



ShowMatch™ DeltaQ™ Array Rigging Frames

Installation and Safety Guidelines

Instrucciones de Instalación y de Seguridad

Installation et Instructions de Sécurité

Installations- und Sicherheitshinweise



Please read this installation guide carefully and save it for future reference.

This product is intended for installation by professional installers only! This document is intended to provide professional installers with basic installation and safety guidelines for this product in typical fixed-installation or portable-system applications. Please read this document and all safety warnings before attempting installation.

WARNINGS:

- All Bose® products must be installed in accordance with local, state, federal and industry regulations. It is the installer's responsibility to ensure installation of the loudspeakers and mounting system is performed in accordance with all applicable codes, including local building codes and regulations. Consult the local authority having jurisdiction before installing this product.
- Unsafe mounting or overhead suspension of any heavy load can result in serious injury or death, and property damage. It is the responsibility of the installer to evaluate the reliability of any mounting method used for their application. Only professional installers with the knowledge of proper hardware and safe mounting techniques should attempt to install any loudspeaker overhead.

CAUTION:

- Installed loudspeaker arrays require regular inspection and routine maintenance to ensure proper function and safe operation. Inspect mounting hardware and attachments for signs of corrosion, bending or any other condition that may decrease the structural integrity. Immediately replace worn or damaged components.
- Do not make unauthorized alterations to this product; doing so may compromise safety, regulatory compliance, system performance, and may void the warranty.

NOTE: Always use Bose Modeler® or Bose Array Tool software to confirm safe working load limits with exact array configurations, pitch angles, and connection points.

Guidelines for Installation and Setup of ShowMatch Array Module Loudspeakers

The installation information contained in this document is only a general guideline and cannot, as such, represent all requirements and precautions. Accordingly, anyone using this material assumes all liability and is expressly responsible for the safety of all loudspeaker array designs and mounting configurations applied in practice.

- Prior to the installation or portable-system setup of any overhead loudspeaker, a licensed professional engineer must approve the location and method of attachment to the building structure or support-truss structure and confirm they are consistent with all building codes and regulations. Ensure the mounting surface and the method of attaching the loudspeaker system to the surface is capable of supporting the total weight of the system. A safety factor of 10:1 is recommended.
- Obtain all mounting system components from reputable manufacturers. Select a mounting system appropriate for your loudspeaker system and its intended application. We recommend Bose mounting accessories when available. A licensed professional engineer must review the design and fabrication of any custom mounting hardware.
- Do not suspend loudspeaker using handles as attachment points. Handles are NOT designed for load bearing!
- Use a safety cable, separately attached to the cabinet, at a point not in common with the load bearing attachment points of the mounting system to the loudspeaker. This is recommended even if not required by local regulation. Consult a licensed professional engineer or a rigging professional for proper design and installation.
- Do not under any circumstances climb the array.

Instrucciones de Seguridad Importantes**Lea detenidamente esta guía de instalación y consérvela para consultarla en el futuro.**

Este producto está diseñado para que solo instaladores profesionales realicen su instalación. Este documento está diseñado para proveer las pautas de seguridad e instalación básicas a los instaladores profesionales de este producto en aplicaciones de sistema portátil e instalación fija comunes. Lea este documento y todas las advertencias de seguridad antes de comenzar la instalación.

ADVERTENCIAS:

- Todos los productos Bose® deben instalarse según las reglamentaciones locales, estatales, federales y del sector. Es responsabilidad del instalador garantizar que la instalación del sistema de soporte y los altavoces se realice conforme a los códigos aplicables, incluidos los códigos y las reglamentaciones de construcción locales. Consulte a la autoridad local competente antes de instalar este producto.
- El montaje inseguro o la suspensión en alturas de cualquier carga pesada puede provocar lesiones graves o la muerte, además de daños a la propiedad. Es responsabilidad del instalador evaluar la fiabilidad de cualquier método de montaje utilizado para su aplicación. Solo los instaladores profesionales con el conocimiento de los componentes físicos adecuados y las técnicas de montaje seguro deberían intentar instalar cualquier altavoz en altura.

