

Panaray[®] Full-Range-Driver Array Loudspeakers

Installation Guide

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Important Safety Instructions

-  **These loudspeakers are intended for installation by professional installers only!** This document is intended to provide professional installers with basic installation and safety guidelines for 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 permanent installation of Bose® Panaray® 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.




1. Prior to the installation of any overhead loudspeaker, a licensed professional engineer must approve the location and method of attachment to the building 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.
2. 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.
3. Bose Panaray loudspeakers feature integrated M8 threaded inserts to facilitate loudspeaker mounting by professional installers. Do NOT use SAE 5/16" size threaded hardware! Use only metric hardware. Fasteners should be metric Class 8.8 (load bearing rated) or equivalent. Unmarked (not rated for load bearing) fasteners should not be used.
4. Use lock washers or a locking compound intended for hand disassembly, such as LOCTITE® THREADLOCKER BLUE 242® compound, for a vibration resistant assembly.
5. Fasteners should be tightened to the specified torque noted in the instructions. Over-tightening the fasteners could result in irreparable damage to the loudspeaker cabinet 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. 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.

 **CAUTION:** Installed loudspeakers 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.

 This product conforms to all applicable EU directive requirements. The complete declaration of conformity can be found at www.Bose.com/compliance.


Información de seguridad importante


-  **Solo un instalador profesional deberá instalar estos altavoces.** Este documento ofrece a los instaladores profesionales instrucciones básicas de instalación y seguridad para altavoces en sistemas típicos de instalación fija. Lea este documento antes de intentar la instalación.
-  **ADVERTENCIA:** Todos los productos Bose® deben utilizarse de acuerdo con las normas locales, estatales, federales e industriales. 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 permanente de los altavoces Bose® Panaray®

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. Antes de la instalación de cualquier altavoz en suspensión, un ingeniero profesional con licencia deberá aprobar la ubicación y el método de fijación a la estructura del edificio y confirmar que cumplen todos los códigos y normativas de construcción. Compruebe que la superficie de montaje y el método para fijar el sistema de altavoces a la superficie son capaces de soportar el peso total del sistema. Se recomienda aplicar un factor de seguridad de 10:1.
2. Consiga todos los componentes de montaje de fabricantes de confianza. Seleccione un sistema de montaje adecuado para el sistema de altavoces y la aplicación a la que vayan destinados. Recomendamos utilizar accesorios de montaje Bose siempre que estén disponibles. Un ingeniero profesional con licencia deberá revisar el diseño y la fabricación de cualquier accesorio de montaje personalizado.
3. Los altavoces Bose Panaray incluyen piezas de ajuste roscadas M8 para facilitar el montaje del arreglo de altavoces a los instaladores profesionales. ¡NO utilice accesorios roscados SAE de 5/16"! Utilice únicamente accesorios métricos. Las abrazaderas deberán ser de Clase 8.8 métrica (destinadas a soportar carga) o equivalentes. No deberán emplearse abrazaderas sin marca (no destinadas a soportar carga).
4. Utilice arandelas de presión o un pegamento de fijación pensado para desmontaje manual, como LOCTITE® THREADLOCKER BLUE 242®, para conseguir un montaje resistente a vibraciones.
5. Las abrazaderas deberán apretarse con la torsión especificada en las instrucciones. Si se aprietan en exceso las abrazaderas, se podría causar un daño irreparable a la caja del altavoz y se crearía un ensamblado 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. Utilice un cable de seguridad, conectado a la caja por separado, en un punto distinto de los puntos de unión del sistema de montaje y el altavoz que sustenten la carga. Esta práctica se recomienda aunque no lo requiera la normativa local. Consulte a un ingeniero profesional con licencia o a un profesional de instalación para conocer el diseño y la instalación adecuados.

 **PRECAUCIÓN:** Los altavoces instalados 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.

 Este producto cumple todos los requisitos aplicables de las Directivas de la UE. Encontrará la declaración de conformidad completa en www.Bose.com/compliance.


Informations importantes pour la sécurité


-  **L'installation de ces enceintes doit être effectuée par un technicien professionnel !** Ce document à l'intention des installateurs professionnels contient les directives de pose et de sécurité relatives à ces enceintes en installation fixe. Lire 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 la méthode de montage utilisée, en fonction de l'application. Seul un installateur professionnel connaissant les accessoires et techniques de montage adaptés est qualifié pour installer des enceintes suspendues.


