

BOSE[®]



RoomMatch™


Ground Stack Kit Accessories


Installation and Safety Guidelines


Instrucciones de instalación y de seguridad

Installation et instructions de sécurité

Installations- und Sicherheitshinweise

 **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 Bose® RoomMatch™ loudspeakers in typical fixed-installation systems. Please read this document before attempting installation.


 **WARNING:** All Bose products must be used 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.


 **WARNING:** Unsafe mounting or overhead suspension of any heavy load can result in serious injury and equipment 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.


Guidelines for Installation of RoomMatch™ Array Module Loudspeakers with Ground Stack Accessories

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.


1. These guidelines do not cover installation of any loudspeaker in overhead, array applications. Please refer to the document "RoomMatch Array Module Installation and Safety Guidelines," which is included with each module.
2. Bose RoomMatch array module loudspeakers feature an integrated side-plate rigging system, designed to facilitate loudspeaker array mounting by professional installers. Module-to-module connections should be made using only the integrated rigging side plates with the included M10 graded fasteners. Do NOT use SAE 3/8" size threaded hardware! Use only metric hardware. Fasteners should be metric Class 10.9 (load bearing rated) or equivalent. Unmarked (not rated for load bearing) fasteners should not be used.
3. Do not suspend loudspeaker using handles as attachment points. **Handles are NOT designed for load bearing!**
4. Use of a locking compound intended for hand disassembly, such as LOCTITE® THREADLOCKER BLUE 242® compound, is recommended.
5. For Ground Stack mounting, fasteners should be tightened using torque of 20 to 25 foot-pounds (27 to 34 Newton-meters). Over-tightening the fasteners could result in irreparable damage and create an unsafe assembly.
6. Do not attempt to alter the threaded attachment points or re-thread the attachment points to accommodate any other thread size or type; doing so will compromise the safety while permanently damaging the loudspeaker.
7. With the optional caster wheel kit installed, always use 2 people to move the assembled ground-stack array. Never attempt to move the ground-stack array on ramps with more than 20 degrees of incline or decline.


 **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.


 **CAUTION:** Make no modifications to the loudspeakers or mounting accessories. Unauthorized alterations may compromise safety and could result in damage, injury, or death.


 **CAUTION:** Never use RoomMatch Ground Stack accessories to suspend modules in overhead array applications. Never exceed 3 RoomMatch modules using the Ground Stack Kit accessories and always follow the configuration guidelines contained in this document.

 **CAUTION:** Never install the ground stack array on surfaces that are not level or even.

 **CAUTION:** Use care when adjusting the pitch bracket with full-range modules installed. The area between the subwoofer module and bottom full-range module can form a pinch point for fingers and other body parts.

 **Solo un instalador profesional deberá montar este producto.** Este documento ofrece a los instaladores profesionales instrucciones básicas de instalación y seguridad para los altavoces Bose® RoomMatch™ en sistemas típicos de instalación fija. Lea este documento antes de intentar la instalación.


 **ADVERTENCIA:** Todos los productos Bose se deben utilizar según lo estipulado en las normativas industriales locales, regionales y nacionales. Será responsabilidad del instalador asegurarse de que la instalación de los altavoces y del sistema de montaje se realiza de acuerdo con todos los códigos aplicables, incluidos los códigos y normativas de construcción locales. Consulte a las autoridades locales pertinentes antes de instalar este producto.


 **ADVERTENCIA:** El montaje no seguro o la suspensión de cualquier carga pesada puede producir heridas graves y daños al equipo. Será responsabilidad del instalador evaluar la fiabilidad de cualquier método de montaje empleado en su aplicación. Sólo los instaladores profesionales con conocimiento de los accesorios adecuados y las técnicas de montaje seguro deberán intentar instalar cualquier altavoz en suspensión.


Instrucciones para la instalación del conjunto de altavoces modulares RoomMatch™ con accesorios de apilamiento en suelo


La información de instalación que contiene este documento ofrece sólo directrices generales y, por tanto, no puede representar todos los requisitos y precauciones. Por consiguiente, cualquiera que utilice este material asume expresamente toda la responsabilidad por la seguridad de todos los diseños de matriz de altavoces y de las configuraciones de montaje aplicadas en la práctica.


1. Estas instrucciones no cubren la instalación de ningún altavoz en aplicaciones de matriz en suspensión. Consulte el documento "Instrucciones de instalación y seguridad del conjunto de altavoces RoomMatch", que se incluye con cada módulo.
2. El conjunto de altavoces modulares Bose RoomMatch incorpora un sistema integrado de instalación mediante placa lateral diseñado para facilitar el montaje del conjunto de altavoces a los instaladores profesionales. Las conexiones entre módulos deberán realizarse utilizando solo las placas laterales de instalación integradas con las abrazaderas de calidad M10 incluidas. ¡NO utilice accesorios roscados SAE de 3/8"! Utilice únicamente accesorios métricos. Las abrazaderas deberán ser de Clase 10.0 métrica (destinadas a soportar carga) o equivalentes. No deberán emplearse abrazaderas sin marca (no destinadas a soportar carga).
3. No suspenda el altavoz utilizando empuñaduras como puntos de fijación. **Las empuñaduras NO están destinadas a soportar cargas.**
4. Se recomienda utilizar un pegamento de fijación pensado para desmontaje manual, como LOCTITE® THREADLOCKER BLUE 242®.
5. Para el montaje apilado en el suelo, las abrazaderas deberán apretarse con un par de 27 a 34 Newtons-metros (de 20 a 25 pies-libras). Si se aprietan en exceso las abrazaderas, se podría causar un daño irreparable y se crearía un ensamblaje inseguro.
6. No intente alterar los puntos de fijación roscados ni volver a roscar los puntos de fijación para adaptarlos a otro tamaño o tipo de rosca; de hacerlo, comprometería la seguridad de la instalación, al tiempo que dañaría el altavoz de forma permanente.
7. Con el kit opcional de ruedas giratorias instalado, utilice siempre dos personas para mover el conjunto apilado en suelo ya montado. Nunca intente mover el conjunto apilado en suelo por rampas de más de 20 grados de inclinación o descenso.

 **PRECAUCIÓN:** Las matrices de altavoces instaladas requieren inspección periódica y mantenimiento rutinario para garantizar un funcionamiento correcto y seguro. Inspeccione en los accesorios y fijaciones de montaje si hay signos de corrosión, torceduras o cualquier otro problema que pueda reducir la integridad estructural. Sustituya inmediatamente los componentes desgastados o dañados.

