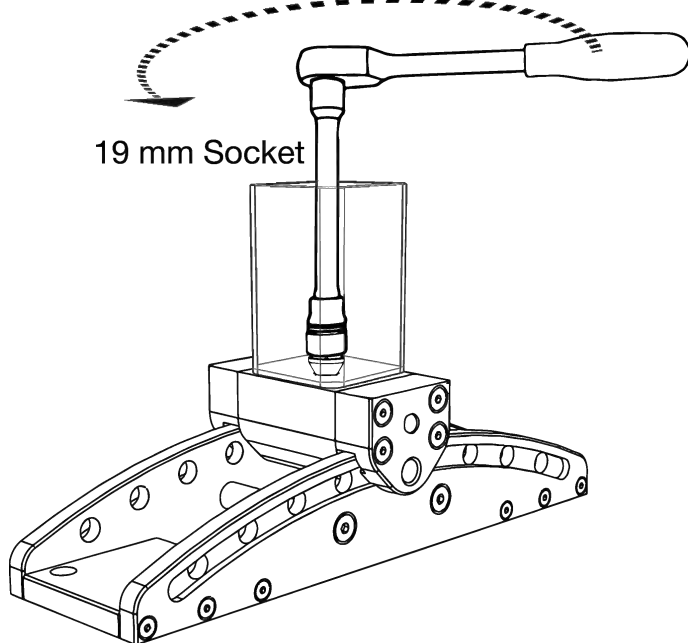
Once the suspension yoke has been removed, the Contour CT28 Rigging System can be coupled to the Tube Mount adaptor. This procedure can be carried out either before or after the Rigging System has been installed on the CT28.

Figure 39. Inserting the bolt.



- Place the Tube Mount with the drilled-plate end onto the sliding block of the Contour Rigging System, aligning the hole in the Tube Mount with the threaded 1/2" hole in the sliding block.
- Pass the 1/2" bolt through the split locking washer and thread the bolt (both included with the Tube Mount) into the tapped hole in the sliding block, through the hole in the Tube Mount.

Figure 40. Tightening the lug bolt.



- Use a 3/4" (19 mm) socket wrench with a socket extension at least 8 cm long to firmly tighten the lug bolt into the sliding block.

Fixing Tilt Angle of the Contour Rigging System

The Contour Rigging System allows for a variable tilt angle from +20° to -20° in 5° increments. It is convenient to fix the tilt angle before mounting the CT28 atop an Active Speaker Tube, though the angle can be subsequently adjusted if necessary.

Figure 41. The tilt-locking holes and their corresponding angles in the pole-mount configuration.

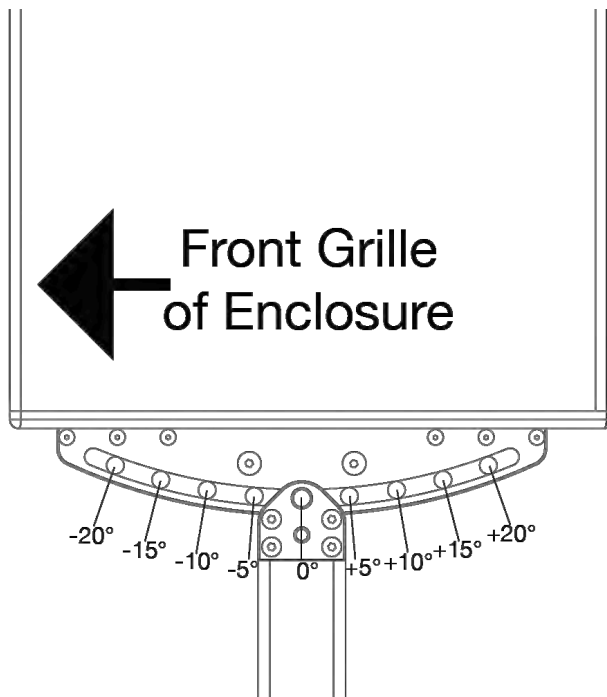


Figure 42. Sliding the mounting block to fix the tilt angle.

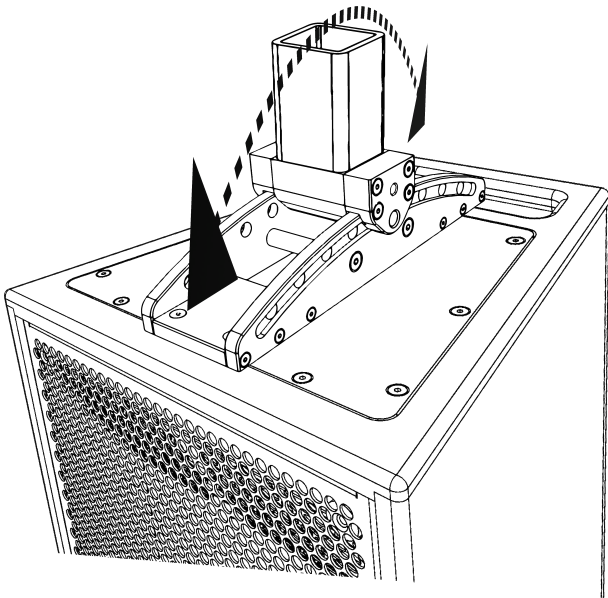
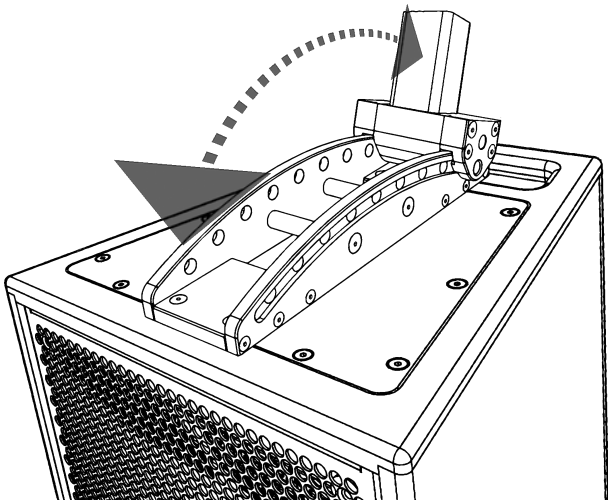
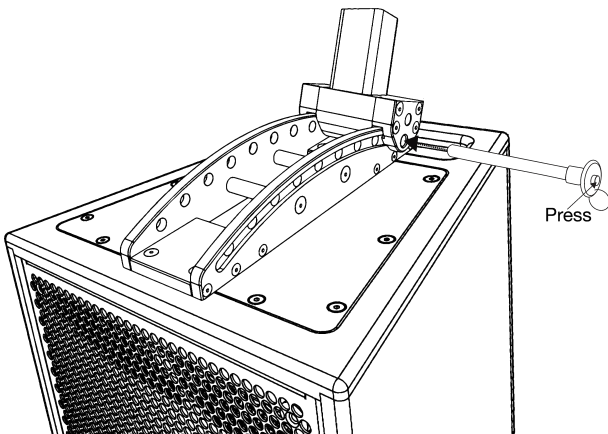


Figure 43. Sliding the tilt mechanism to align the required tilt angle (+20° upward tilt in the pole-mount configuration shown).



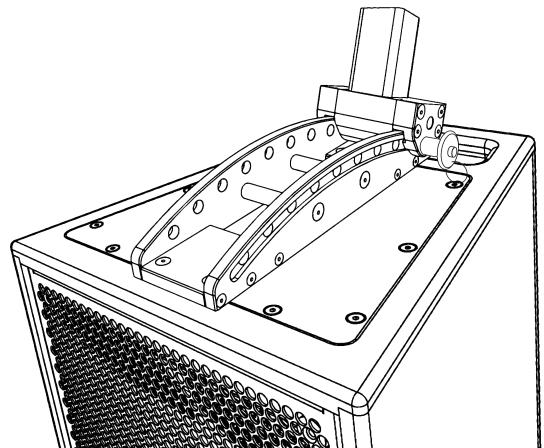
- With the M10x100 ball-lock pin removed, slide the mounting block of the tilt mechanism to align the holes in the block with the holes in the arched plates corresponding to the required tilt angle (see diagrams above).

Figure 44. Inserting the ball-lock pin to fix the tilt angle (+20° tilt in the pole-mount configuration shown).



- When the required holes are perfectly aligned, take the other M10x100 ball-lock pin supplied with the Contour Rigging System and press the lock-release button on the rear of the pin to allow it to pass into the hole. Insert it into the holes, pushing it completely through the aligned holes until the ball-lock emerges from the far side.

Figure 45. A +20° tilt angle fixed for the pole-mount configuration.

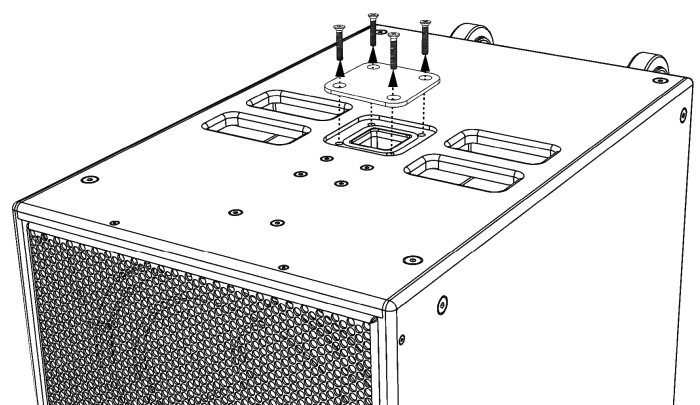
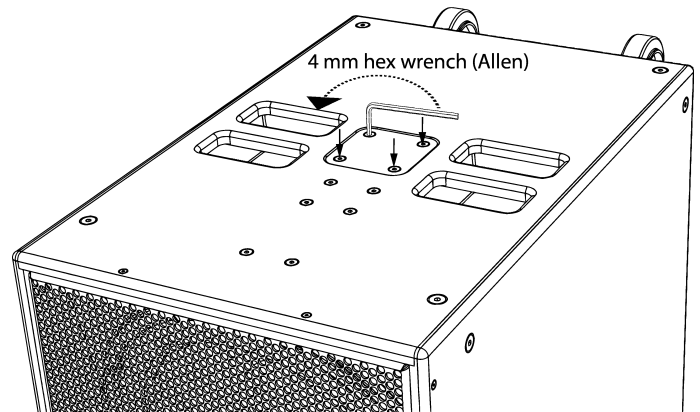


- When it emerges, release the button to allow the lock to engage and assure that the pin cannot be removed without again pressing the release. The enclosure is now ready to mount on an Active Speaker Tube.

Installing the Sub Pole Cup on SUB215

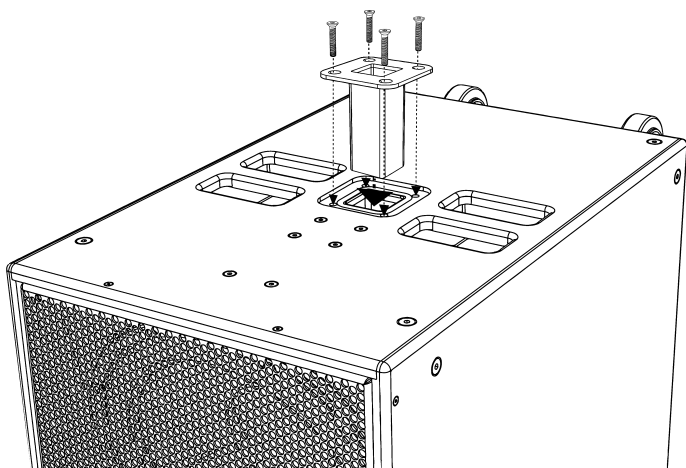
In order to deploy a CT28 unit in a sub/satellite configuration atop a SUB215 subwoofer unit, the subwoofer must first be equipped with a Sub Pole Cup.