Consignes pour l'installation permanente d'enceintes Bose® Panaray®

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. Avant l'installation de toute enceinte suspendue, il est nécessaire de faire approuver par un professionnel dûment autorisé l'emplacement et la méthode de fixation à la structure du bâtiment et de lui faire confirmer que cette fixation est conforme au code du bâtiment et aux réglementations. Il est important de s'assurer que la surface de montage et la méthode de fixation des enceintes à cette surface sont adaptées au poids total du système. Par sécurité, il est recommandé de respecter un rapport de poids de 10:1.
2. Tous les composants du système de montage doivent provenir d'un fabricant de bonne réputation. Le système de montage choisi doit être adapté aux enceintes et à l'utilisation prévue. Il est recommandé d'utiliser les accessoires de montage Bose disponibles. Faire contrôler par un professionnel qualifié la conception et la fabrication des accessoires de montage sur mesure.
3. Les enceintes Bose Panaray sont dotées d'un système de fixation fileté M8 intégré, destiné à en faciliter le montage par un installateur professionnel. Ne PAS utiliser de composants filetés au pas SAE 5/16" ! Utiliser uniquement des composants à mesure métrique. Les fixations doivent être de classe métrique 8.8 (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.
4. Utiliser des rondelles de blocage ou une pâte à filets autorisant le démontage manuel (LOCTITE® THREADLOCKER BLUE 242®) pour réaliser un assemblage résistant aux vibrations.
5. Les fixations doivent être serrées au couple indiqué dans les instructions. Si la force de serrage est trop importante, des dommages irréparables peuvent être causés au coffret de l'enceinte et rendre 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. Fixez un câble de sécurité, attaché séparément au coffret de l'enceinte, en un point autre que les points de fixation du système de montage de l'enceinte. Cette mesure est recommandée, même si elle n'est pas imposée par la réglementation locale. Pour la conception et la réalisation de l'installation, consultez un professionnel agréé.

 **ATTENTION :** Une fois installées, les enceintes 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.

 Ce produit est conforme à toutes les directives de l'Union européenne qui s'y appliquent. L'attestation complète de conformité est disponible à l'adresse www.Bose.com/compliance.


Wichtige Sicherheitshinweise

-  **Diese Lautsprecher dürfen nur von fachkundigen Monteuren installiert werden!** Dieses Dokument soll fachkundigen Monteuren grundlegende Installations- und Sicherheitsrichtlinien für diese Lautsprecher in typischen Festinstallationsystemen bieten. Bitte lesen Sie dieses Dokument vor der Installation durch.
-  **HINWEIS:** 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 der Halterung gemäß allen geltenden Vorschriften durchgeführt wird, einschließlich örtlicher Bauvorschriften und Bestimmungen. Wenden Sie sich vor der Installation dieses Produkts an die zuständige Abnahmebehörde.
-  **HINWEIS:** Eine 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 Festinstallation von Bose® Panaray® Lautsprechern

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

1. Vor der Installation von Lautsprechern über Kopf muss ein zugelassener fachkundiger Techniker den Ort und die Methode der Befestigung an der Gebäudestruktur prüfen und bestätigen, dass diese alle Bauvorschriften und Bestimmungen entspricht. Vergewissern Sie sich, dass die Befestigungsfläche und die Methode zum Befestigen des Lautsprechersystems an der Fläche geeignet ist, das Gesamtgewicht des Systems zu tragen. Es wird ein Sicherheitsfaktor von 10:1 empfohlen.
2. Beschaffen Sie sich alle Komponenten der Halterung von renommierten Herstellern. Wählen Sie eine Halterung, die für Ihr Lautsprechersystem und die beabsichtigte Anwendung geeignet ist. Wir empfehlen Befestigungszubehör von Bose, wo verfügbar. Ein zugelassener fachkundiger Techniker muss die Auslegung und die Herstellung der benutzerspezifischen Befestigungselemente überprüfen.
3. Bose Panaray Lautsprecher verfügen über integrierte Einsätze mit M8-Gewinde, um die Montage der Lautsprecher durch professionelle Installateure zu erleichtern. Verwenden Sie KEINE Befestigungselemente mit einem SAE 5/16"-Gewinde. Verwenden Sie ausschließlich metrische Zubehörteile. Befestigungselemente müssen metrisch sein und der Klasse 8.8 (für das Tragen von Lasten geeignet) oder gleichwertig entsprechen. Nicht gekennzeichnete (nicht für das Tragen von Lasten geeignete) Befestigungselemente dürfen nicht verwendet werden.
4. Verwenden Sie Sicherungsscheiben oder eine Schraubensicherung, die eine Demontage ohne Werkzeuge ermöglicht, wie z. B. Loctite® THREADLOCKER BLUE 242®, um eine erschütterungsfeste Verbindung zu gewährleisten.
5. Befestigungselemente sollten mit dem in den Anweisungen angegebenen Drehmoment angezogen werden. Verwenden Sie kein höheres Drehmoment, da dies Schäden am Lautsprechergehäuse 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. Bringen Sie ein zusätzliches Sicherungskabel an der Box an. Verwenden Sie hierzu nicht die tragenden Befestigungspunkte, die die Halterung mit dem Lautsprecher verbinden. Wir empfehlen diese Sicherheitsmaßnahme auch dann, wenn diese von den örtlichen Behörden nicht vorgeschrieben ist. Wenden Sie sich wegen der richtigen Auslegung und Installation an einen zugelassenen fachkundigen Techniker oder einen Montagespezialisten.