 **PRECAUCIÓN:** No realice modificaciones en los altavoces o los accesorios de montaje. Las modificaciones no autorizadas pueden comprometer la seguridad y producir daños, lesiones o muerte.

 **PRECAUCIÓN:** No utilice nunca los accesorios de apilamiento en suelo RoomMatch para suspender los módulos en aplicaciones de matriz en suspensión. No utilice nunca más de 3 módulos RoomMatch utilizando los accesorios del Kit de apilamiento en suelo y siga siempre las instrucciones de configuración que contiene este documento.

 **PRECAUCIÓN:** No instale nunca el conjunto apilado en suelo sobre superficies que no sean planas o regulares.

 **PRECAUCIÓN:** Tenga cuidado al ajustar el soporte de inclinación con módulos de rango completo instalados. El área entre el módulo de subwoofer y el módulo inferior de rango completo puede formar un punto de pinzamiento para dedos y otras partes del cuerpo.



L'installation de ce produit est réservée à un technicien professionnel ! Ce document à l'intention des installateurs professionnels contient les directives de pose et de sécurité relatives aux enceintes Bose® RoomMatch™ en installation fixe. Lisez attentivement ce document avant l'installation.



AVERTISSEMENT : Tous les produits Bose doivent être utilisés en respectant les réglementations locales et nationales. L'installateur est responsable du respect de tous les codes et règlements locaux et nationaux en vigueur applicables à l'installation et au montage des enceintes. Consultez les autorités locales compétentes avant d'installer ce produit.



AVERTISSEMENT : Tout montage non sécurisé d'une lourde charge peut provoquer des dégâts matériels et des blessures graves. Il en va de la responsabilité de l'installateur d'évaluer la fiabilité de toute méthode de montage utilisée pour cette application. Seul un installateur professionnel connaissant le matériel et les techniques de montage adaptées est qualifié pour installer des enceintes suspendues.

Directives pour l'installation permanente d'un module d'enceinte Array RoomMatch™ avec les accessoires d'empilage au sol Ground Stack

Les directives d'installation contenues dans le présent document ne représentent que des conseils généraux et, à ce titre, ne présentent pas tous les critères et précautions de rigueur. En conséquence, toute personne utilisant ce document assume seule l'entière responsabilité de la sécurité d'installation de toutes les enceintes et de la configuration pratique de leur montage.

1. Ces directives ne couvrent pas l'installation au-dessus du sol. Reportez-vous au document « Directives d'installation et de sécurité relatives aux modules d'enceintes Array RoomMatch » fourni avec chaque module.
2. Le module d'enceintes Array Bose RoomMatch est doté d'un système de fixation par plaque latérale intégré, destiné à faciliter le montage par un installateur professionnel. La connexion entre deux modules doit être réalisée uniquement à l'aide des plaques latérales intégrées et des attaches M10 fournies. Ne PAS utiliser de composants filetés au pas SAE 3/8" ! Utiliser uniquement des composants à mesure métrique. Les fixations doivent être de classe métrique 10.9 (pour la résistance à la charge) ou équivalente. Ne pas utiliser de fixations dont la classe de résistance à la charge n'est pas indiquée.
3. Ne pas utiliser les poignées de transport des enceintes comme points de suspension. **Ces poignées ne sont pas conçues pour supporter une charge permanente !**
4. Il est recommandé d'utiliser une pâte à filets autorisant le démontage manuel (telle que la LOCTITE® THREADLOCKER BLUE 242®) pour réaliser un assemblage résistant aux vibrations.
5. Pour le montage empilé au sol, les attaches doivent être serrées avec un couple de 27 à 34 Nm). Si la force de serrage est trop importante, des dommages irréparables peuvent être causés, ce qui rendrait l'installation instable.
6. Ne tentez pas de modifier le filetage des points de fixation pour l'adapter à un autre type ou à une autre taille de filetage. Vous risqueriez de compromettre la sécurité de l'installation et d'endommager irrémédiablement l'enceinte.
7. Si le kit de roulettes en option a été installé, 2 personnes doivent déplacer la pile de modules assemblée. N'essayez jamais de déplacer la pile assemblée sur des rampes de plus de 20 degrés d'inclinaison.



ATTENTION : une fois installées, les enceintes Array doivent faire l'objet d'une inspection et d'un entretien préventif afin de préserver leur fonctionnement en toute sécurité. Vérifiez que les composants et les points de fixation ne portent pas de traces de corrosion, de déformations ou autre signe de détérioration de leur intégrité structurelle. Remplacez immédiatement tout composant usé ou endommagé.



ATTENTION : n'apportez aucune modification au système ou aux accessoires. Une modification non autorisée est susceptible de compromettre la sécurité et de provoquer un dommage ou un accident.





ATTENTION : ne jamais utiliser des accessoires d'empilage au sol RoomMatch pour suspendre des modules au-dessus du sol. N'installez jamais plus de 3 modules RoomMatch à l'aide des accessoires du kit d'empilement Ground Stack et veillez à toujours respecter les directives d'installation contenues dans ce document.



ATTENTION : N'installez jamais une pile d'enceintes Array sur des surfaces irrégulières ou en pente.




ATTENTION : procédez avec prudence lorsque vous l'inclinaison avec des modules large bande installés. La zone située entre le module caisson de basses et le module inférieur large bande est susceptible de pincer les doigts et d'autres parties du corps.


-  **Dieses Produkt darf nur von fachkundigen Monteuren installiert werden!** Dieses Dokument soll fachkundigen Monteuren grundlegende Installations- und Sicherheitsrichtlinie für Bose® RoomMatch™-Lautsprecher in typischen Festinstallationssystemen bieten. Bitte lesen Sie dieses Dokument vor der Installation durch.
-  **WARNUNG:** Alle Bose-Produkte müssen gemäß den örtlichen und staatlichen Vorschriften sowie gemäß allen Branchenbestimmungen verwendet werden. Der Monteur ist dafür verantwortlich, sicherzustellen, dass die Installation der Lautsprecher und des Befestigungssystems gemäß allen geltenden Vorschriften durchgeführt wird, einschließlich örtlicher Bauvorschriften und Bestimmungen. Wenden Sie sich vor der Installation dieses Produkts an die zuständige Rechtsbehörde.
-  **WARNUNG:** Unsichere Befestigung oder ein Aufhängen über Kopf schwerer Lasten kann zu schweren Verletzungen und Sachschäden führen. Der Monteur ist dafür verantwortlich, die Zuverlässigkeit der für die Anwendung verwendeten Befestigungsmethoden zu prüfen. Nur fachkundige Monteure mit Wissen über ordnungsgemäße Befestigungselemente und sichere Befestigungstechniken sollten Lautsprecher über Kopf installieren.