Figure 46. Removing SUB215 cover plate.



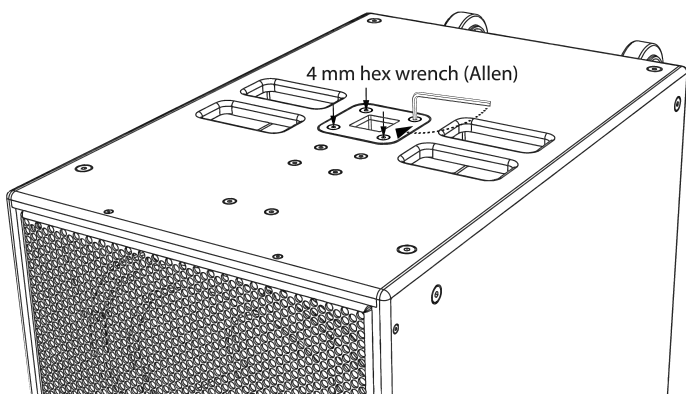
- Using a 4 mm hex wrench, remove the four screws retaining the pole cup cover on the top side of the SUB215 cabinet, and remove the cover plate.

Figure 47. Inserting the Sub Pole Cup into SUB215.



- Insert the Sub Pole Cup flange into the recess in the cabinet and seat it firmly.
- Re-insert the screws that retained the plate into the four countersunk holes in the Sub Pole Cup, and thread them into the inserts below the cup.

Figure 48. Fixing the Sub Pole Cup to SUB215.



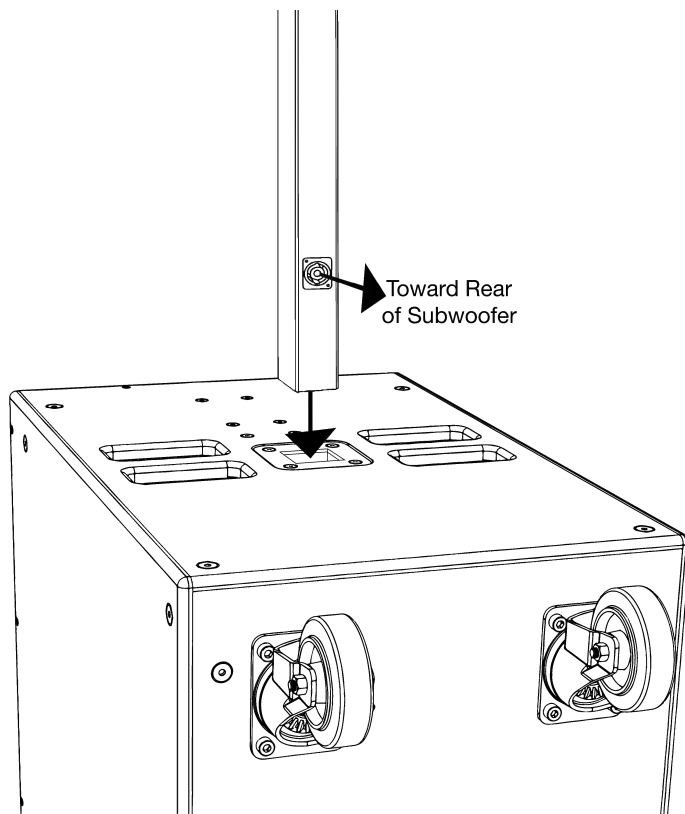
- Again, using the 4 mm hex wrench, tighten the four screws firmly.

Installing Active Speaker Tube to SUB215

In order to deploy an CT28 unit in a sub/satellite configuration atop a SUB215 unit with the Sub Pole Cup installed, it is only necessary to insert the Active Speaker Tube into Pole Cup with the SpeakOn connectors facing the rear of the subwoofer cabinet and assure that it is firmly seated in the Pole Cup. For special applications, in order to meet the requirements of the audience's listening height, the 40 cm Speaker Tube can be used in the place of the 95 cm model in this configuration.

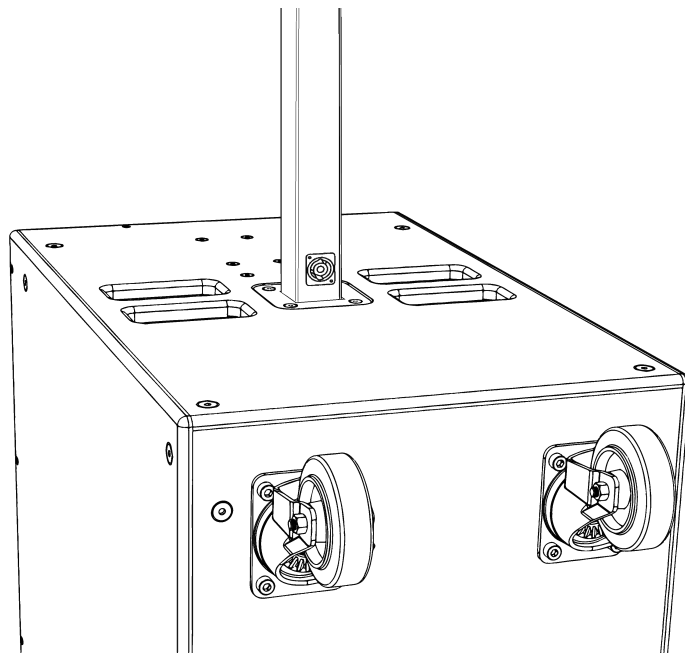
⚠ WARNING	
	<p>TIPPING HAZARD DO NOT USE THE 145 cm ACTIVE SPEAKER TUBE TO MOUNT A CT28 UNIT ATOP THE SUB215 SUBWOOFER TO REDUCE THE RISK OF INJURY OR DAMAGE THAT COULD RESULT FROM POSSIBLE TOPPLING OF LOUDSPEAKER ENCLOSURES, ONLY THE 95 cm ACTIVE SPEAKER TUBE OR 40 cm SPEAKER TUBE TO MOUNT ENCLOSURES IN SUB/SATELLITE CONFIGURATIONS ATOP THE SUB215 SUBWOOFER.</p>

Figure 49. Installing the 95 cm Active Speaker Tube on the SUB215.



- Align the 95 cm Active Speaker Tube with the Sub Pole Cup installed in the subwoofer, with the SpeakOn connectors oriented toward the rear of the subwoofer cabinet (where the connectors are located).

Figure 50. Active Speaker Tube installed in SUB215.



- Lower the Active Speaker Tube to slide into the Sub Pole Cup, making sure that it does not catch or bind as it enters. It should stop firmly when the Tube arrives at the threaded M20 insert at the bottom of the Pole Cup. The bottom SpeakOn connector of the Speaker Tube should come to a stop at 1 cm above the top of the Sub Pole Cup.

Mounting CT28 on Active Speaker Tube

Once the Contour CT28 Rigging System has been correctly assembled with the Tube Mount, coupled with a CT28 and the tilt angle has

THE CONTOUR CT28 RIGGING SYSTEM

been fixed, the enclosure can then be very simply mounted on an Active Speaker Tube, either atop a SUB215 subwoofer in a sub/satellite configuration, or independently atop an Active Speaker Tube with base.

⚠ WARNING



Tipping Hazard
Improper assembly of the Active Speaker Tube with Base or improper installation of the Active Speaker Tube or Sub Pole Cup on the SUB215 subwoofer enclosure, or of the Tube Mount, Contour Rigging System and CT28 enclosure could create a hazardous or unstable condition.
Follow all specific instructions for the assembly of each of these products and verify their stable and level condition before attempting to mount a speaker enclosure atop the Subwoofer or the Active Speaker Tube and Base. **DO NOT ATTEMPT TO MOVE OR REPOSITION A SUB/SATELLITE ASSEMBLY OR A FREE-STANDING SPEAKER STAND WITH AN ENCLOSURE MOUNTED ATOP IT.**

⚠ WARNING



TIPPING HAZARD
DO NOT USE THE 145 cm ACTIVE SPEAKER TUBE TO MOUNT A CT28 UNIT ATOP THE SUB215 SUBWOOFER
TO REDUCE THE RISK OF INJURY OR DAMAGE THAT COULD RESULT FROM POSSIBLE TOPPLING OF LOUDSPEAKER ENCLOSURES, ONLY THE 95 cm ACTIVE SPEAKER TUBE OR THE 40 cm SPEAKER TUBE TO MOUNT ENCLOSURES IN SUB/SATELLITE CONFIGURATIONS ATOP THE SUB215 SUBWOOFER.

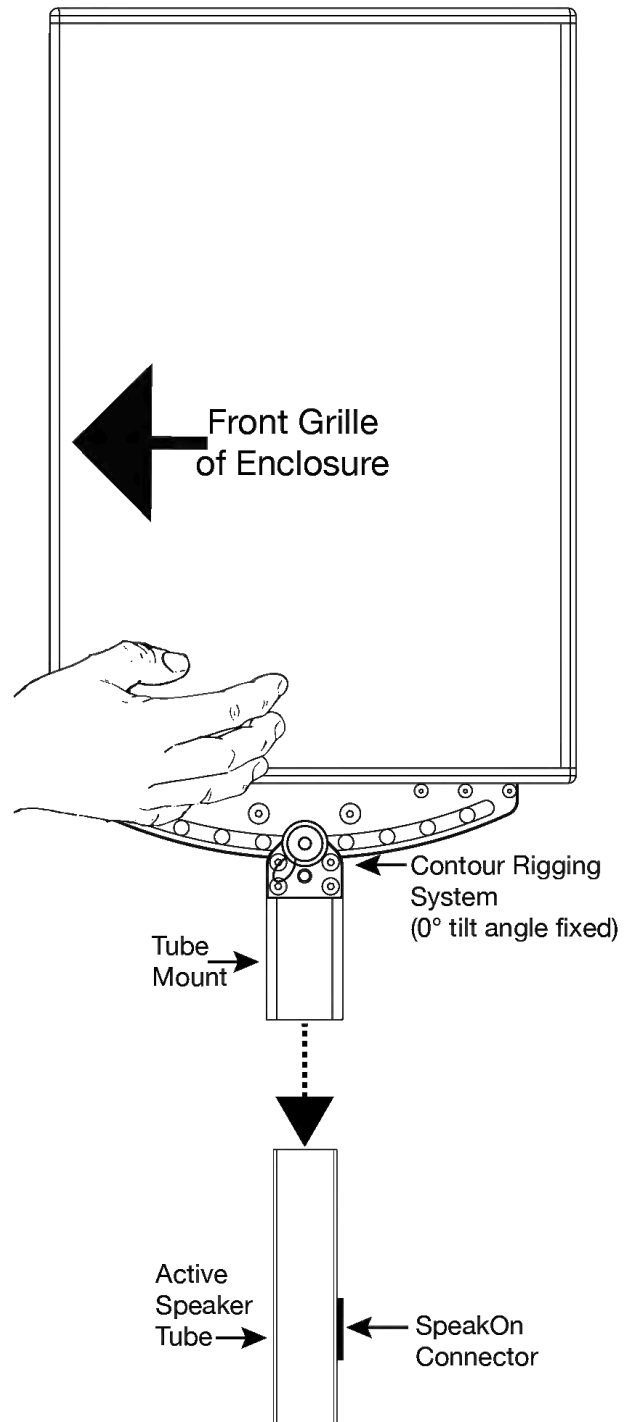
⚠ CAUTION



Two People Required
The following task simultaneously requires moderate two-handed lifting and the performance of fine motor operations. To avoid possible injury or damage, this procedure must be performed by two people