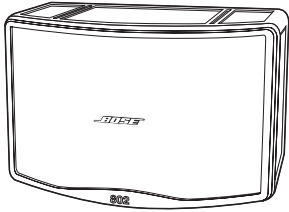
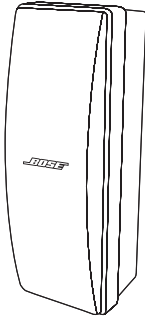
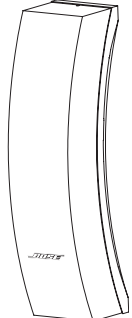
 **ACHTUNG:** Installierte Lautsprecher erfordern regelmäßige Inspektion und Routinewartung, um die ordnungsgemäße Funktion und den sicheren Betrieb zu gewährleisten. Überprüfen Sie die Befestigungselemente und das Zubehör auf Anzeichen von Korrosion, Verbiegen oder andere Zustände, die die strukturelle 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.

 Dieses Produkt entspricht allen Anforderungen der geltenden EU-Richtlinien. Die vollständige Konformitätserklärung ist einsehbar unter www.Bose.com/compliance.

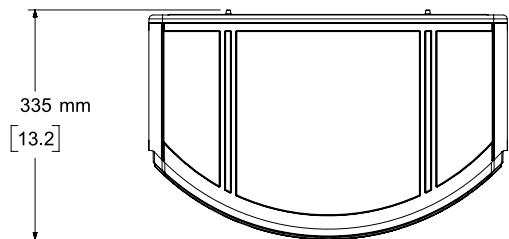
Overview

Panaray® sound-reinforcement loudspeakers feature full-range cone transducers in proprietary array configurations that provide exceptional reliability in adverse conditions, while delivering natural vocal clarity. For more than five decades, Bose has been improving the performance of full-range cone transducers to provide unmatched reliability, natural sound quality, and wide coverage patterns. Available in both point-source and column line array acoustic designs, Panaray loudspeakers cover a wide variety of installed-sound venues, for indoor or outdoor locations.

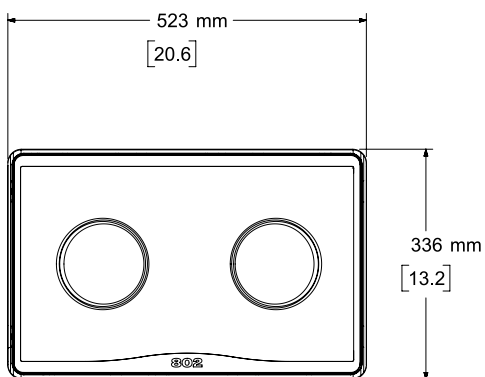
Panaray® 802® Series IV	Panaray® 402® Series IV	Panaray® 502® A
The 802 Series IV loudspeaker, now in its 4th generation, features 8 full-range drivers arranged in a proprietary Articulated Array® design, delivering extension down to 52 Hz and natural vocal clarity – all in a small, lightweight and weather resistant enclosure.	The compact enclosure of the 402 Series IV contains 4 full-range drivers arrayed for increased vertical coverage control. Compared to the 802, the 402 delivers similar output level, but with tighter vertical coverage and less low-frequency response. For smaller venues requiring a high-value solution, a single 402 is capable of covering an entire listening area for accurate speech and music reproduction.	The Panaray 502 A features 5 full-range drivers that deliver the most consistent coverage pattern versus frequency within the Panaray line. The slightly curved, narrow enclosure has an elegant design that blends with any decor. For speech program material, a single loudspeaker can cover smaller venues. Use with full-range music program requires additional subwoofers.
8 x 4.5-inch full-range cone drivers	4 x 4.5-inch full-range cone drivers	5 x 4.5-inch full-range cone drivers
52 – 15 kHz frequency range	73 – 15 kHz frequency range	103 – 15 kHz frequency range
120° H x 100° V coverage pattern	120° H x 60° V coverage pattern	120° H x 70° V coverage pattern
123 dB maximum peak SPL	119 dB maximum peak SPL	117 dB maximum peak SPL
Indoor/Outdoor	Indoor/Outdoor	Indoor use only
		

⚠ CAUTION: These loudspeakers are intended for installation by professional installers only.