Richtlinien für die Installation von RoomMatch™ Array Module-Lautsprechern mit Ground Stack-Zubehör


Die in diesem Dokument enthaltenen Installationsinformationen sind nur eine allgemeine Richtlinie und können daher nicht alle Anforderungen und Vorsichtsmaßnahmen darstellen. Daher übernimmt jeder, der dieses Material verwendet, die volle Haftung und ist ausdrücklich für die Sicherheit aller Lautsprecher- Array-Designs und Montagekonfigurationen verantwortlich, die in der Praxis angewandt werden.

1. Diese Richtlinien decken die Installation von Lautsprechern in Überkopf-Array-Anwendungen nicht ab. Bitte sehen Sie im Dokument "Installations- und Sicherheitshinweise für das RoomMatch Array-Modul" nach, das mit jedem Modul mitgeliefert wird.
2. Bose RoomMatch Array-Modullautsprecher verfügen über ein integriertes Seitenplattenverankerungssystem, das die Montage des Lautsprecher-Arrays durch fachkundige Monteure erleichtern soll. Verbindungen zwischen den Modulen dürfen nur mithilfe der integrierten Verankerungsseitenplatten und den mitgelieferten M10-Befestigungselementen vorgenommen werden. Verwenden Sie KEINE Befestigungselemente mit einem SAE 3/8"-Gewinde. Verwenden Sie ausschließlich metrische Zubehörteile. Befestigungselemente müssen metrisch sein und der Klasse 10.9 (für das Tragen von Lasten geeignet) oder gleichwertig entsprechen. Nicht gekennzeichnete (nicht für das Tragen von Lasten geeignete) Befestigungselemente dürfen nicht verwendet werden.
3. Hängen Sie die Lautsprecher nicht mithilfe von Griffen als Befestigungspunkte auf. **Griffe sind NICHT für das Tragen von Lasten gedacht!**
4. Die Verwendung einer Gewindegewissung für das Zerlegen von Hand, zum Beispiel LOCTITE® THREADLOCKER BLUE 242®, wird empfohlen.
5. Für die Ground Stack-Montage sollten die Befestigungselemente mit einem Drehmoment von 27 bis 34 Nm festgezogen werden. Verwenden Sie kein höheres Drehmoment, da dies Schäden zur Folge haben kann und die Sicherheit des Befestigungssystems beeinträchtigt wird.
6. Verändern Sie auf keinen Fall die Befestigungspunkte mit Gewinde oder Gewindegröße und -typ der Befestigungspunkte, da dies die Sicherheit der Installation beeinträchtigen und permanente Schäden am Lautsprecher zur Folge haben kann.
7. Lassen Sie das montierte Ground Stack-Array mit installiertem optionalem Laufrollenkit immer von 2 Personen bewegen. Versuchen Sie nie, das Ground Stack-Array auf Rampen mit mehr als 20 Grad Steigung oder Gefälle zu bewegen.

 **ACHTUNG:** Installierte Lautsprecher-Arrays erfordern regelmäßige Inspektion und Routinewartung, um die ordnungsgemäße Funktion und den sicheren Betrieb zu gewährleisten. Überprüfen Sie die Befestigungselemente und das Zubehör auf Anzeichen von Korrosion, Verbiegen oder andere Zustände, die die strukturelle Integrität verringern können. Ersetzen Sie abgenutzte oder beschädigte Teile sofort.

 **ACHTUNG:** Nehmen Sie keine Veränderungen an den Lautsprechern oder am Befestigungszubehör vor. Nicht genehmigte Änderungen können die Sicherheit beeinträchtigen und zu Schäden, Verletzungen oder Todesfällen führen.

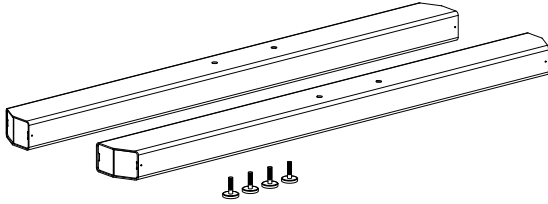
 **ACHTUNG:** Verwenden Sie das RoomMatch Ground Stack-Zubehör nie, um Module in Überkopf-Array-Anwendungen aufzuhängen. Verwenden Sie nie mehr als 3 RoomMatch-Module mit dem Ground Stack Kit-Zubehör und befolgen Sie immer die Konfigurationsrichtlinien, die in diesem Dokument enthalten sind.

 **ACHTUNG:** Installieren Sie das Ground Stack-Array nie auf Flächen, die nicht eben oder flach sind.

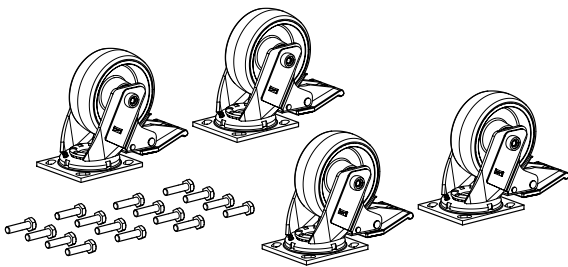
 **ACHTUNG:** Gehen Sie beim Einstellen der Querachsenhalterung vorsichtig vor, wenn alle Breitbandmodule installiert sind. Der Bereich zwischen dem Subwoofer- Modul und dem Breitbandmodul kann einen Quetschpunkt für Finger und andere Körperteile darstellen.

Summary Description

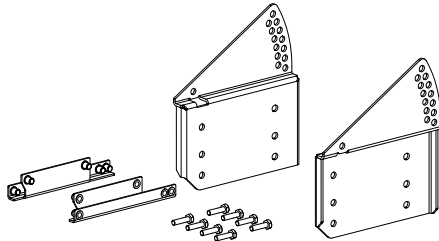
RoomMatch™ Ground Stack Kit accessories are designed to accommodate ground stack arrays of up to three RoomMatch modules for occasional movement to different locations, such as temporary side-stage fills for Performing Arts Centers that require differing seating configurations. **RoomMatch modules and Ground Stack Kit are not recommended for Tour Sound applications that require daily setup and transportation. Use with non-RoomMatch loudspeakers is not recommended.**



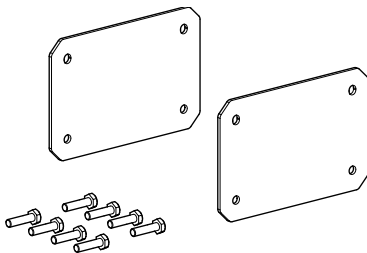
RMGSBK Ground Stack Base Kit: Use with up to three (3) RoomMatch modules for ground stack arrays. Requires subwoofer module in bottom position. RMGSBK must be used with all ground stack array configurations. Kit includes two (2) frame rails, four (4) M10 x 40 mm fasteners (13 mm socket size), and four (4) leveling feet. Caster Kit is available separately. Overall rail dimensions (LWH): 54.4" x 4.9" x 3.0" (1382 x 125 x 75 mm). Net weight: 54 lbs (24.5 kg).