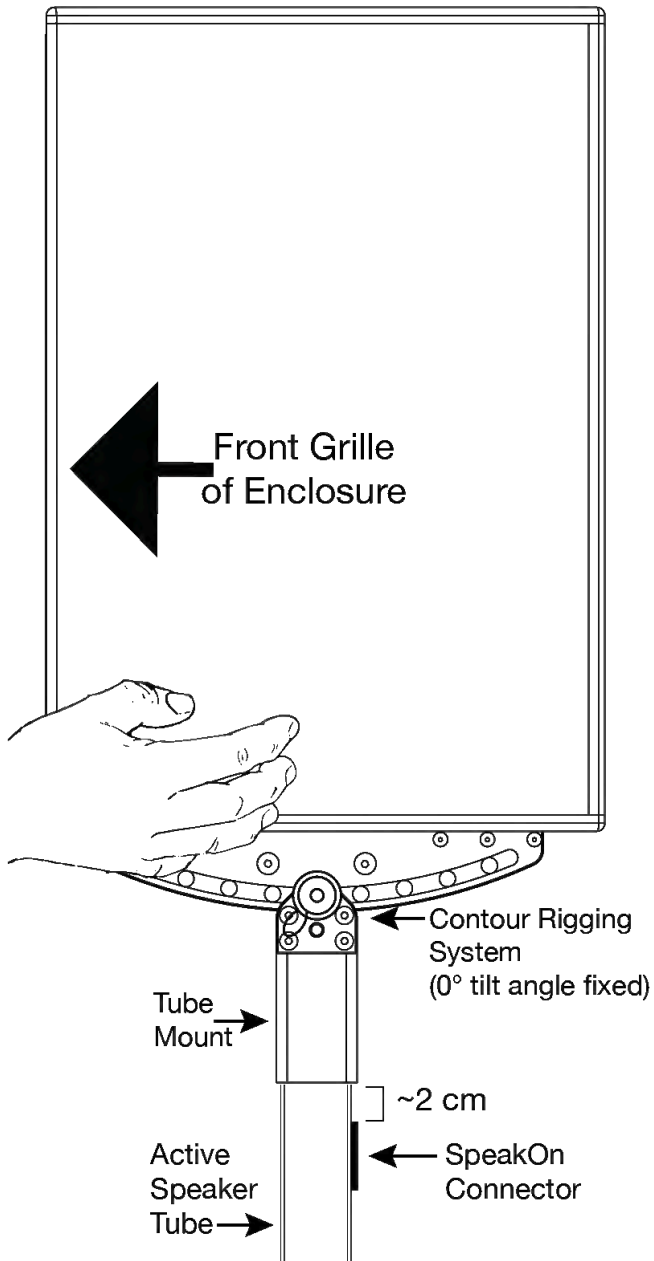
- Make sure that the 95 cm Active Speaker Tube or 40 cm Speaker Tube is properly installed in the SUB215 or that the free-standing 175 cm Active Speaker Tube and Base is safely positioned. Then simply lift the CT28 with the Contour Rigging System and Tube Mount above the Speaker Tube and align it in the desired direction. Though not obligatory, this will generally be with the rear of the CT28 towards the rear of the subwoofer, where the connectors are located.

Figure 51. Mounting a CT28 unit equipped with the Contour Rigging System and Tube Mount to an Active Speaker Tube.



- Lower the CT28 enclosure and allow the Active Speaker Tube to slide into the Tube Mount, making sure that it does not catch or bind as it enters. It should stop firmly when the Tube arrives at the top of the Mount, with the bottom of the Tube Mount coming to 2 cm above the top SpeakOn connector.

Figure 52. CT28 with Rigging System and Tube Mount installed on Active Speaker Tube.



- Physically assure the stability of the installation and that it will not tip with mild force applied in any direction at the highest point of the assembly.

Adjusting tilt

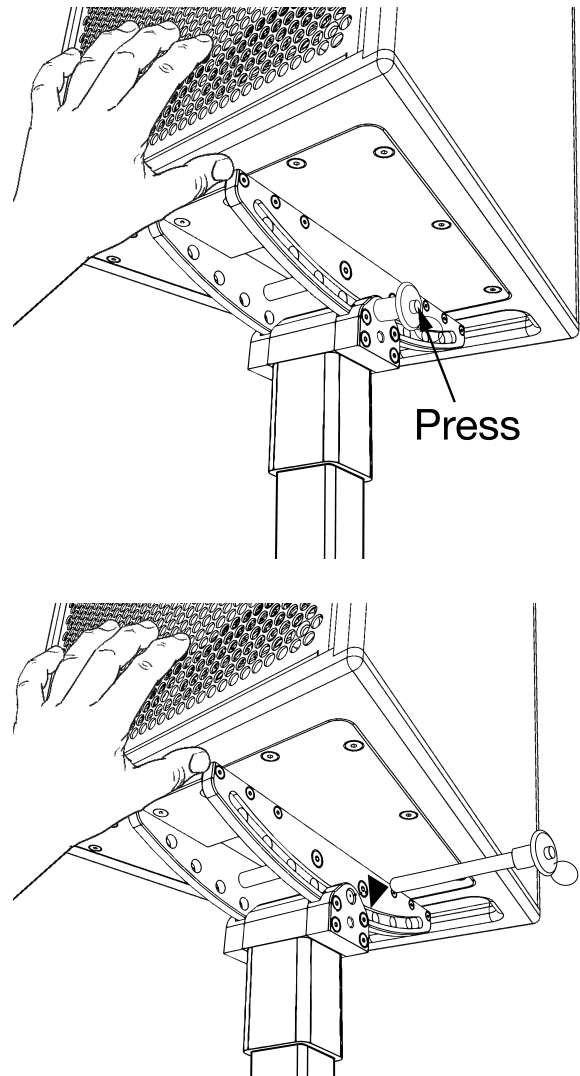
While it is convenient to fix the tilt angle before mounting the CT28 atop an Active Speaker Tube or before flying the enclosure from a truss or spigot mount, if necessary the angle can be adjusted even once the enclosure is mounted.

⚠ WARNING



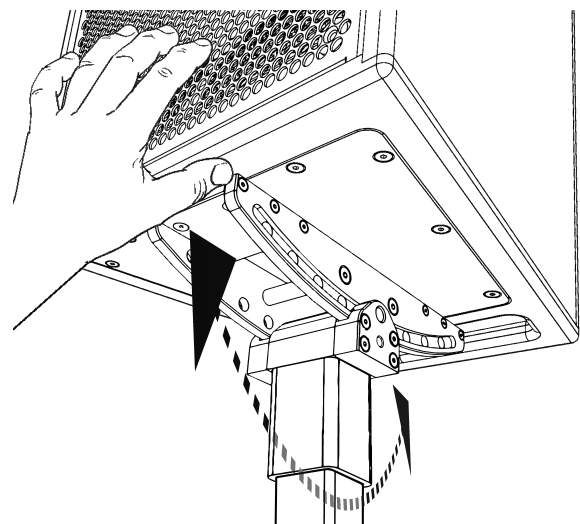
Risk of Hand Injury
When adjusting the tilt angle of a CT28, do not allow your fingers to enter any of the holes.

Figure 53. Removing the ball-lock pin to free the tilt mechanism of the Contour Rigging System on an Active Speaker Tube.



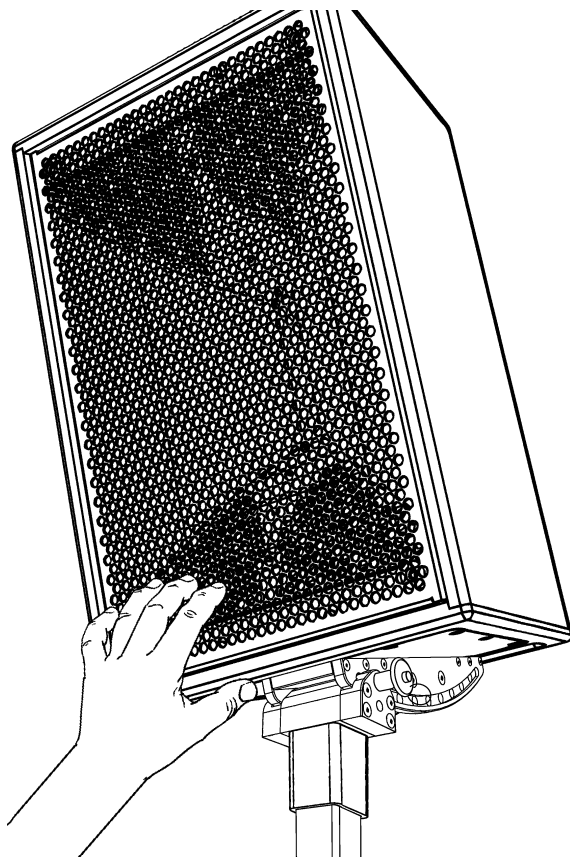
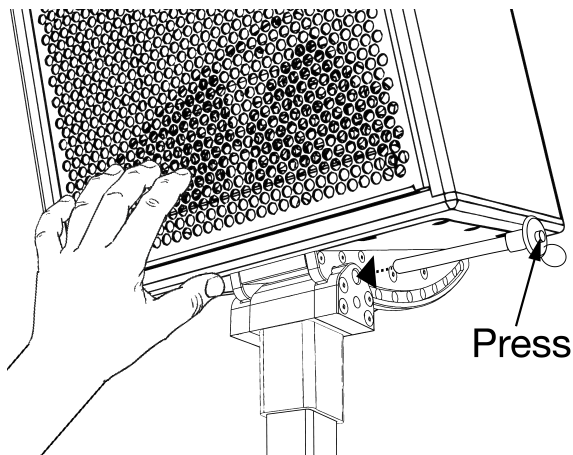
- While firmly holding the CT28 unit, release and remove the ball-lock pin from the mounting block.
- Maintaining at all times the CT28, simply adjust the tilt of the enclosure to align the set of holes in the Contour Rigging System that [Figure 22: The tilt-locking holes and their corresponding angles in the pole-mount configuration. \(on page 10\)](#)

Figure 54. Adjusting the tilt angle of the Contour Rigging System mounted on a Speaker Tube.



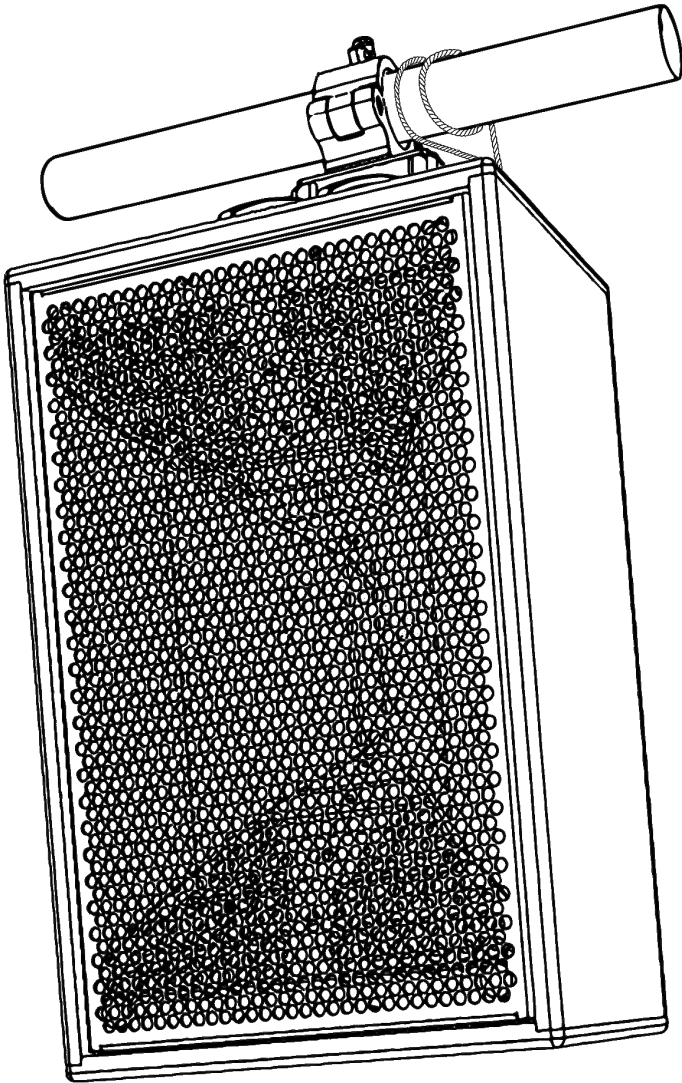
- Re-insert the ball-lock pin into the mounting block, pushing it completely through all four aligned holes until the ball-lock emerges from the far side. When it emerges, allow the lock to engage and assure that the pin cannot be removed without again pressing the release.