PRECAUCIÓN:

- Se deben inspeccionar regularmente los arreglos instalados de altavoz, además de realizarles mantenimiento de rutina con el propósito de garantizar su funcionamiento adecuado y operación segura. Revise los accesorios y los componentes físicos para instalación, y busque signos de corrosión, torcimiento o cualquier otra condición que pueda disminuir la integridad estructural. Sustituya inmediatamente los componentes desgastados o dañados.
- Solo realice alteraciones autorizadas a este producto. De lo contrario, podría comprometer la seguridad, el cumplimiento de las reglamentaciones y el rendimiento del sistema; además, podría anular la garantía.

Nota: Utilice siempre el software Modeler® o "Bose Array Tool" para confirmar los límites de seguridad de carga de trabajo con cada configuración del arreglo, ángulos de inclinación y los puntos de conexión.

Pautas de instalación y configuración de los altavoces de arreglo modular ShowMatch

La información de instalación incluida en este documento solo corresponde a pautas generales y, como tal, no puede representar todos los requisitos ni todas las precauciones. Por lo tanto, todo aquel que utilice este material asume toda la responsabilidad y es expresamente responsable de todos los diseños de arreglo y las configuraciones de montaje del altavoz realizadas en la práctica.

- Antes de la instalación o la configuración del sistema portátil de cualquier altavoz en altura, un ingeniero profesional licenciado debe aprobar la ubicación y el método de fijación a la estructura del inmueble o a la estructura colgante, y confirmar que sean compatibles con todos los códigos y las reglamentaciones de construcción. Asegúrese de que la superficie de montaje y el método de fijación a la superficie del sistema de altavoces pueda soportar el peso total del sistema. Se recomienda un factor de seguridad de 10:1.
- Obtenga todos los componentes de montaje del sistema de fabricantes acreditados. Seleccione un sistema de montaje adecuado para su sistema de altavoz y su aplicación prevista. Recomendamos que utilice accesorios de montaje de Bose si están disponibles. Un ingeniero profesional licenciado debe revisar el diseño y la fabricación de todos los componentes físicos personalizados para la instalación.
- No utilice las asas como puntos de fijación para suspender el altavoz. Las asas NO están diseñadas para soportar la carga.
- Utilice un cable de seguridad, unido de forma independiente al gabinete, en un punto distinto del punto de fijación de la carga del sistema de montaje del altavoz. Esto se recomienda incluso si la reglamentación local no lo requiere. Consulte a un ingeniero profesional licenciado o a profesionales de andamiaje para realizar un diseño y una instalación adecuados.
- Bajo ninguna circunstancia trepe el arreglo.

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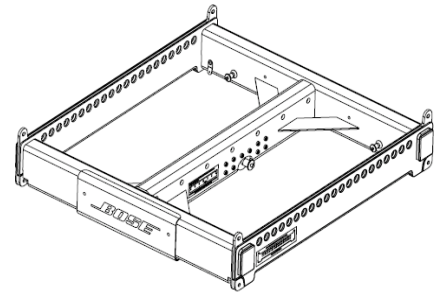
Product Applications

Bose® ShowMatch™ array frames and rigging accessories are designed for use with ShowMatch DeltaQ™ Array loudspeakers (SM5, SM10, and SM20) and ShowMatch DeltaQ Array subwoofers (SMS118).

Not for use with non-ShowMatch loudspeakers.

Array Frame

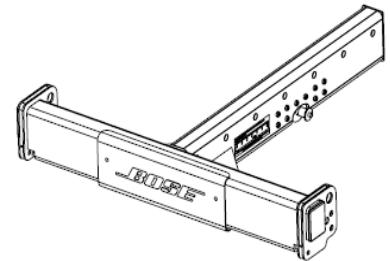
Use the ShowMatch Array Frame (SMAF) to create overhead suspended arrays that contain subwoofer modules, or to create ground stack arrays that use any combination of subwoofer modules, mid/high modules, or both.