RMGSCK Ground Stack Caster Kit: Use with RMGSBK Ground Stack Base Kit. Replaces leveling feet included in Base Kit. Set of 4 casters with sixteen (16) M8 x 25 mm fasteners. Overall caster dimensions: 5.0" diameter and 1.25" width (127 mm x 32 mm). Net weight: 10 lbs (4.5 kg).



RMGSPB Ground Stack Pitch Brackets: Attaches to subwoofer module and mounts one (1) or two (2) full-range modules, allowing pitch angle adjustment from 0 to 30 degrees down pitch (differs by module vertical coverage pattern). Complete pitch bracket is formed by assembly of pitch plate that attaches to subwoofer module and mounting bar that attaches to full-range modules. Kit includes two (2) pitch plates, two (2) full-range module mounting bars, four (4) M10 x 40 mm fasteners (13 mm socket size), and four (4) M10 x 30 mm fasteners (15 mm socket size). Net weight: 19 lbs (8.6 kg).



RMGSSB Ground Stack Subwoofer Brackets: Provides subwoofer-to-subwoofer module connection for Ground Stack Kits. Includes two (2) subwoofer connection plates and eight (8) M10 x 40 mm fasteners (13 mm socket size). Net Weight: 7 lbs (3.2 kg).

Note: RMGSSB bracket is NOT required for the bottom subwoofer connection to the Base Kit; subwoofer modules bolt directly to the base frame rails.



CAUTION: RMGSSB brackets are NOT approved for overhead arrays!

CAUTION: RMGSPB brackets are NOT approved for overhead arrays!



Refer to pro.Bose.com or contact your local Bose representative for additional specifications and installation information for RoomMatch array module loudspeakers and arrays!

Not for overhead array rigging

This guide is intended to cover only ground stack array safety and installation instructions. For information regarding overhead array installation of RoomMatch™ modules, please refer to the documents included with each module and the “RoomMatch Array Frame Accessory Safety and Installation Guide” which is available on the pro.Bose.com website.

Ground stack array rigging

RoomMatch full-range and subwoofer modules may be safely and conveniently configured in ground stack arrays using the RoomMatch Ground Stack Kit accessories. Four unique parts may be combined in different combinations to accommodate 3 basic ground stack configurations: A) 1 subwoofer with 2 full-range modules, B) 2 subwoofers with 1 full-range module, and C) 3 subwoofer modules.

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

Before you begin – Recommended tools

- (2) socket wrenches
- (2) 13 mm sockets (one with deep well or ratchet extension)
- (2) 15 mm sockets

Preparing modules for installation

1. Remove the RoomMatch modules and rigging accessories from the shipping cartons, remove packing materials, and place the loudspeakers and accessories on the floor near the planned installation location.

CAUTION: Do not place loudspeakers resting on grilles.

CAUTION: Place loudspeakers on a flat surface; verify loudspeaker weight is not supported by driver adapters.

CAUTION: Ground cover cloth should be used to protect surface finish of flooring and modules.

2. Locate the temporary installation handles and thread onto each module (see module instruction sheet).
3. Remove the four (4) M10 x 30 mm bolts (15 mm socket) from top of rigging side plates (2 per side) from full-range modules and retain these bolts for use with the Pitch Bracket mounting bars.

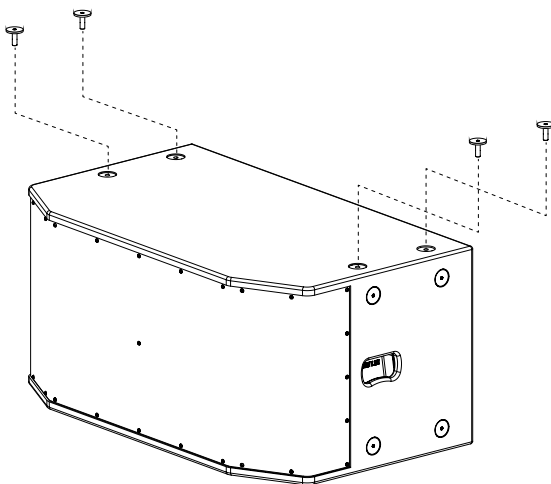
Section A:

One Subwoofer and Two Full-Range Module Ground Stack

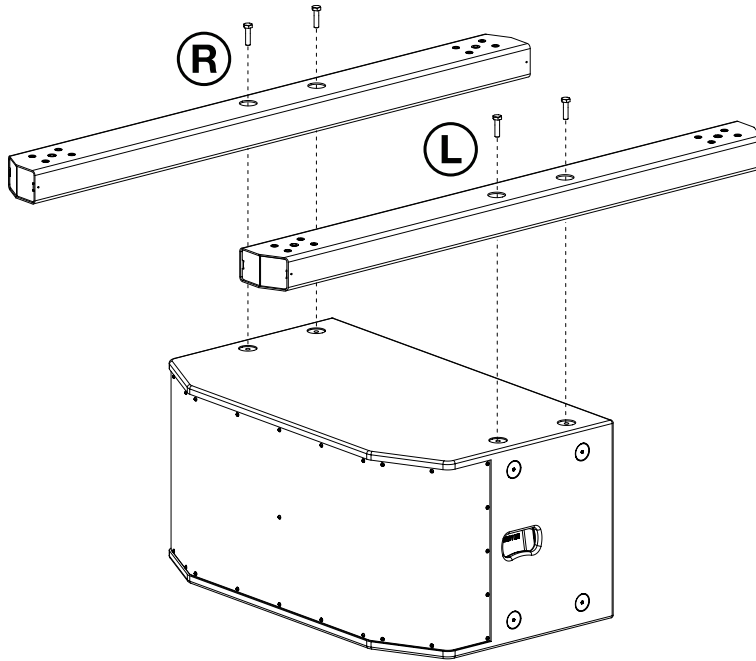
Attaching the base frame to subwoofer with leveling feet or casters

1. With one person per side, place the subwoofer on the ground with the enclosure logo facing the ground.
2. Remove the four threaded-insert covers on the bottom surface (retain only for future module use without ground stack kit).