Figure 55. Inserting the ball-lock pin to set the tilt of a CT28 while mounted on a Speaker Tube (-20° tilt shown).



- Before releasing the enclosure and allowing the assembly to stand on its own, physically assure the stability of the installation and that it will not tip with mild force applied in any direction at the highest point of the assembly.

Chapter 5. Flying CT28 from a truss or batten



Critical information

Notice:

This product must be installed in compliance with all applicable local, state and national regulatory provisions. The responsibility rests with the installer to verify that the installation is carried out in accordance with any applicable legislation.

Important:

Read these instructions in their entirety before deploying, operating or servicing the system. Conserve this manual for future reference.


CAUTION



Flown deployment of this system should only be carried out by professionals who, where required, are appropriately certified according to local or national norms and have received specific training relative to this system. All local and national norms, regulations and guidelines must be followed during the installation and removal procedures and for the entire duration of an installation of this system, including the use of proper protective clothing and gear.

Notice:

Use only original 1 Sound components and rigging accessories.

 **Notice:** 1 Sound cannot be held responsible for any rigging equipment and accessories that are not manufactured or directly provided by 1 Sound. It is the responsibility of the installer to verify that the rated and certified Working Load Limit (including required Factor of Safety) of all additional rigging equipment is greater than the total weight of the entire system including cables and accessories. This includes all hoists, winches, lifters, elevators, towers, ground-supports, trussing, chains, safety cables, clamps, webbing and any other component used in a flown deployment of this system.

Attention:

It is the responsibility of the installer to verify that the Working Load Limit (WLL) of the suspension points is greater than the total weight of the entire system including cables and accessories.

Important:

Inspect the system before any deployment. If a rigging accessory or any part of it is missing or not solidly secured, or if any part of the loudspeaker or accessory exhibits bending, cracks, deformation, wear or corrosion, do not use the product before performing corrective maintenance.

DANGER



Risk of Falling Objects
Ensure that it is impossible for any person to remain or pass beneath the loudspeaker system during the rigging and lifting process. The system should never be left unattended during the rigging process. 1 Sound recommends the use of safety slings at all times.

CAUTION



When the system is flown outdoors, it is essential to consider atmospheric conditions. Movement of the system due to wind can produce dynamic stress to the rigging components and suspension points. Tag lines should be used to keep an array from swinging in the wind. For any outdoor suspended deployment, an engineer should determine and certify the maximum wind speed the systems can operate in, and if the wind reaches that limit, the loudspeaker system should be lowered immediately to the ground.

Restriction:

Do not install a loudspeaker or any accessory near any open flame or heat source.

Products, accessories and tools required

To fly a Contour CT28 enclosure from a truss or batten, you will need the following:

- A [CT28 \(on page 3\)](#) loudspeaker enclosure
- The [Contour CT28 Rigging System \(on page 4\)](#)
- A 3 mm hex driver or Allen wrench
- A 4 mm hex driver or Allen wrench
- Thread-locking compound
- A medium- or heavy-duty Half Coupler or Truss Clamp with the appropriate diameter for the truss or batten to be used, as well as an attachment bolt or post (min. M12, max M16 – min. 1/2", max. 5/8") with locking hardware (lock washer, lock bolt etc.).
- Two M6 double-swivel or side-pull Hoist Rings
- The tools necessary for installing and properly torquing the aforementioned hoist rings (see manufacturer's instructions)
- A standard medium- or heavy-duty half coupler (cheeseborough clamp) matched to the diameter of the truss or batten
- The tools necessary (see manufacturer's instructions) for attaching the aforementioned clamp to the Contour Rigging System
- A two-leg safety bridle of min. ø3 mm steel wire rope

If the Contour Rigging System is already equipped with the Tube Mount, the following will also be necessary:

- A 5 mm hex driver or Allen wrench
- A 3/4" (19 mm) socket driver with at least an 80 mm shaft

Procedures

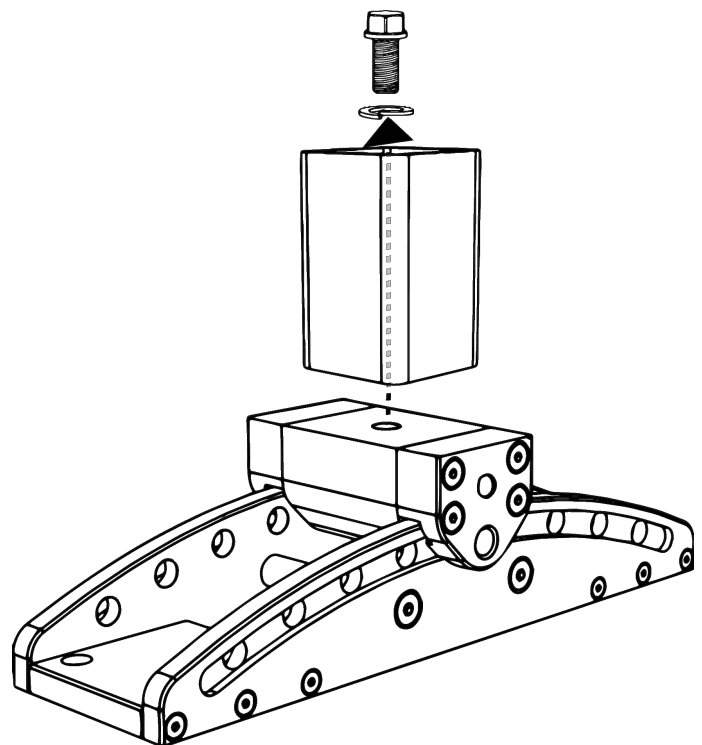
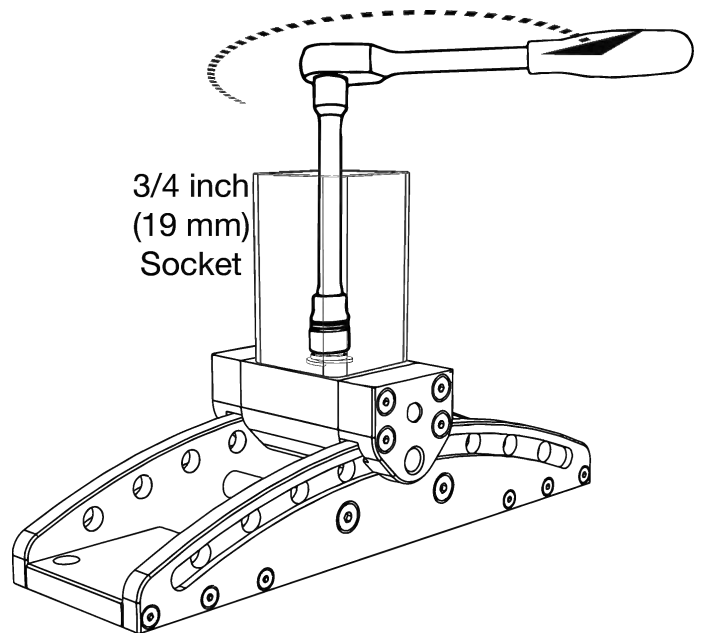
Installing the Suspension Yoke on the Contour Rigging System

The Contour Rigging System is supplied with the Suspension Yoke installed, but if the Rigging System has been previously used for a pole-mounted installation, it will be necessary to remove the Tube Mount and re-attach the Yoke. If the Yoke is already installed on the Rigging System, you can proceed to the [installation of the Rigging System on the CT28 \(on page 25\)](#).

Note: The Yoke can be installed or removed from the Contour Rigging System either before or after the Rigging System is installed on the CT28.

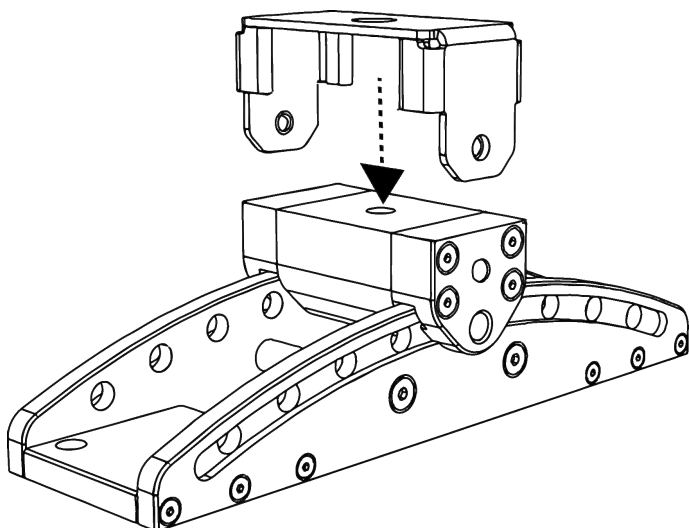
If the Tube Mount is installed on the Rigging System, first it will be necessary to remove it.

Figure 56. Removing the Tube Mount from the Contour Rigging system.



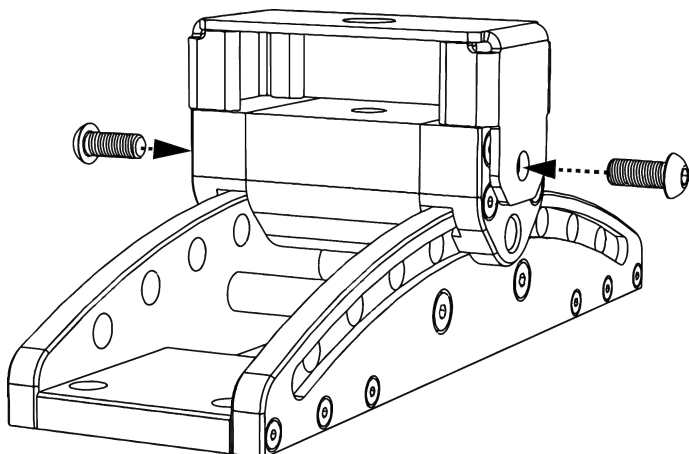
- If the Tube Mount is installed on the Rigging System, use a 3/4-inch (19 mm) socket wrench to remove the bolt and locking washer used to attach it.

Figure 57. Aligning the Yoke with the sliding block on the Contour Rigging System.