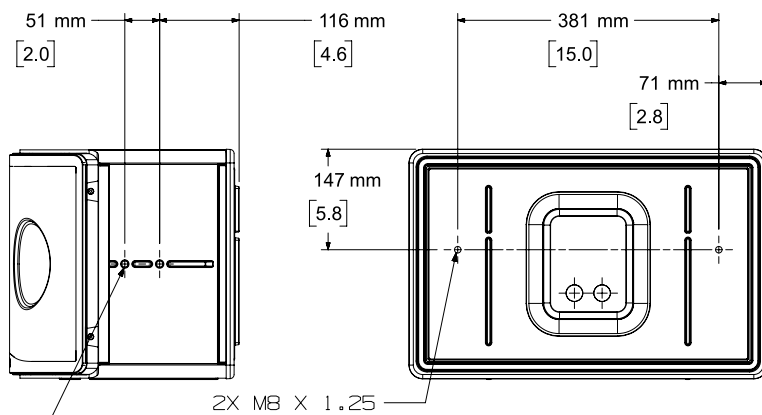
Panaray® 802® Series IV loudspeaker dimensions



Top View

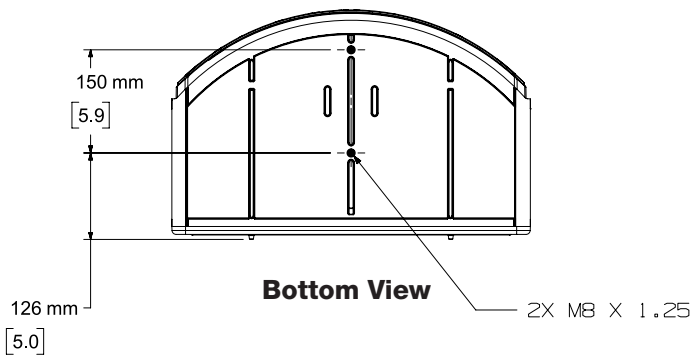


Front View



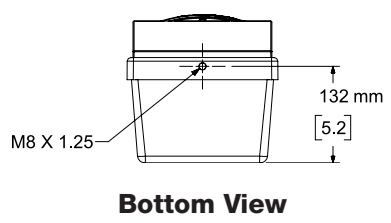
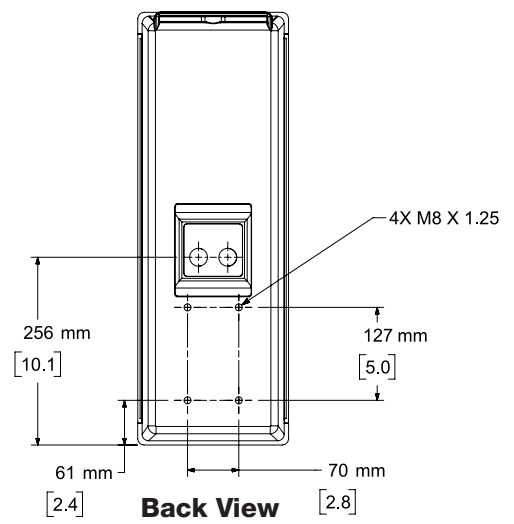
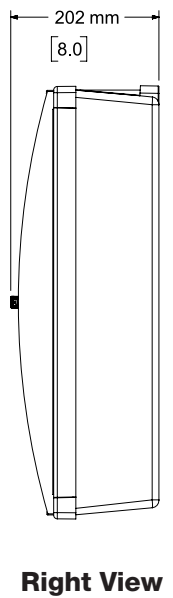
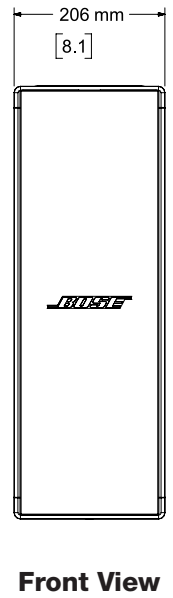
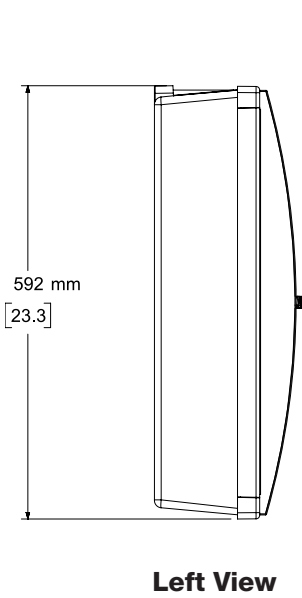
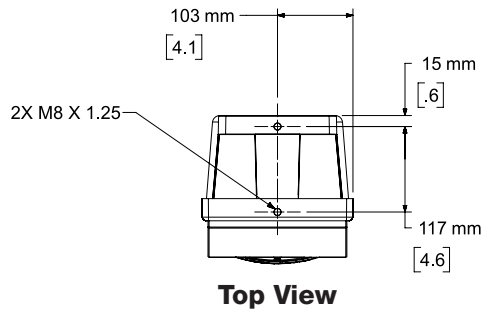
Right View