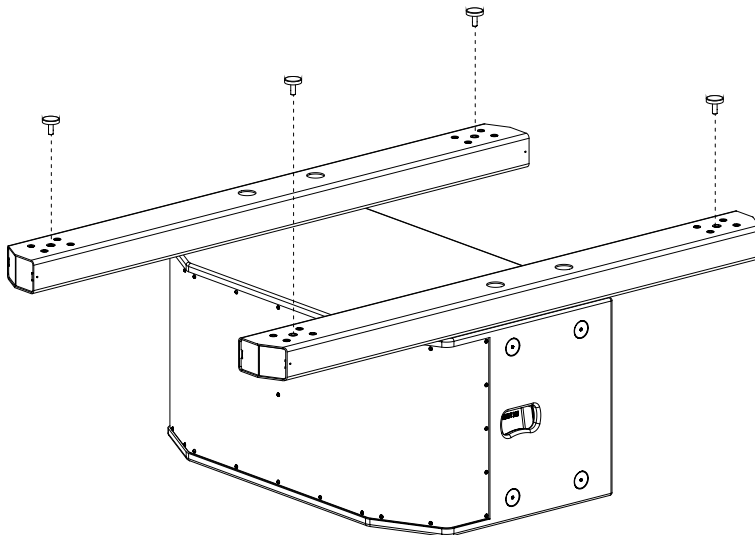
Figure 1: Removing threaded-insert covers shipped with subwoofer



3. Place the Base Frames on the subwoofer with the short edge (chamfer) facing outward.
4. Insert two (2) M10 x 40 mm bolts (13 mm socket size) for each Base Frame and tighten all 4 bolts with a deep-well socket or drive extension and ratchet using torque of 20 to 25 foot-pounds (27 to 34 Newton-meters).

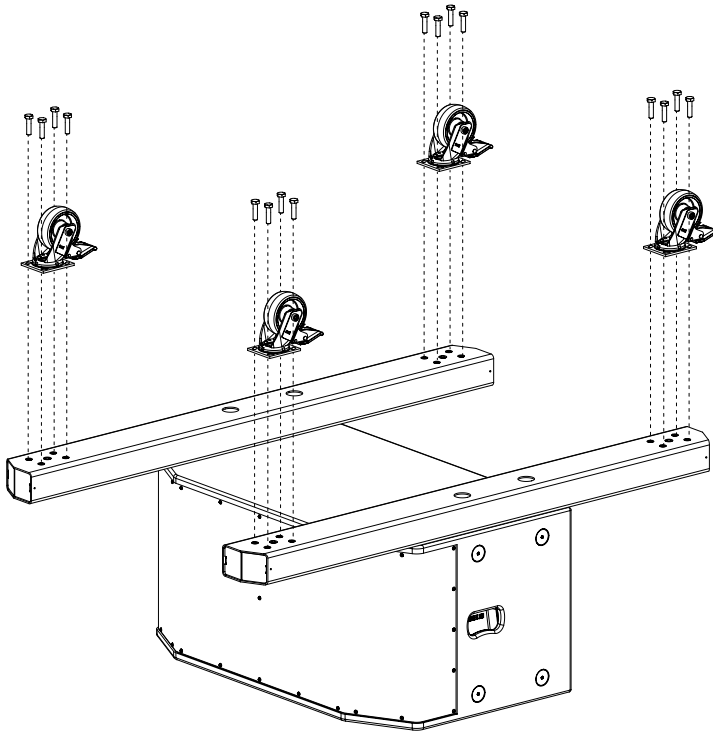
Figure 2: Installing Base Frame Kit rails on subwoofer module

5. For configurations that do not require the optional caster wheels, insert two (2) leveling feet per base frame and finger tighten as far as possible. For configurations that require the optional caster feet, skip step 5 and proceed to step 6.

Figure 3: Installing leveling feet on Base Frame Kit rails

- For configurations that require the optional caster wheels, install each caster wheel using four (4) M8 fasteners (13 mm socket size). Tighten all four bolts for each caster using torque of 15 to 20 foot-pounds (20 to 27 Newton-meters).

Figure 4. Installing optional Caster Kit on Base Frame Kit rails

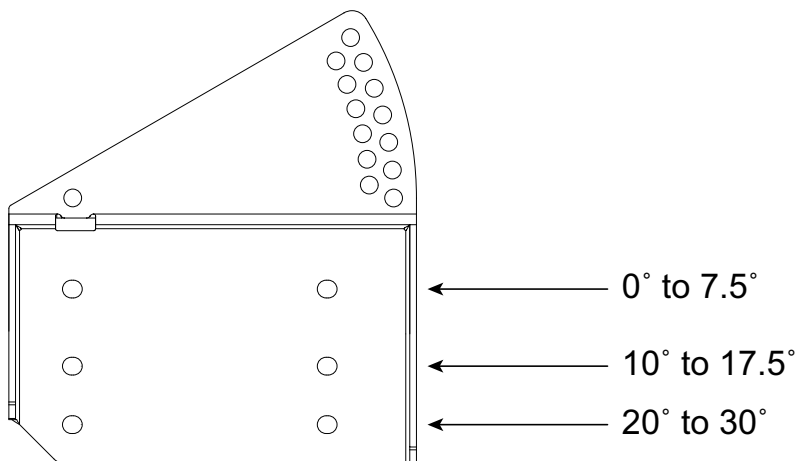


- Again, using 1 person per side, rotate the subwoofer up on one side and continue until subwoofer is resting on the ground in the “normal” position with the enclosure logo facing upward.
- Lock all 4 casters by stepping on lock plates.

Attaching the Pitch Bracket - subwoofer pitch plates

- Locate the pair of pitch plates that attach to the subwoofer. Using Bose® Modeler® or an alternative method, determine the required bottom-panel plane of the lower full-range module for the ground stack array. The subwoofer pitch plate contains 3 sets of mounting holes, with numbers indicating the range of down pitch allowed by each set. Locate the set of mounting holes on the Pitch Bracket component that corresponds to the required pitch range. (See Appendix for additional information).