T-Bar Array Frame

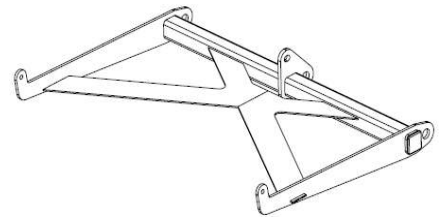
Use the ShowMatch T-Bar Array Frame (SMAFT) to create overhead suspended arrays that contain mid/high modules only.

Do not use the T-bar Array Frame with arrays that contain subwoofer modules or to create ground stack arrays.



Array Pullback Bracket

Connect the ShowMatch Array Pullback Bracket (SMPULL) to the bottom full-range array module to provide third-point suspension to building structure. This allows more extreme downward angle of arrays than possible from 2-point, gravity-hang suspension.



Additional Product Information

For more information and complete installation instructions for ShowMatch DeltaQ loudspeaker modules and compatible accessories, refer to the installation guide available at **pro.Bose.com**. To request a printed copy, use the phone numbers provided in the Contact Information section of this guide.

Manufacturer Declaration

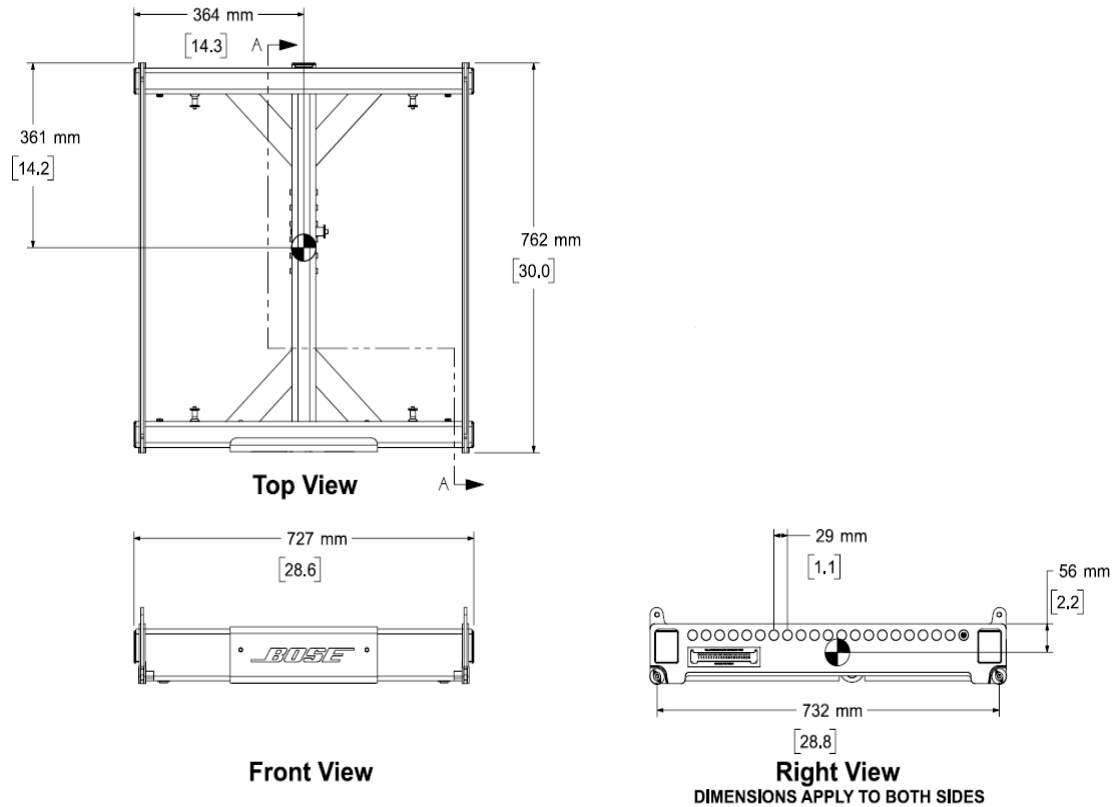
We hereby declare that the ShowMatch DeltaQ Array loudspeakers and accessories have been designed and built in compliance with BGV C1 standards and technical specifications. This declaration shall cease to be valid if alterations are made to the equipment without our prior agreement.