Back View

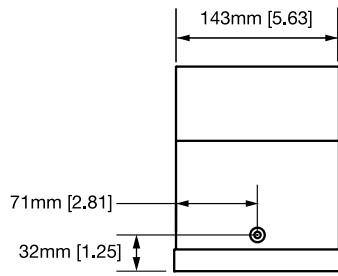


Bottom View

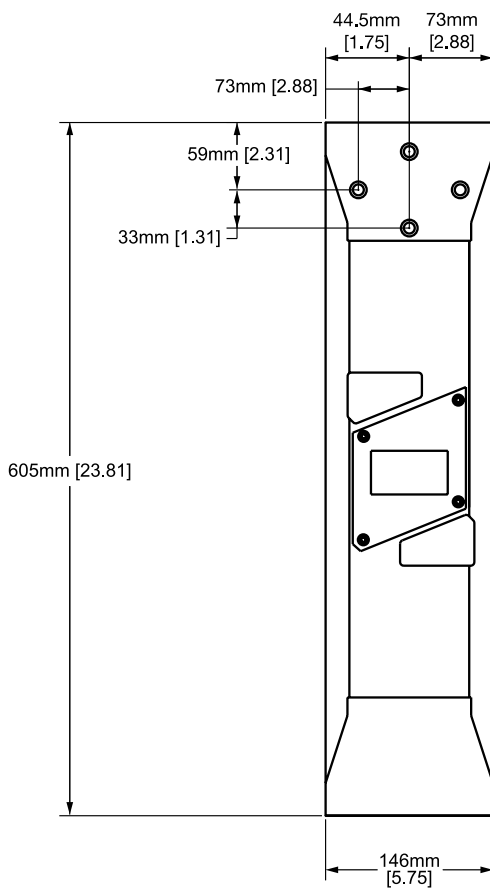
Panaray® 402® Series IV loudspeaker dimensions



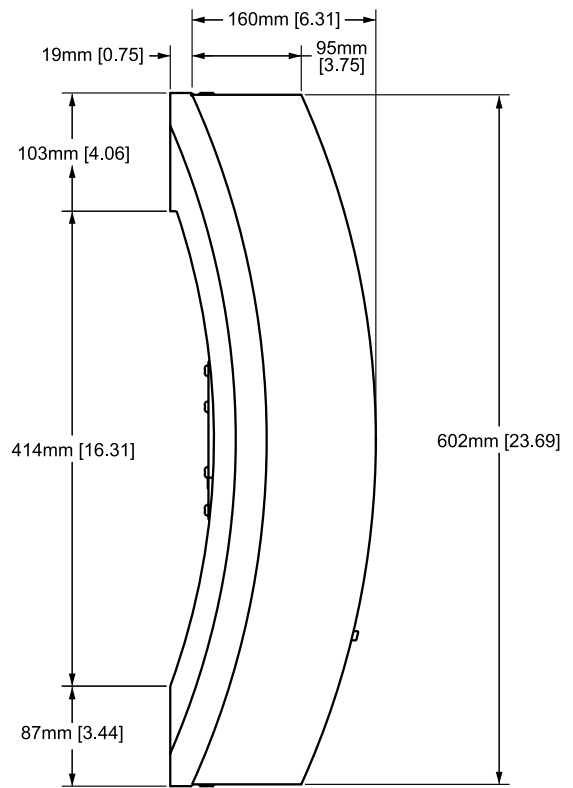
Panaray® 502® A loudspeaker dimensions



Top View



Back View



Left View

Panaray® 802® Series IV loudspeaker mounting options

Panaray® 802® Series IV loudspeaker U-bracket (for indoor or outdoor use)

The Bose® 802 Series IV loudspeaker can be mounted on a wall or ceiling using the U-bracket accessory kit (not included).

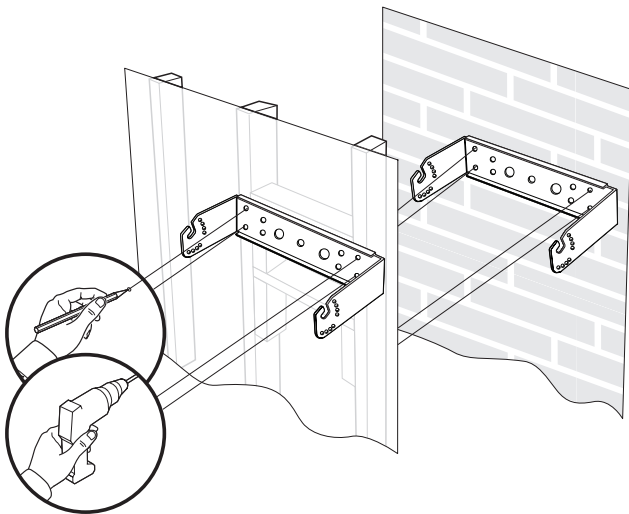
Recommended Tools: 5 mm Allen wrench

CAUTION: 802 Series IV loudspeakers weigh 13.6 kg (30 lb). Use caution when lifting to avoid injury and/or damage to the loudspeaker. Do not rest loudspeakers on their grilles.