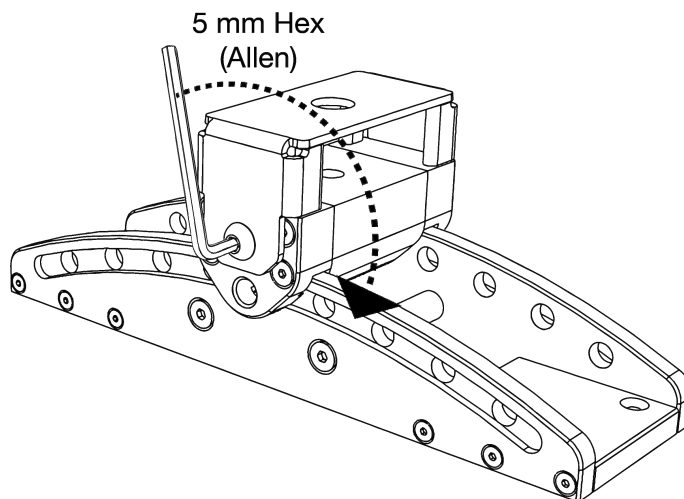
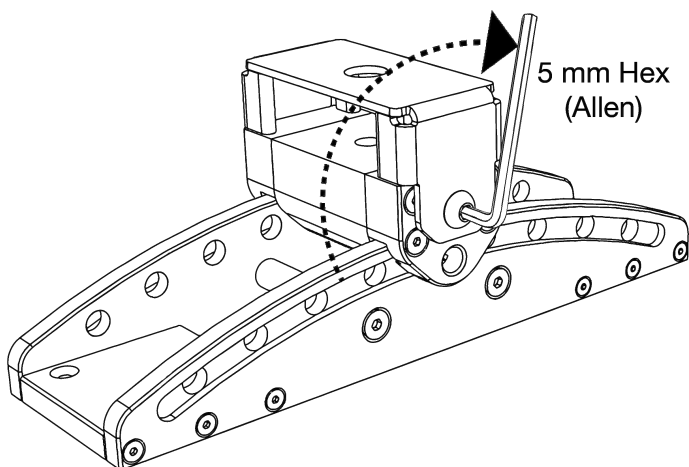
- Lower the yoke onto and around the sliding block of the Rigging System and align the two holes at the sides of the yoke with the two M8 threaded holes in the sliding block.

Figure 58. Threading the two M8x20 mm bolts into the sliding block through the suspension yoke.



- Insert the two M8x20 mm button-head bolts through the holes in the yoke and thread them into the holes in the sliding block.

Figure 59. Tightening the bolts to attach the suspension yoke to the Contour Rigging System.



- Use a 5 mm hex wrench to tighten the two bolts on either side of the suspension yoke.

Installing the Contour Rigging System on the CT28

In order to fly the CT28 unit from a truss or batten, the speaker enclosure needs to be equipped with the Contour Rigging System. If the CT28 unit is not pre-equipped with the Contour Rigging System, this can be mounted by the user.

Rigging points for the Contour rigging System are provided on both the "bottom" (audio connector end) and the "top" of the CT28. The vertical coverage of the CT28 is symmetrical and, therefore, acoustically it makes no difference which of these ends is positioned upwards. This allows the user choose on which end to install the Contour Rigging System depending on the convenience of the cable runs. For example, in pole-mounted applications, the Rigging System should always be installed on the audio connector end to allow a short cable patch to the Active Speaker Tube that supports it. Also in flown applications from trusses or battens, it will generally be the best choice again to install the Rigging System on the end with the audio connectors, as it is common practice to run the audio cables down from the truss or batten. However, certain circumstances could require shorter cable runs from beneath, in which case it could be preferable to fly the speaker with the input /link connectors on the bottom.

! Attention: For the installation of the Contour Rigging System on the CT28 or CT212 enclosure, the use of medium-strength thread-locking compound is REQUIRED on all user-installed screws.

Figure 60. Threaded inserts for the Contour Rigging System on the bottom and top of CT28.

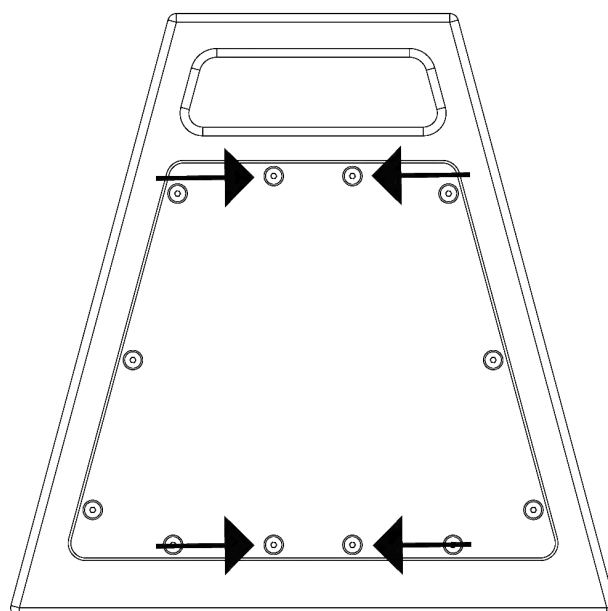
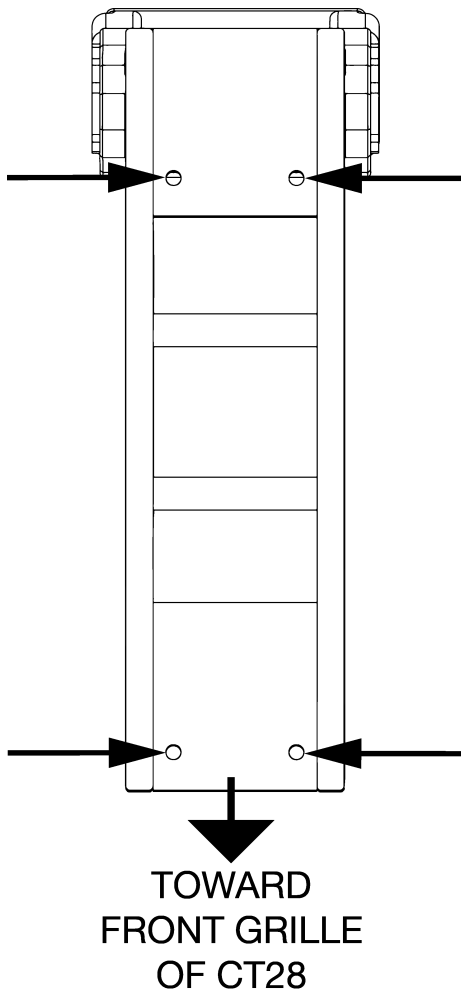
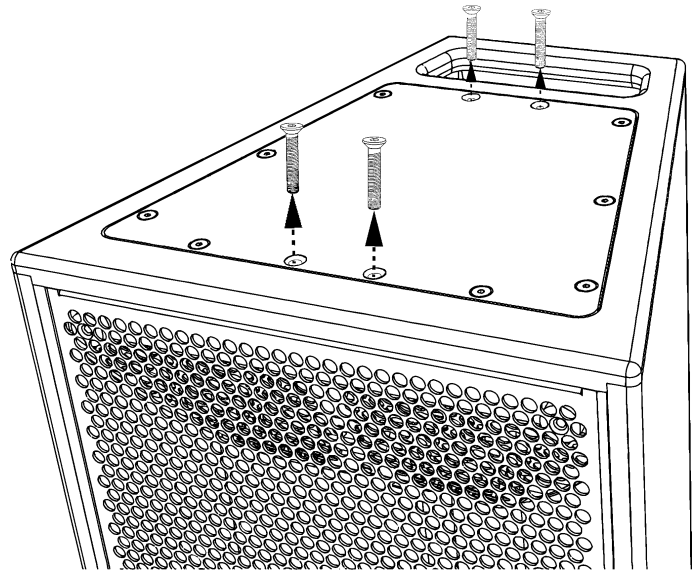
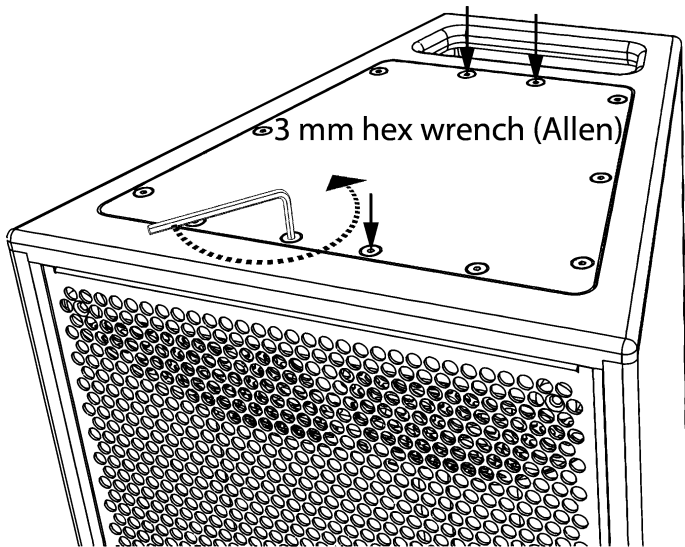


Figure 61. The corresponding mounting holes on the Contour CT28 Rigging System (bottom view).



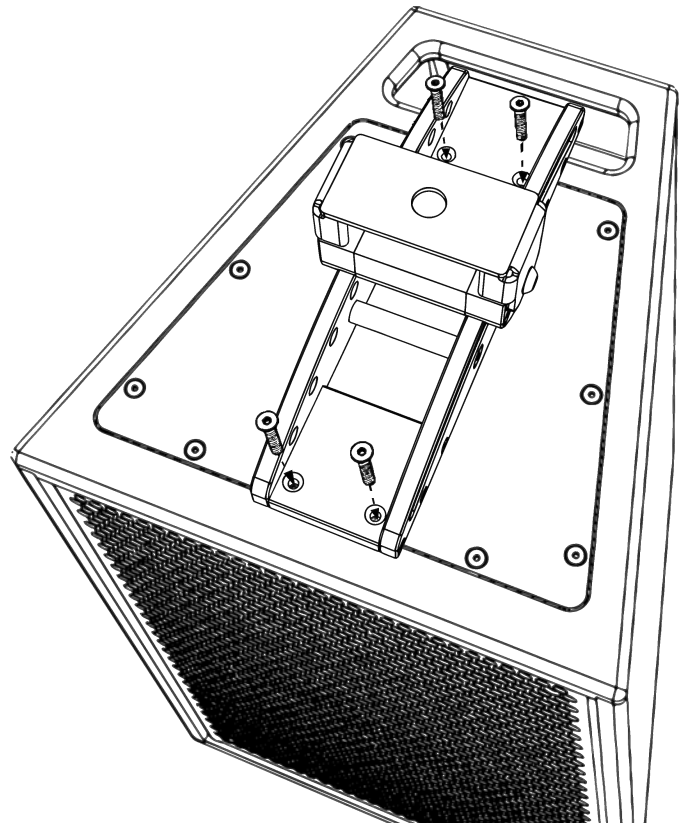
- Place the CT28 enclosure with the end up on which to install the Rigging System.

Figure 62. Removing the M5 screws from the Contour Rigging System mounting points.



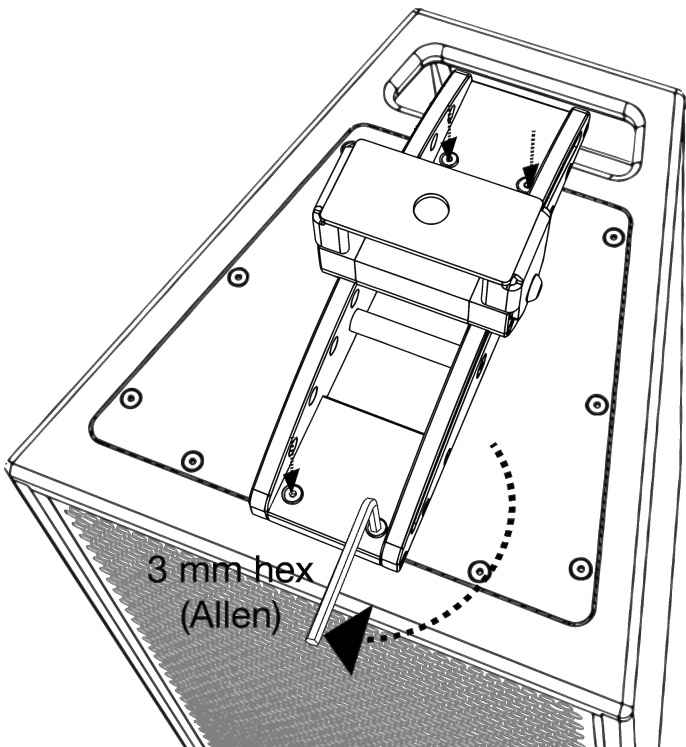
- Use a 3 mm Allen wrench or hex driver to remove the four M5x25 mm screws from the rigging points indicated above on the bottom side of the cabinet. Put these screws aside, as they will be needed to install the Rigging System.
- Position the CT28 Contour Rigging system as shown on the bottom surface of the CT28, aligning the four countersunk holes in the base plates of the Rigging System with the threaded inserts in the rigging points from which the screws were removed.