Product Descriptions and Dimensions

ShowMatch™ Array Frame (SMAF)

Product Weight: 83.0 lbs (37.6 kg)

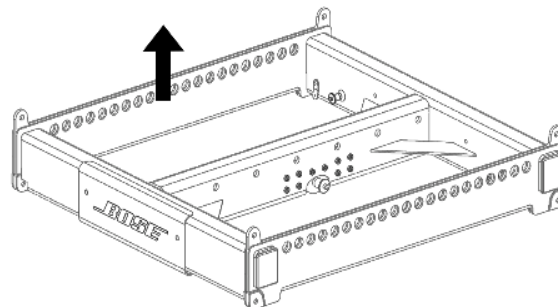
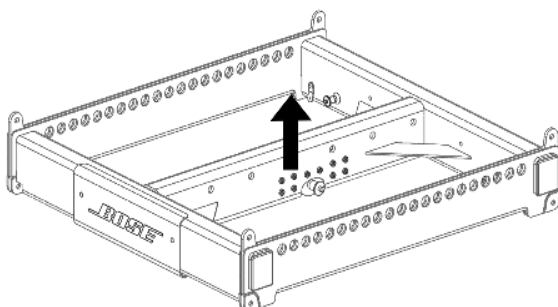
Product weight includes one shackle adapter. Each shackle adapter is 1.5 lbs (0.7 kg).



Single Point, 10:1 Working Load Limit (in accordance with ANSI E1.8-2012)

ShowMatch Array Frame (SMAF)
Center Rail
WLL = 1800 lbs (815 kg)

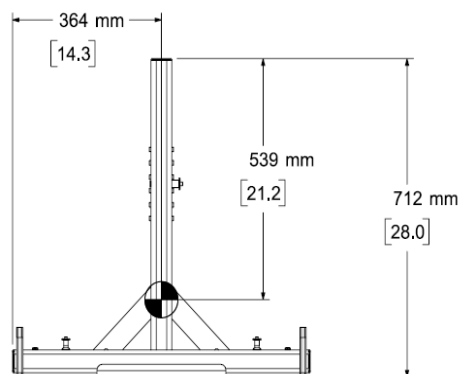
ShowMatch Array Frame (SMAF)
Side Rail
WLL = 1400 lbs (630 kg)



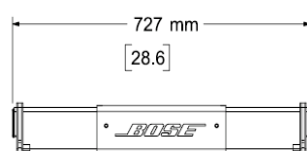
ShowMatch™ T-Bar Array Frame (SMAFT)

Product Weight: 40.5 lbs (18.4 kg)

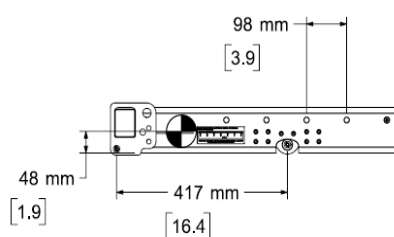
Product weight includes one shackle adapter. Each shackle adapter is 1.5 lbs (0.7 kg).



Top View



Front View



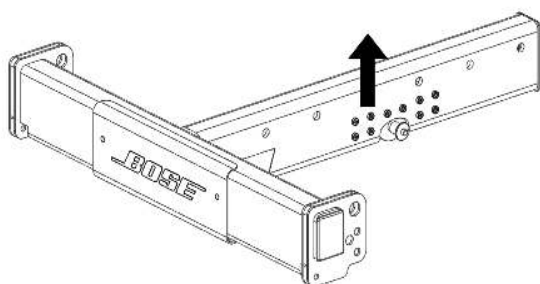
Right View

Single Point, 10:1 Working Load Limit (in accordance with ANSI E1.8-2012)

ShowMatch T-Bar Array Frame (SMAFT)