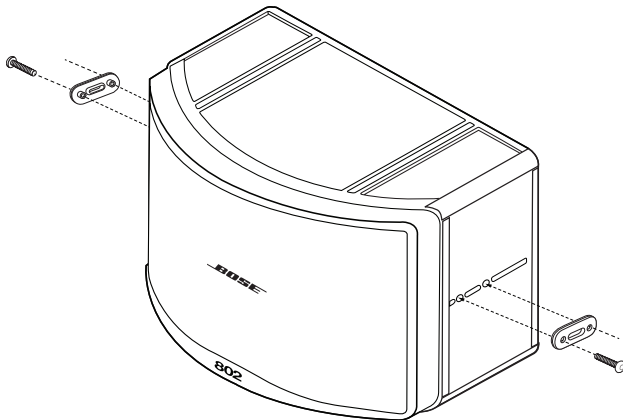
1. Choose a mounting location that will safely support the weight (13.6 kg (30 lb)) of the loudspeaker. Refer to “Guidelines for permanent installation of Bose® Panaray® loudspeakers” on page 3.

CAUTION: Choose a position and mounting method consistent with local building codes and regulations. Ensure the mounting surface and the method of attaching the loudspeaker to the surface is structurally capable of supporting the weight of the loudspeaker. A 10:1 safety weight ratio is recommended.

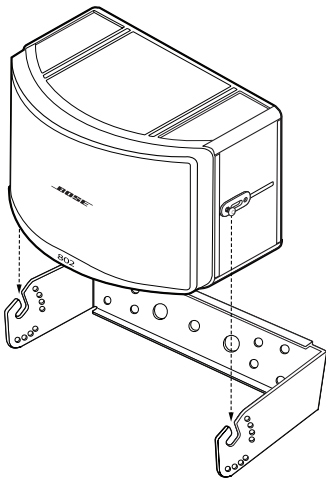
2. Hold the U-bracket in the mounting location and mark the holes.



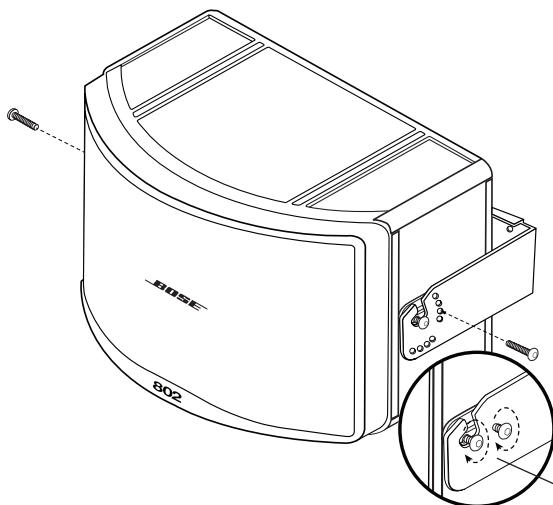
3. Drill four holes and mount the bracket **using all four screws**.
4. Remove the backing from the foam tape and attach a bracket spacer to each side of the loudspeaker. Insert an M8 cap screw into the front hole on each side of the loudspeaker. Do not tighten.



- Place the loudspeaker on the bracket.

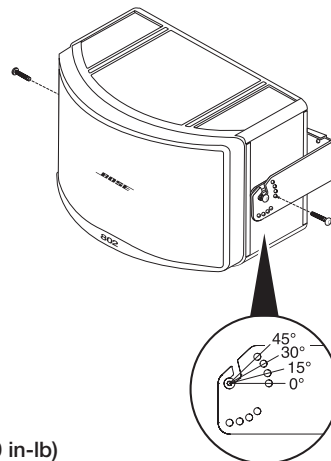


- Tilt the loudspeaker to the desired angle and insert the second M8 cap screw on each side of the loudspeaker.