Figure 63. Inserting the four M5x25 mm screws.



- Insert the four M5x25 mm screws into the four holes in the Rigging System, and thread them into the underlying threaded inserts on the CT28.

Figure 64. Installing Contour Rigging System on CT28



- Using a 3 mm hex key (Allen type) with a length that allows for sufficient leverage, tighten the screws into the inserts in opposing pairs to firmly attach the Rigging System to the CT28. The bottom surface of the Rigging System should be perfectly flush with the cabinet at every point and there should be no movement possible.

Fixing the tilt angle before flying the CT28

The Contour Rigging System allows for a variable tilt angle from +20° to -20° in 5° increments. It is convenient to fix the tilt angle before mounting the CT28 atop an Active Speaker Tube or before flying the enclosure from a truss or batten, though the angle can be subsequently adjusted if necessary.

Figure 65. The tilt-locking holes and their corresponding angles in the suspended configuration.

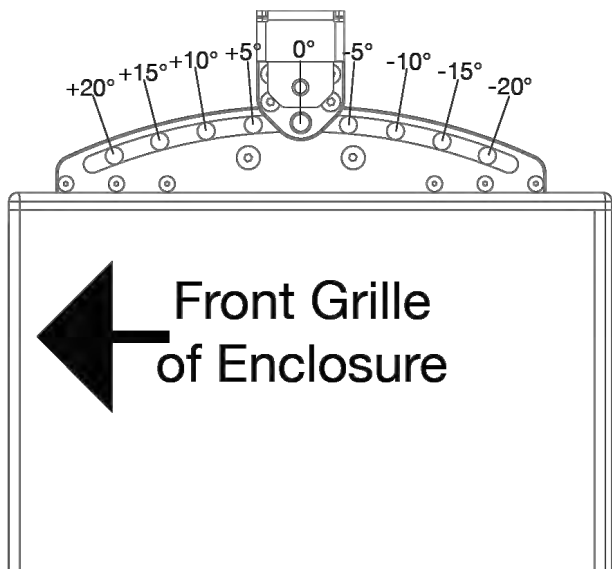


Figure 66. Sliding the mounting block to fix the tilt angle.

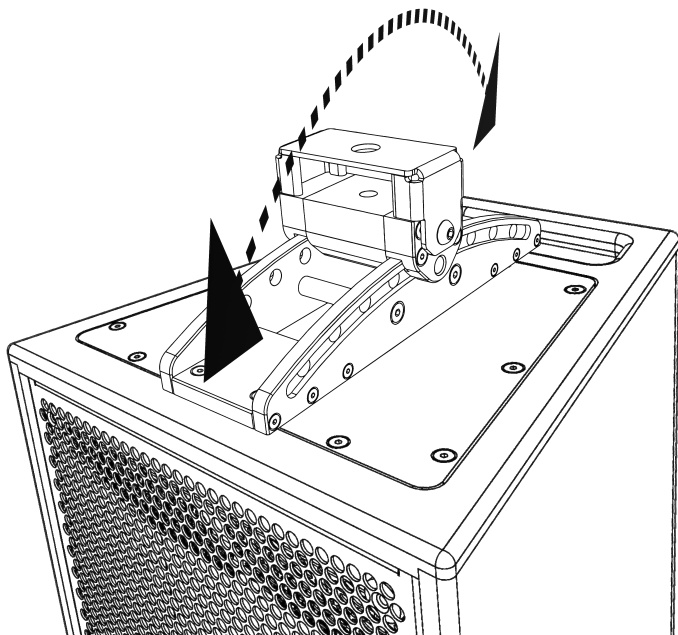
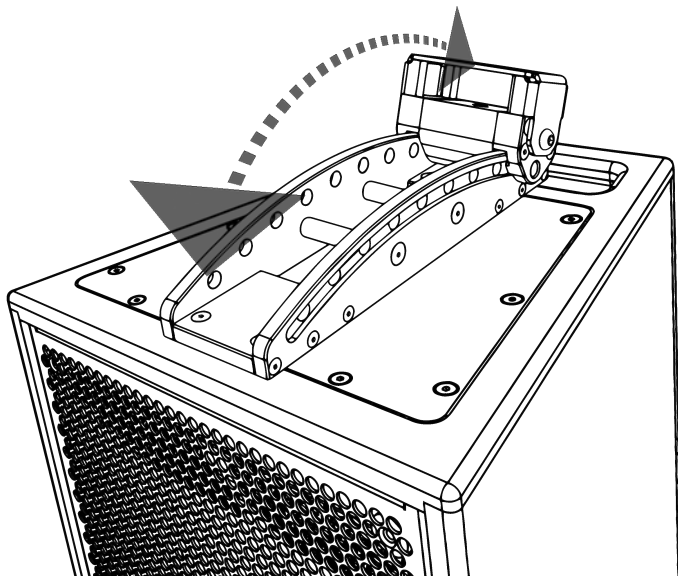
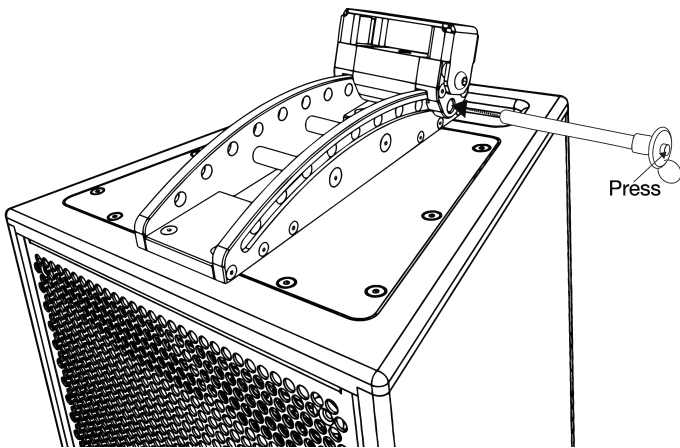


Figure 67. Sliding the tilt mechanism to align the required tilt angle (-20° downward tilt in the flown configuration shown).



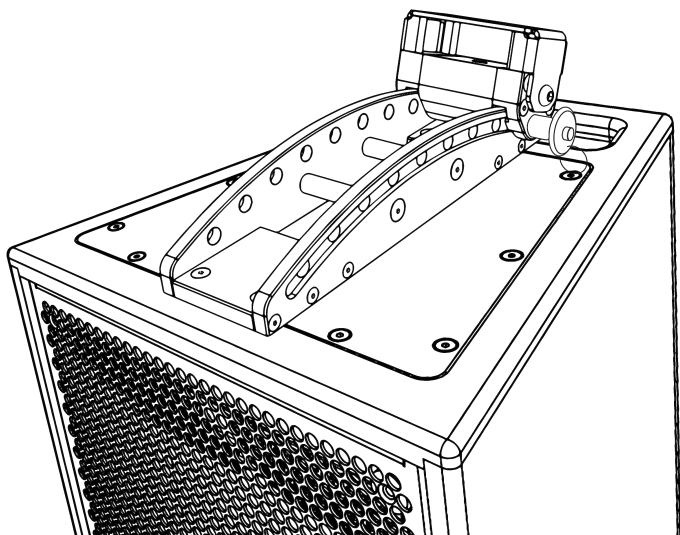
- With the M10x100 ball-lock pin removed, slide the mounting block of the tilt mechanism to align the holes in the block with the holes in the arched plates corresponding to the required tilt angle (see diagrams above).

Figure 68. Inserting the ball-lock pin to fix the tilt angle (-20° downward tilt in the flown configuration shown).



- When the required holes are perfectly aligned, take the other M10x100 ball-lock pin supplied with the Contour Rigging System and press the lock-release button on the rear of the pin to allow it to pass into the hole. Insert it into the holes, pushing it completely through the aligned holes until the ball-lock emerges from the far side.

Figure 69. A -20° tilt angle fixed for the flown configuration.



- When it emerges, release the button to allow the lock to engage and assure that the pin cannot be removed without again pressing the release. The enclosure is now ready to be equipped with a truss/pipe clamp.

Attaching redundant safety anchors

! Attention: When correctly installed, the Contour Rigging System is designed to support safely the CT28 speaker enclosure flown from a truss or batten with a suitable and properly mounted and correctly rated truss clamp or half-coupler. However, connection to an anchor point using a steel wire rope safety sling or chain is strongly recommended in any installation where people could pass beneath or near the loudspeakers and may be required by local or national codes in installations in public places. If you intend to install a secondary safety sling anchored directly to the enclosure, it is recommended that you use two of the M6 rigging points on the rear of the CT28 enclosure for this purpose.

In most cases of flying a single CT28 enclosure, the use of a steel wire rope safety bridle will provide sufficient redundant safety. Carefully review the third-party manufacturer's documentation to assure that the bridle and all its components are certified for the proper Safe Working Load with the required Factor of Safety. The length of the bridle and termination on the opposite end will obviously depend on the requirements of the structure to which it will be anchored.

When flying the CT28 using the Contour Rigging System, it will be necessary to install side-pull or double-swivel hoist rings in two of the M6 rigging points in the place of the M6 x 25 mm screws supplied with the speaker enclosure. Only forged steel hoist rings, certified for the proper Working Load Limit with the required Factor of Safety at their minimum load angle can be used.

! Important: For permanent or semi-permanent installation, the use of medium-strength thread-locking compound is recommended on all user-installed screws.

Figure 70. M6 swivel hoist ring measurement requirements.