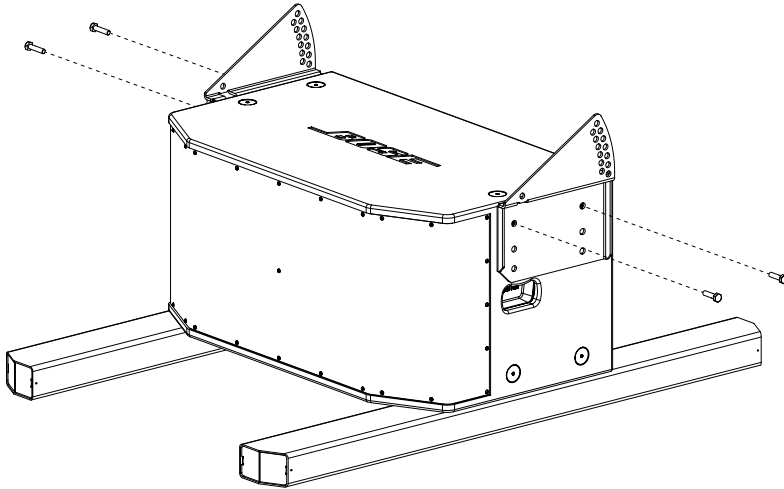
Figure 5. Subwoofer pitch plate



Note: Numbers indicate the range of down-pitch angles formed by the bottom-panel plane of the lower full-range module and ground plane.

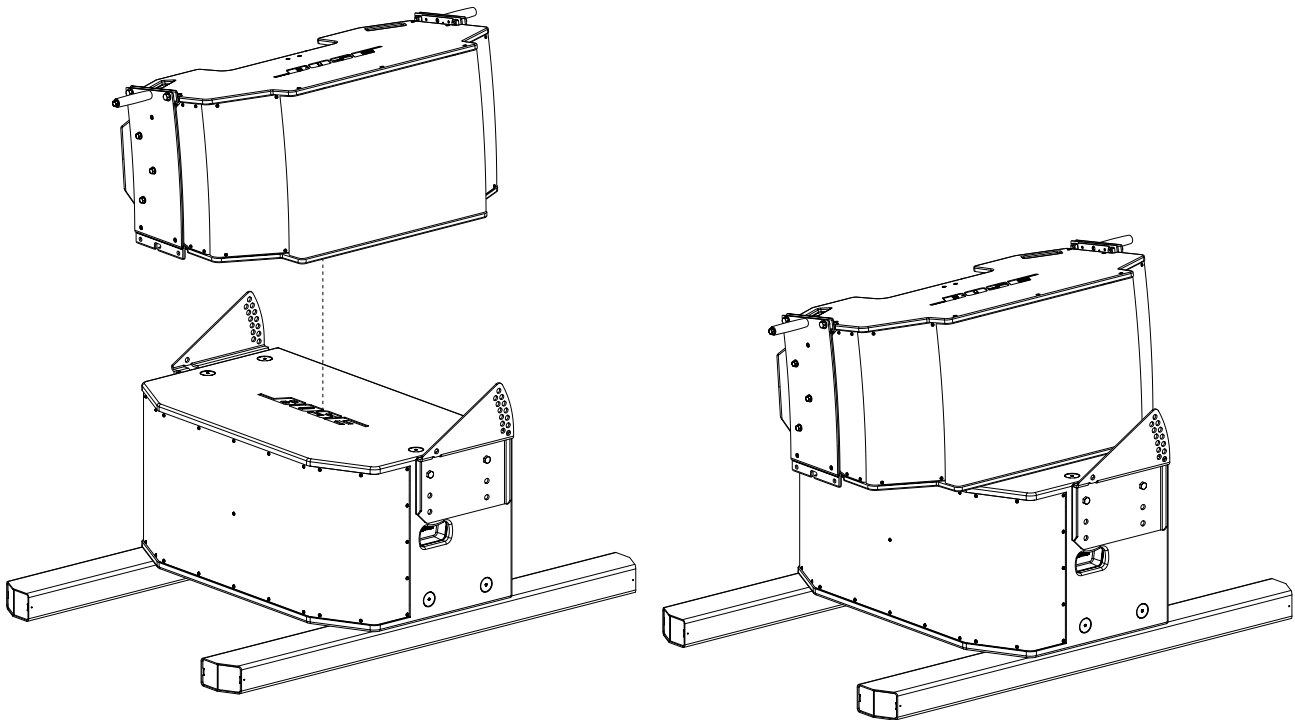
10. Remove the top two threaded insert covers on each side of subwoofer.
11. Attach the subwoofer pitch plate to the subwoofer module using the mounting holes that correspond to the required pitch angle range using two (2) M10 x 40 mm fasteners (13 mm head size) per side. The tallest portion of the bracket should be facing the rear of the subwoofer.
12. Tighten all four bolts with socket tool using torque of 20 to 25 foot-pounds (27 to 34 Newton-meters).

Figure 6. Installing Pitch Bracket subwoofer pitch plates



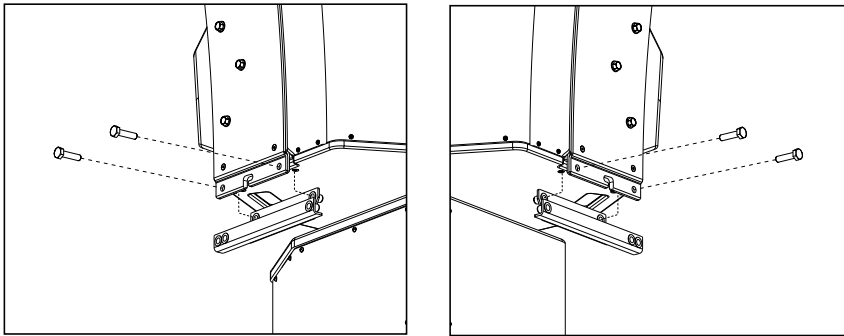
13. Locate the full-range module to be positioned above the subwoofer in the ground stack array. With 1 person per side, place the full-range module on top of the subwoofer and base frame assembly, with the full-range module at a 90-degree angle from the normal position.

Figure 7. Positioning full-range module on subwoofer module



14. Attach the Pitch Bracket full-range module bar to the bottom of the integrated side plate using two (2) M10 x 30 mm fasteners that shipped with the full-range module (15 mm socket size). Repeat for other side of full-range module.
15. Tighten all 4 bolts with socket tool using torque of 20 to 25 foot-pounds (27 to 34 Newton-meters).
Note: when fully tightened, the fasteners will protrude through the side plates and almost touch the wood panels.