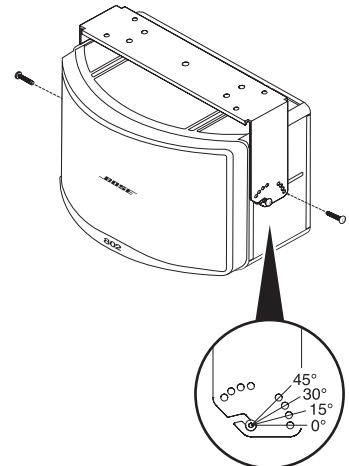


5.6 Nm (50 in-lb)

Wall mount pitch angles



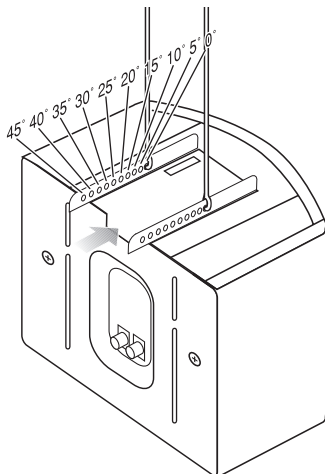
Ceiling mount pitch angles



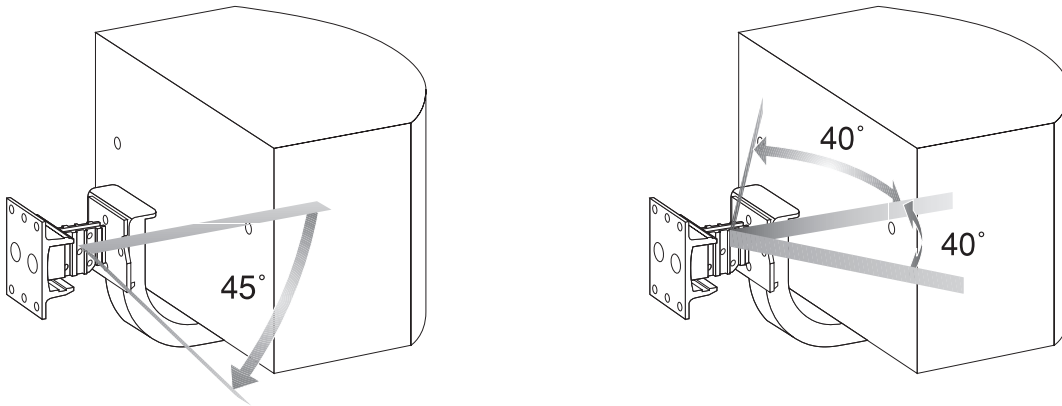
- Using a 5 mm Allen wrench, tighten all four cap screws to 5.6 Newton-meters (50 inch-pounds).
- Connect field wiring and test loudspeaker operation.

SB-8 suspension bracket (for indoor use only)

The SB-8 suspension bracket kit is used for suspension-mounting one 802 loudspeaker. The kit provides 0-45 deg pitch.

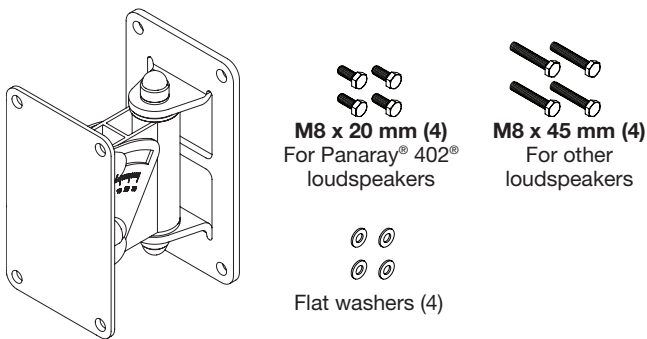


WBP-8 wall bracket (for indoor use only)



Panaray® 402® Series IV loudspeaker mounting options

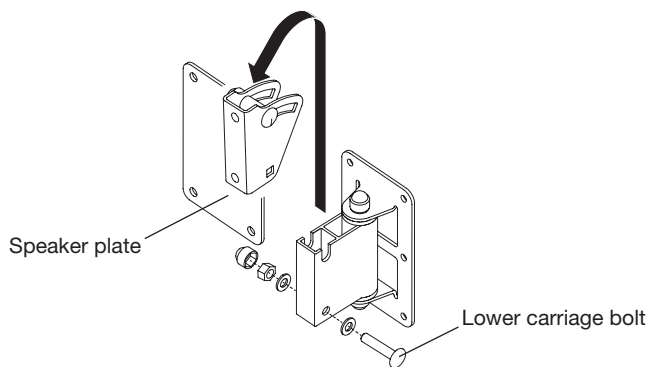
RMUBRKT1 and WBPWR-50 pan-and-tilt bracket kit



Note: The RMUBRKT1 pan-and-tilt bracket is intended for indoor use only. For outdoor applications, use the WBPWR-50 pan-and-tilt bracket

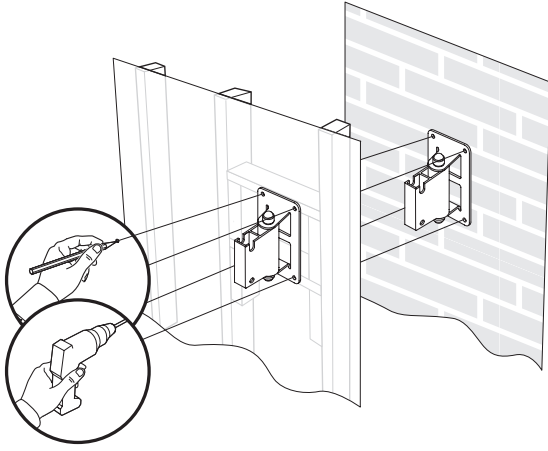
1. Remove the lower carriage bolt and separate the front and rear halves of the bracket.