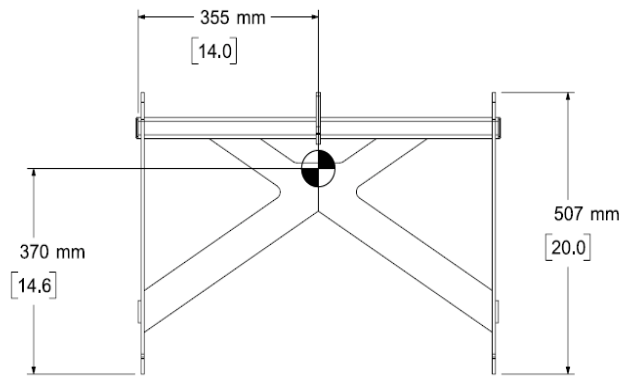
Center Rail

WLL = 1400 lbs (630 kg)

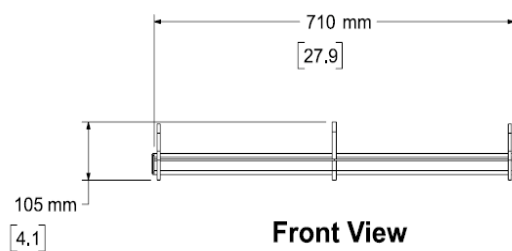


ShowMatch™ Array Pullback Bracket (SMPULL)

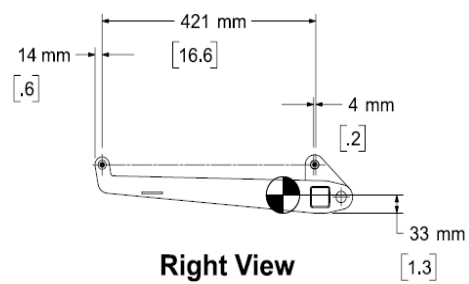
Product Weight: 15 lbs (18.4 kg)



Top View



Front View



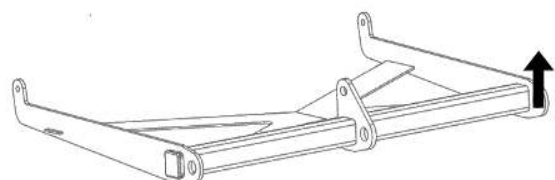
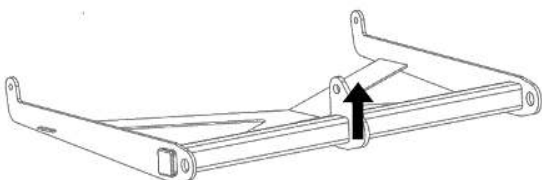
Right View

DIMENSIONS APPLY TO BOTH SIDES

Single Point, 10:1 Working Load Limit (in accordance with ANSI E1.8-2012)

ShowMatch Array Pullback Bracket
(SMPULL) Center Suspension Point
WLL = 700lbs (315 kg)

ShowMatch Array Pullback Bracket
(SMPULL) Side Suspension Point
WLL = 600 lbs (270 kg)



Array Rigging

ShowMatch DeltaQ array loudspeakers are shipped with integrated link-bar rigging hardware. The rigging system is designed to allow fast setup of typical concert-touring or fixed-installation arrays of up to 24 full-range or 18 subwoofer modules while maintaining a 10:1 Safety Factor when used with Bose® ShowMatch Array Frame Rigging Accessories.

Note: Always confirm safe working load limits with exact array configurations, pitch angles, and connection points using either Bose Modeler® or Bose Array Tool software.

Note: Bose ShowMatch loudspeakers and rigging accessories are intended for installation by professional installers only!

Note: All lifting operations require two individuals positioned on each side of the loudspeaker.

Refer to **pro.Bose.com** for additional product installation and setup information.

Connect Array Frame or T-Bar Array Frame to Full-Range Module

The ShowMatch Array Frame (SMAF) contains four connection points for subwoofer modules (all four corners), and three connection points for full-range modules (two front corners and a center location). Each side rail provides 21 rigging points, labeled according to the image printed on the frame. The center rail provides seven rigging points, and is expandable to up to 45 points using the Multipoint Bracket Accessory (SMAFMP). For more information about the Multipoint Bracket Accessory, see **pro.Bose.com**.