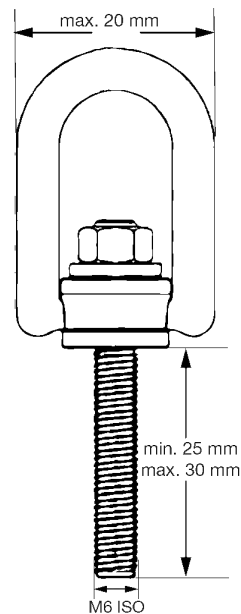
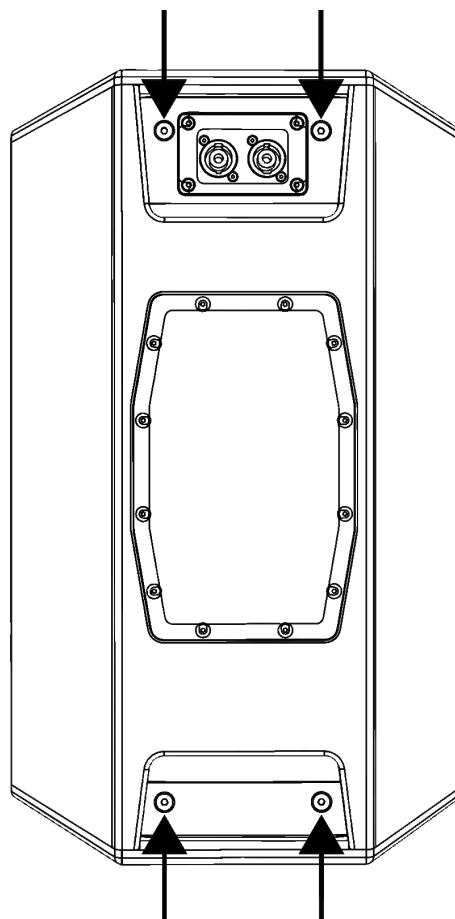
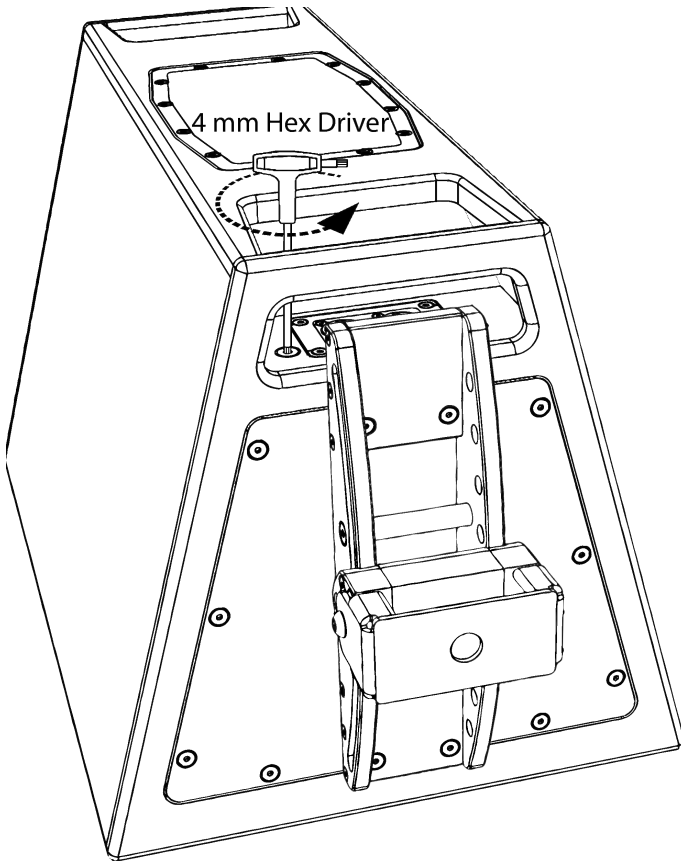


Figure 71. The rear panel of the CT28 with the suitable M6 rigging points for safety cables indicated.



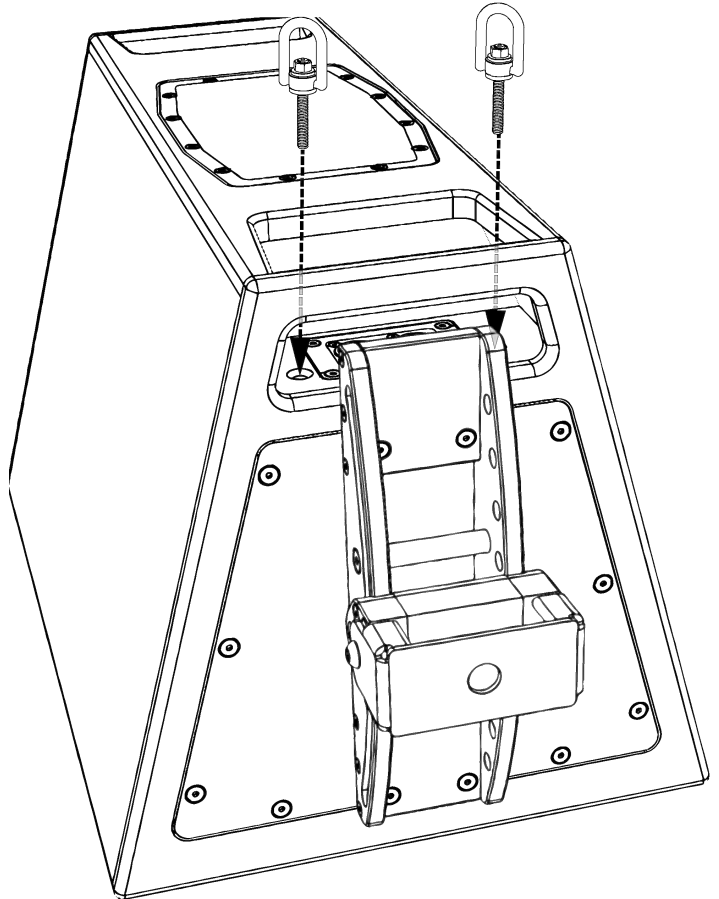
- Lay the enclosure on its front grille, taking whatever necessary precautions to avoid damaging the finish of the cabinet or the grille.

Figure 72. Removing the mounting screws from the end of the CT28 with the Contour Rigging System installed.



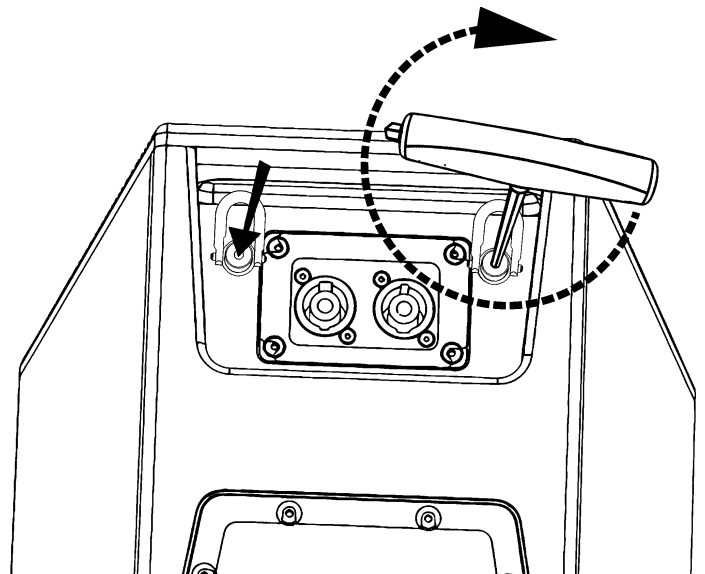
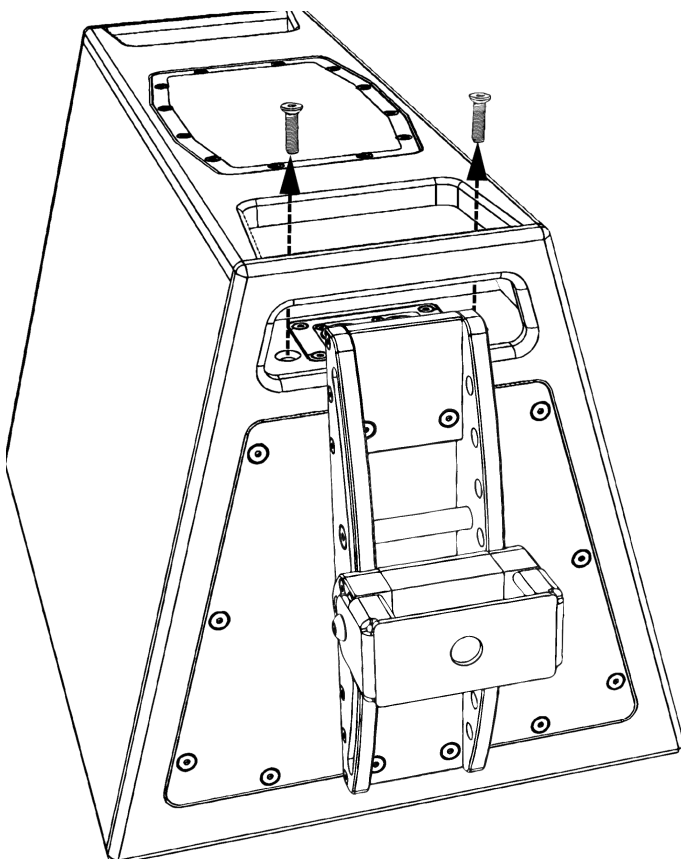
- On the end of the enclosure with the Contour Rigging System installed, use a 4 mm hex wrench or hex driver to remove the two M6 x 25 mm screws from the rear of the enclosure, inside the recess. These screws can be put aside, and should be stored for future use.

Figure 73. Inserting the hoist rings.



- Insert the two M6 swivel hoist rings and thread them into the M6 rigging points from which the screws have been removed.

Figure 74. Torquing the hoist rings.



- Tighten the two hoist rings into the rigging points to the torque specified by the manufacturer. The tools necessary will be specified in the product literature provided by the manufacturer of the third-party hoist rings.

Flying CT28 from a truss or batten

Once the CT28 has been equipped with the Contour Rigging System and anchors for a safety bridle, it can be flown from a variety of third-party or customized installation systems, as well as from trussing or battens using appropriately-rated truss clamps. The mounting yoke of the Rigging System will accept a bolt, post, stud or spigot that can pass through a 16.67 mm (0,66") hole and that can be properly and safely secured in a space of less than 25 mm (~1").

Figure 75. The available height for bolt-on or post mounts inside the mounting yoke of the Contour Rigging System.

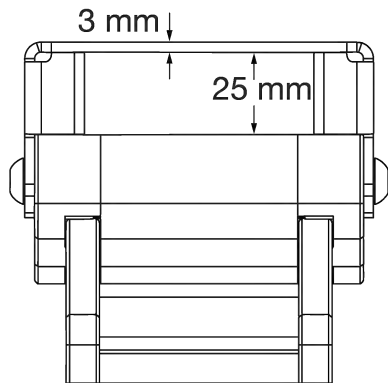
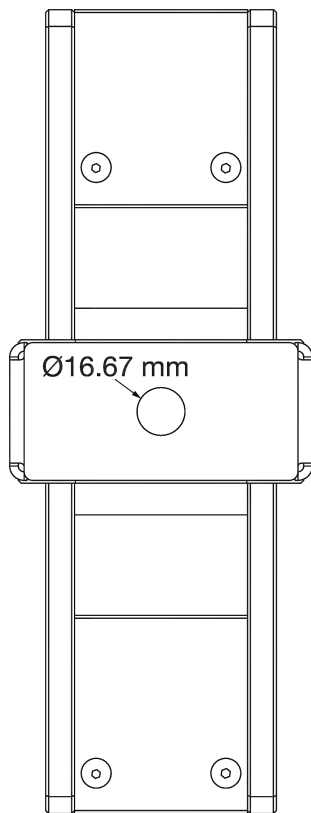


Figure 76. The hole in the mounting yoke for coupling with third-party suspension systems.



ATTENTION

Flown deployment of this system must only be designed and carried out by rigging professionals who are appropriately certified according to local or national norms and have received specific training relative to this system. All local and national norms, regulations and guidelines must be followed during the installation and removal procedures and for the entire duration of an installation of this system.

To fly CT28 from truss or batten, we recommend the use of a standard medium- or heavy-duty, bolt-mount, half coupler (cheeseborough clamp) with the appropriate clamping diameter for the truss or batten involved. The coupling post, bolt or captive bolt on the half coupler should be no smaller than M12 (~½ in) and can be no larger than M16 (~5/8 in).

! Important: Half couplers are generally available in specific clamping diameters that correspond to the common diameters of battens and trussing members. **WHEN USING THIS TYPE OF CLAMP IT IS IMPERATIVE THAT THE CLAMP SIZE CORRESPONDS TO THE DIAMETER OF THE BATTEN, PIPE OR TRUSS CHORD IN USE.**

Figure 77. Half coupler bolt dimensions.