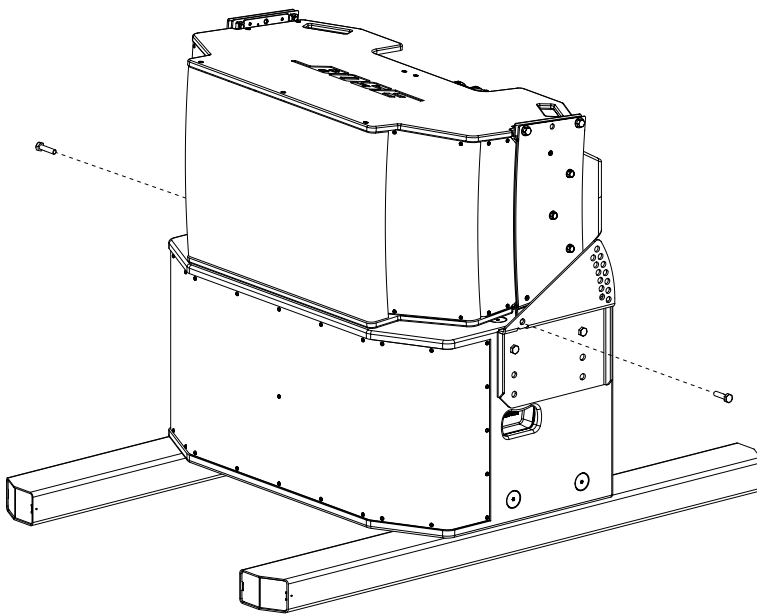
Figure 8. Installing Pitch Bracket full-range module bars (left and right sides)



Use M10 x 30 mm (short) fasteners to secure full-range module bars to side plates.

16. With one person per side, lift and rotate the full-range module to align with front face of subwoofer.
17. Place the full-range module with the full-range module bar installed so that the bottom is resting on the “shelf” of the pitch plate installed on the subwoofer.
18. Insert M10 x 30 mm (15 mm socket size) into front hole of subwoofer pitch plate and thread into front bottom hole of full-range module side plate. Do not tighten yet.

Figure 9. Securing full-range module to subwoofer pitch plates



Use M10 x 30 mm (15 mm socket size) fasteners to secure full-range module bars to subwoofer pitch plates.

19. Determine required module pitch angle and corresponding mounting hole location in the rear section of the subwoofer pitch plate. Rotate the full-range module to the desired pitch angle and insert M10 x 30 mm fastener (15 mm socket size) into the corresponding hole on the rear section of the subwoofer pitch plate.
20. Tighten all four bolts (two per side) with socket tool using torque of 20 to 25 foot-pounds (27 to 34 Newton-meters).

Attaching the top full-range module to bottom full-range module.

21. With the bottom full-range module attached to the subwoofer using the Pitch Bracket and set at the desired pitch angle, locate the second full-range module that will complete the ground stack array.
22. If not already installed, insert the temporary installation handles into side plates of top and bottom modules.
23. With 1 person per side, lift the top full-range module and position the bottom flange of the side plate and align with the temporary handle pins of the bottom module.
24. Pull the handles of the top module towards the rear of array to align the bolt holes of the side plates for both modules. Insert four bolts (two per side) and finger tighten each until all bolts are installed.
25. Tighten all four bolts with socket tool using torque of 20 to 25 foot-pounds (27 to 34 Newton-meters).
26. Remove temporary installation handles from modules.
27. Connect field wiring, test loudspeaker operation, and then position array in final operating location.

Adjusting full-range module pitch angle after Ground Stack Kit assembly

If the pitch angle of the full-range modules requires adjustment after the Ground Stack Kit assembly has been completed, follow these steps:

1. Remove the rear fasteners from each side of the pitch brackets. The array full-range modules must be supported to prevent tilting. The front fasteners can be loosened, but should not be removed.
2. With one person per side, move the full-range modules using the handle cut-outs of the top and bottom wood panels until the desired pitch angle is achieved.

CAUTION: Keep hands and fingers away from gap between the lower full-range module and subwoofer to avoid crushing or pinching fingers.

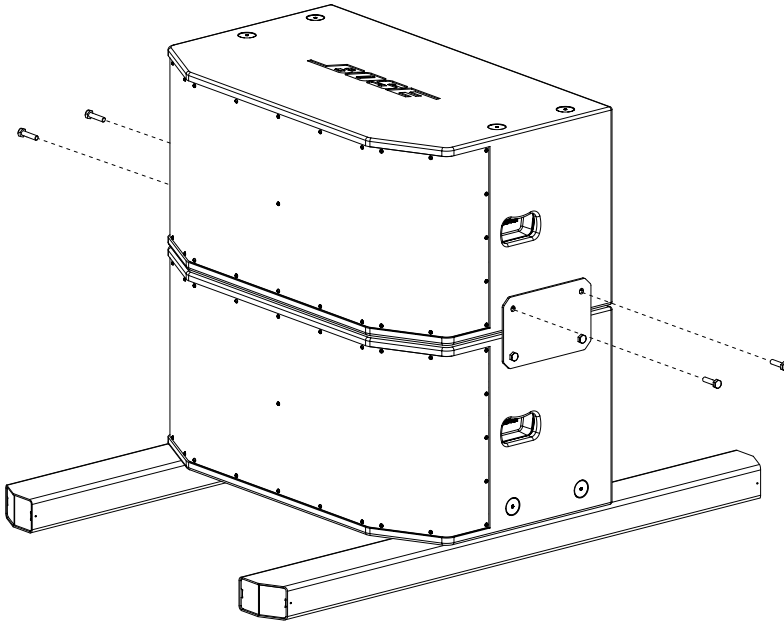
3. Re-install the rear fastener on each side of the pitch bracket and tighten all four bolts with socket tool using torque of 20 to 25 foot-pounds (27 to 34 Newton-meters).

Note: If the pitch angle adjustment required is greater than allowed by the current pitch bracket bolt positions on the subwoofer, the full-range modules must be removed from the ground-stack array so that the subwoofer pitch plates may be re-installed with the proper bolt pattern alignment.

Section B: Two Subwoofer and One Full-Range Module Ground Stack

1. Complete Steps 1 to 8 from Section A.
2. Attach the Ground Stack Subwoofer Brackets to each side of the bottom subwoofer using four (4) M10 x 40 mm fasteners (two per side) with 13 mm socket size. Do not tighten yet.
3. With one person per side, lift the second subwoofer and place on top of the subwoofer/Base Frame assembly.
4. Align the Subwoofer Bracket holes and secure the bracket to the top subwoofer using 4 M10 fasteners (two per side).
5. Tighten all eight bolts (four per side) with socket tool using torque of 20 to 25 foot-pounds (27 to 34 Newton-meters).
6. Complete Steps 9 to 20 from Section A.
7. Connect field wiring, test loudspeaker operation, and then position array in final operating location.