The ShowMatch T-Bar Array Frame (SMAFT) contains three rigging points for full-range array modules (two front corners and rear center). The center rail provides seven rigging points, and is expandable to up to 45 points using the Multipoint Bracket Accessory. The T-Bar Array Frame is compatible with full-range modules (SM5, SM10, and SM20) only. Do not use the T-Bar Array Frame with subwoofer modules (SMS118). To create an array with subwoofer modules, use the ShowMatch Array Frame.

The Array Frame and the T-Bar Array Frame each include two (2) shackle adapters to attach the frame to chains or standard shackles, and four (4) Quick Pins to connect an array module to the frame. To create a narrower array, remove the side end caps and tethered quick pins that are factory-installed on each loudspeaker module, and use the optional Short Quick Pin Accessory Kit (SMQPS). For more information about the Short Quick Pin Accessory Kit, see **pro.Bose.com**.

To connect a ShowMatch Array Frame or T-Bar Array Frame to a full-range loudspeaker module:

1. Use Bose® Modeler® software or the Bose Array Tool to determine appropriate rigging points on array frames for required aiming angles, and to confirm that array does not exceed load limits of frame. For more information on Modeler and the Bose Array Tool, see **pro.Bose.com**.
2. Place array frame directly under chain motors.
3. Attach included frame shackle adapters to array frame at rigging points determined by software.
4. Lower chain motors and attach chains to shackle adapters installed on array frame.
5. Raise array frame to a height slightly greater than that of the first (top) module to be installed.
6. With one person per side, place first module directly under suspended array frame.
7. Raise the links on module: Remove the pins, slide the link switch from the STOW position to the LINK position, and replace the pins. See Fig. 1.
8. Lower array frame onto first module.
9. Adjust module position to align pin holes of module and frame.
10. Insert two front pins (one on each side), then insert rear center pin to secure module to frame. See Fig. 2.
11. Raise array frame to a height slightly greater than that of the next module.
12. With one person per side, place next module directly under suspended array.
13. Lower array onto next module.
14. Align pin holes of second (bottom) module to pin holes of first (top) module.
15. Insert two front pins (one on each side), then insert rear center pin to secure .
16. Repeat steps to install additional modules in the array. Do not exceed load limits of frame.
17. Connect field wiring, test loudspeaker operation, and then elevate array assembly to final operating position.

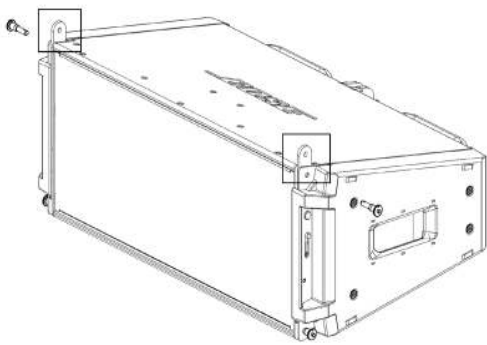


Fig. 1. Raise links on module

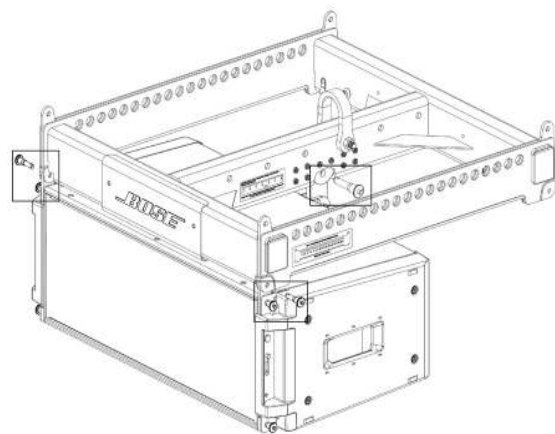


Fig. 2. Insert pins to attach module to frame

Connect Array Frame to Subwoofer

The ShowMatch™ Array Frame (SMAF) provides four connection points for SMS118 subwoofers (one in each corner) and 21 rigging points on each side rail, labeled according to the image printed on the frame. The center rail provides 7 rigging points, and is expandable to up to 45 points using the Multipoint Bracket Accessory (SMAFMP).