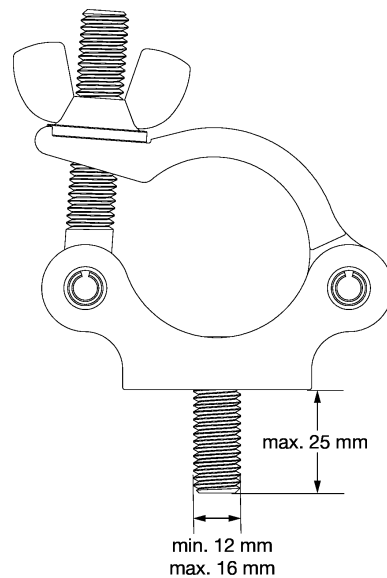
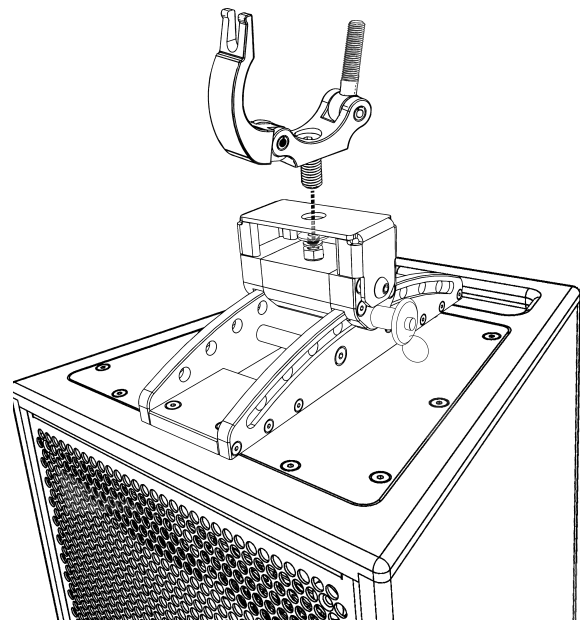
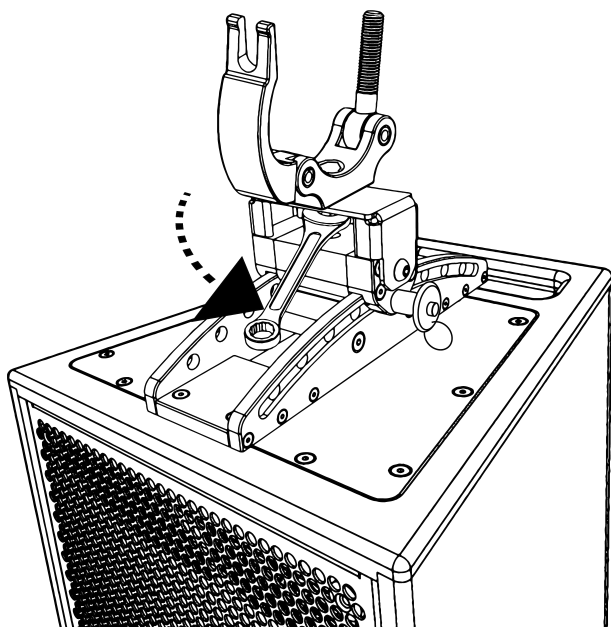


Figure 78. Mounting a half coupler (cheeseborough) truss clamp to the Contour Rigging System.



Notice: 1 Sound cannot be held responsible for any rigging equipment and accessories that are not manufactured or directly provided by 1 Sound. It is the responsibility of the installer to verify that the rated and certified Working Load Limit (including required Factor of Safety) of all additional rigging equipment is greater than the total weight of the entire system including cables and accessories. This includes all hoists, winches, lifters, elevators, towers, ground-supports, trussing, chains, safety cables, clamps, webbing and any other component used in a flown deployment of this system.

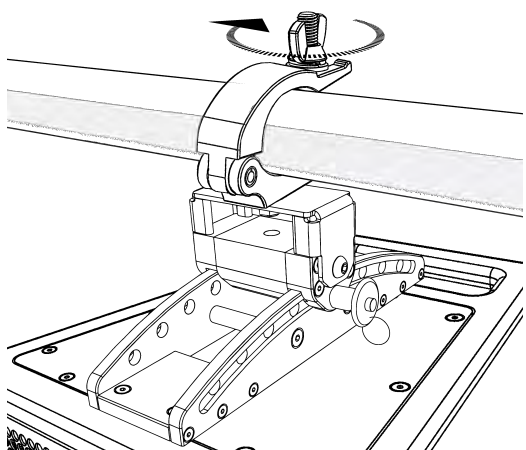
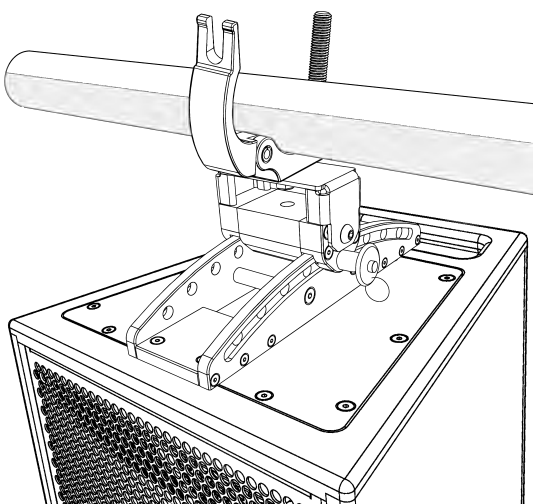
Figure 79. Tightening the half coupler to the Contour Rigging System (captive bolt style coupler shown).



- Remove the nut and split locking washer or other hardware from the connecting bolt of the half coupler, and pass the bolt through the hole in the mounting yoke.

Note: It is strongly recommended that, when possible, the loudspeakers be attached to trusses or battens at ground level and subsequently raised into position.

Figure 80. Attaching the CT28 to a batten or truss member using a half coupler.



- Firmly tighten the nut and lock washer onto the bolt of the half coupler in such a way as to compress the washer and lock the clamp into place with respect to the yoke. The tools necessary will be specified in the product literature provided by the manufacturer of the third-party clamp.

Attaching a safety bridle

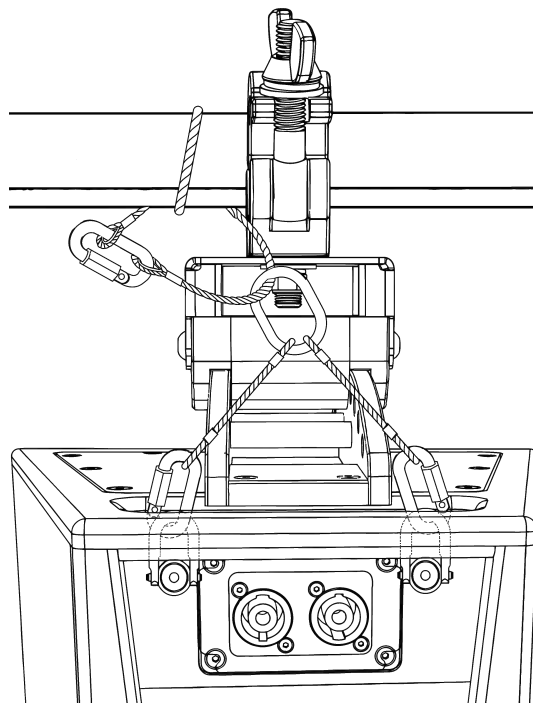
When flown from a batten or truss using the Contour Rigging System, the CT28 must be fitted with a safety bridle (steel wire rope), secured to the structure from which it is flown.

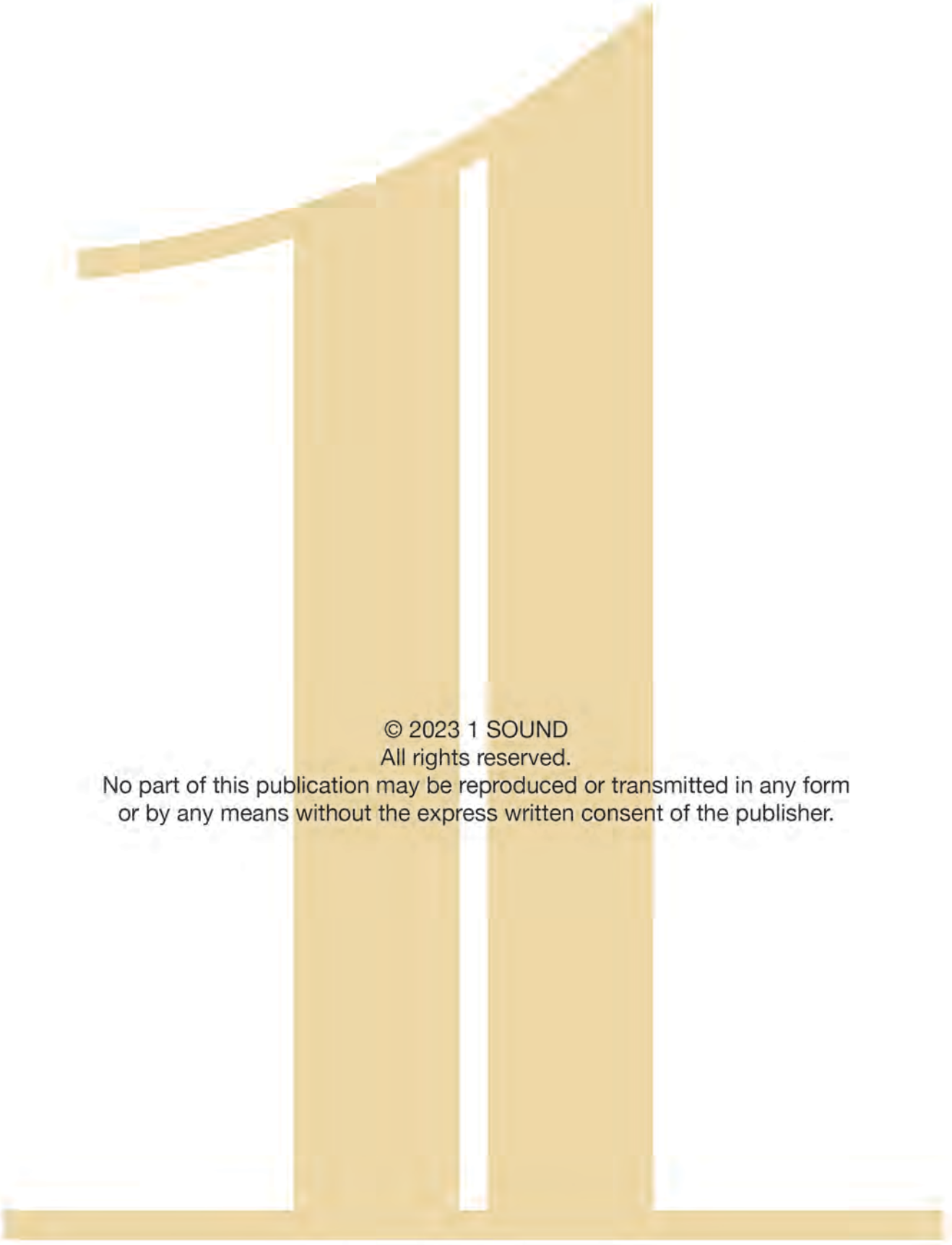
ATTENTION

A redundant safety must be anchored to a point higher than the enclosure. Use only steel wire ropes or steel chains that conform to applicable regulations or norms in terms of construction and Working Load Limit. These must be of proper length and installed in such a position as to prevent the enclosure from falling more than 20 cm in the case of failure of the clamp or the installed rigging system.

In most cases of wall mounting a single CT28 enclosure, the use of a two-leg safety bridle will provide sufficient redundant safety. The legs of the bridle must be steel wire rope, with thimbles and each with a Working Load Limit rated at least 2.5x the weight of the enclosure. The legs can be permanently closed and swaged through the hoist rings, or attached with rated shackles or locking carabiners. Carefully review third-party manufacturers' documentation to assure that the bridle and all its components are certified for the proper load limit with the required Safety Factor. The length, material and termination on the sling that attaches the bridle to the anchor point will obviously depend on the requirements of the structure or point to which it will be anchored.

Figure 81. An example of a steel wire rope safety bridle attached using carabiners.



A large, stylized number '1' in a gold color, serving as a background for the text. The '1' has a curved top and a vertical bar in the center.

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