Figure 10. Installing the Subwoofer Bracket



Section C: Three Subwoofer Module Ground Stack

1. Complete Steps 1 to 5 from Section B.
2. With one person per side, lift the third subwoofer and place on top of the subwoofer/Base Frame assembly.
3. Align the Subwoofer Bracket holes and secure the bracket to the top subwoofer using 4 M10 fasteners (two per side).
4. Tighten all eight bolts (four per side) with socket tool using torque of 20 to 25 foot-pounds (27 to 34 Newton-meters).
5. Connect field wiring, test loudspeaker operation, and then position array in final operating location.

The Ground Stack Pitch Bracket markings indicate the physical angle formed by the bottom panel of the lower full-range module and the ground. Many system designs reference the acoustic axis of the array module in system design specifications. To determine which pitch bracket position should be used given an acoustic axis pitch angle (referenced to the ground plane), follow the procedure listed below. The following illustration defines these angles using RM7010 and RM9020 modules as an example.

Figure 11. Pitch Bracket angles

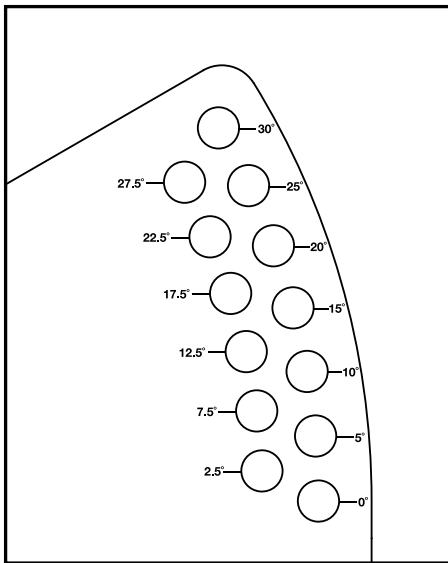
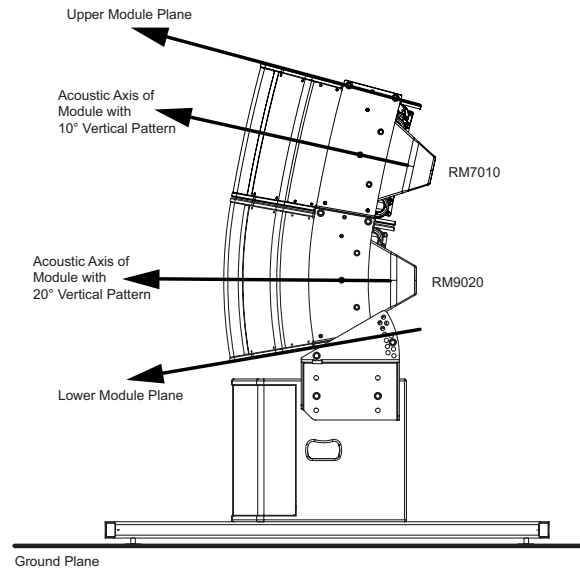


Figure 12. Acoustic axis and module angles



1. Obtain the acoustic axis of the lower full-range module from system design documentation.
2. Obtain the vertical coverage angle of the lower module (the last two digits of RoomMatch model name).
3. Subtract one-half of the vertical coverage angle from the lower-module acoustic axis pitch number.
4. The number from Step 3 defines the angle of pitch for the lower module bottom-panel plane.
5. Place fasteners of Pitch Bracket in the position closest to number calculated for lower module plane.

Note: The numbers indicated on the Pitch Bracket represent negative pitch (or tilt down) angles.

Example: Assume a ground stack array with an RM7010 module in the top position and RM9020 module in the bottom position, with the acoustic axis of the lower module desired for 0 degrees, or parallel to the ground.

1. Lower module acoustic axis required pitch = 0 degrees
2. Vertical coverage angle of lower module = 20 degrees
3. One-half of vertical coverage angle of lower module = 10 degrees
4. Subtracting one-half of lower module angle from Modeler pitch = $0 - 10 = -10$ (negative) pitch
5. Place the rear fasteners in the 10° position of the pitch brackets

CAUTION: To avoid possible instability of the ground stack array:

1. Top-panel plane of the upper full-range module must not exceed +30° (pitch up).
2. Top-panel plane of upper full-range module down pitch must not exceed -10° (no more than 10° downward pitch).

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

Australia

Bose Pty Limited
Unit 3/2 Holker Street
Newington NSW Australia
61 2 8737 9999

Belgium

Bose N.V. / S.A
Limesweg 2, 03700
Tongeren, Belgium
012-390800

China

Bose Electronics (Shanghai) Co Ltd
36F, West Gate Tower
1038 West Nanjing Road
Shanghai, P.R.C. 200041 China
86 21 6271 3800

France

Bose S.A.S
12 rue de Temara
78100 St. Germain en Laye, France
01-30-61-63-63

Germany

Bose GmbH
Max-Planck Strasse 36D 61381
Friedrichsdorf, Deutschland
06172-7104-0

Hong Kong

Bose Limited
Suites 2101-2105, Tower One, Times Square
1 Matheson Street, Causeway Bay, Hong Kong
852 2123 9000

India

Bose Corporation India Private Limited
4th Floor, Shriram Bhartiya Kala Kendra
1, Copernicus Marg
New Delhi 110001, India
91 11 23073825

Italy

Bose SpA
Via Della Magliana 87600148
Rome, Italy
066-5670802

Japan

Bose Kabushiki Kaisha
Sumitomo Fudosan Shibuya Garden Tower 5F,
16-17, Nanpeidai-cho, Shibuya-ku,
Tokyo, 150-0036
Japan
TEL 3-5489-0955
www.bose.co.jp

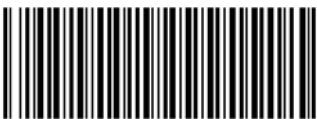
The Netherlands

Bose BV
Nijverheidstraat 8 1135 GE
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



BOSE[®]
Better sound through research[®]

© 2012 Bose Corporation. All rights reserved.
The Mountain, Framingham, MA 01701-9168 USA
www.pro.Bose.com
All trademarks are the property of their respective owners.
AM356196 Rev. 01