Note: Subwoofers are compatible with the ShowMatch Array Frame only. Do not use a T-Bar Array Frame with subwoofer modules.

When flying an array that contains both full-range and subwoofer modules, the subwoofer modules must be in the top positions of the array.

To connect a ShowMatch Array Frame to a subwoofer:

1. Use Bose® Modeler® software or the Bose Array Tool to determine appropriate rigging points on array frames for required aiming angles, and to confirm that array does not exceed load limits of frame. For more information on Modeler and the Bose Array Tool, see pro.Bose.com.
2. Place array frame directly under chain motors.
3. Attach included shackle adapters to array frame at rigging points determined by software.
4. Lower chain motors and attach chains to shackle adapters installed on array frame.
5. Raise array frame to a height slightly greater than that of the subwoofer.
6. With one person per side, place subwoofer directly under suspended array frame.
7. Raise each of the four corner links on the subwoofer by removing the pin, sliding the link switch from the STOW position to the LINK position, and replacing the pin. See Fig. 3.
8. Lower array frame onto subwoofer.
9. Adjust subwoofer position to align pin holes of module and frame.
10. Insert two front pins (one on each side), then insert two rear pins (one on each side) to secure subwoofer to frame. See Fig. 4.
11. Raise array frame to a height slightly greater than that of the next module.
12. With one person per side, place next module directly under suspended array.
13. Lower array onto next module.
14. Align links of second (bottom) module to links of first (top) module.
15. Insert two front pins (one on each side), then insert rear center pin to secure bottom module.
16. Repeat steps to install additional modules in the array. Do not exceed load limits of frame.
17. Connect field wiring, test loudspeaker operation, and then elevate array assembly to final operating position.

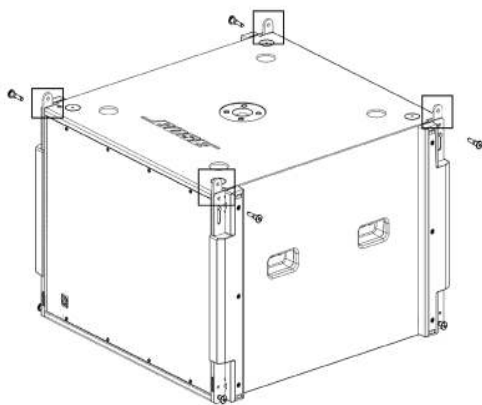


Fig. 3. Raise links on subwoofer

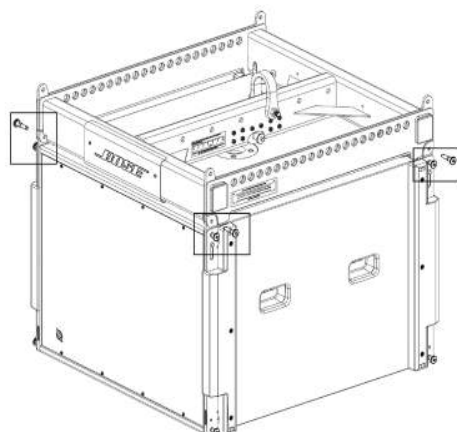


Fig. 4. Insert pins to attach subwoofer to frame

Connect Pull Back Bracket to Full-Range Module

Attach the ShowMatch Pull Back Bracket (SMPULL) to the bottom full-range array module to provide a third structural attachment point when creating an array with a more extreme downward tilt.

The pull back bracket provides three rigging points along the rear to connect a pullback cable or the Transition Bracket Accessory (SMSTK). For more information about the Transition Bar Accessory, see **pro.Bose.com**.

When connecting a pullback cable, it is recommended to use either the center rigging point, both side rigging points, or all three rigging points. The primary suspension points of the array frame should be as close as possible to the center of gravity of the array to minimize the tension load in the pullback cable.

Use Bose Modeler software or the Bose Array Tool to determine if the pull back bracket is required and to confirm that the pullback angle and working load is within acceptable safe limits. For more information on Modeler and the Bose Array Tool, see **pro.Bose.com**.

Note: The Pull Back Bracket is not intended to provide primary structural support for the entire array!

To connect the pull back bracket to a full-range array module:

1. Assemble the array on the Array Frame or T-Bar Array Frame by following the instructions in this manual and on **pro.Bose.com**.
2. Position the pull back bracket with the connection tabs facing up (toward the array). See Fig. 5.
3. Align the three connection tabs on the pull back bracket with the three connection points on the bottom full-range array module (two in front, one in the rear center).
4. Insert two front pins (one on each side), then insert one rear pin to secure pull back bracket to module. See Fig. 6.
5. Attach pullback cable(s) to the bracket using the included shackles.
6. Connect field wiring, test loudspeaker operation, and then elevate assembly to final operating position.
7. Adjust length of pullback cable attached to the pullback bracket as required for desired array tilt angle.

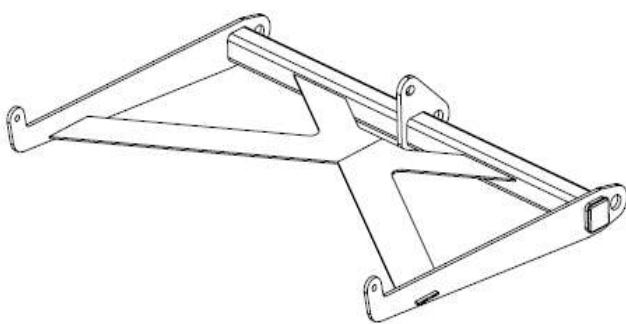


Fig 5. Pullback bar positioned with connection tabs facing up

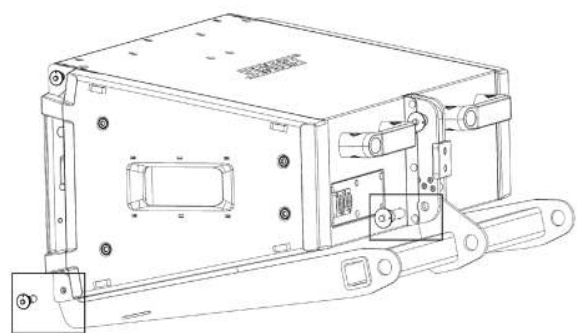


Fig 6. Insert pins to attach pull back bracket to module

Contact Information

Visit us on the web at **pro.Bose.com**.

Americas

(USA, Canada, Mexico, Central America, South America)
Bose Corporation
The Mountain
Framingham, MA 01701 USA
Corporate Center: 508-879-7330
Americas Professional Systems,
Technical Support: 800-994-2673

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Belgium

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Edam, Nederland
0299-390139

United Kingdom

Bose Ltd
1 Ambley Green, Gillingham Business Park
KENT ME8 0NJ
Gillingham, England
0870-741-4500

See website for other countries

Importer Information

European Union

Bose GP, Castleblayney Road, Carrickmacross, County Monaghan, Ireland

China

Bose Electronics (Shanghai) Company Limited, Part C, Plan 9, No. 353 North Riyang Road, China (Shanghai)
Pilot Free Trade Zone

Taiwan

Bose Taiwan Branch, 9F-A1, No. 10, Section 3, Minsheng East Road, Taipei City 104, Taiwan
Tel: 886 2 2514 7977

Mexico

Bose de México, S. de R.L. de C.V., Paseo de las Palmas 405-204, Lomas de Chapultepec, 11000 México, D.F.
Tel: 001 800 900 2673

Limited Warranty

Your product is covered by a limited warranty, Visit **pro.Bose.com** for warranty details.

The warranty information provided with this product does not apply in Australian and New Zealand. See our website at **www.bose.com/au/warranty** or **www.bose.com/nz/warranty** for details of the Australian and New Zealand warranty.



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