Note: To mount the loudspeaker horizontally, remove the speaker plate, rotate it 90 degrees, and reattach it.

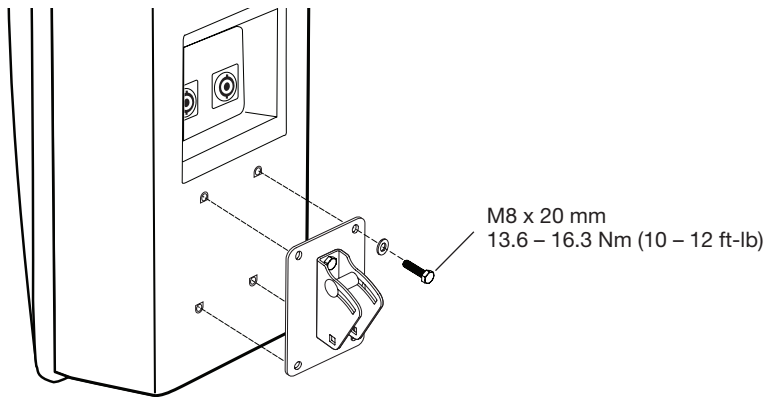


2. Attach the bracket to the wall. Follow the instructions provided with the wall bracket.

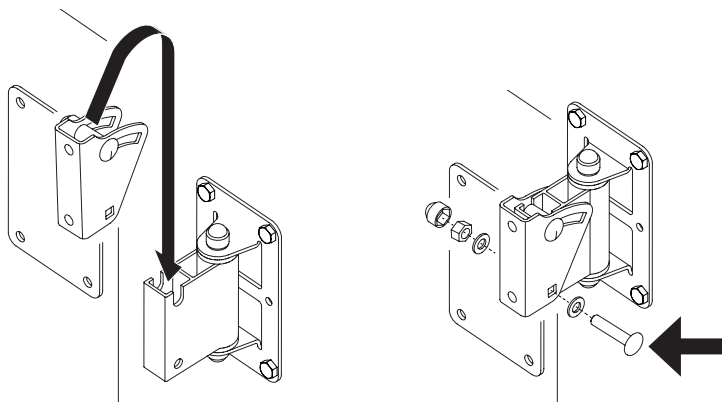
Choose a position and mounting method consistent with local building codes and regulations. Ensure the mounting surface and the method of attaching the loudspeaker to the surface is structurally capable of supporting the weight of the loudspeaker (7.3 kg (16 lb)). A 10:1 safety weight ratio is recommended.



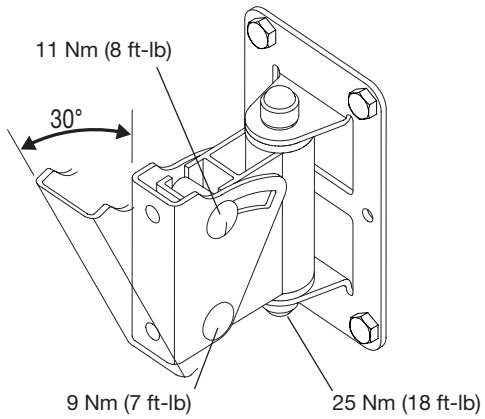
3. Using the included T3 square drive, remove the plastic inserts on the rear panel of the loudspeaker and attach the bracket to loudspeaker using **only** the included M8 x 20 mm screws.



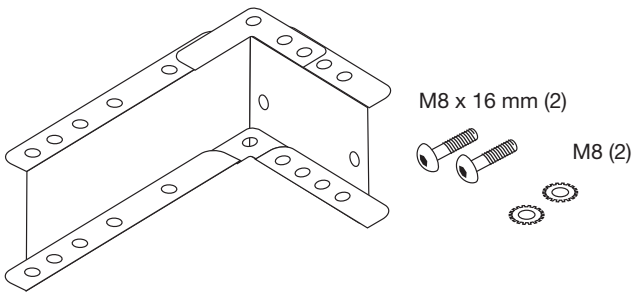
4. Hang the loudspeaker on the wall-mounted half of the bracket and install the lower carriage bolt removed earlier.



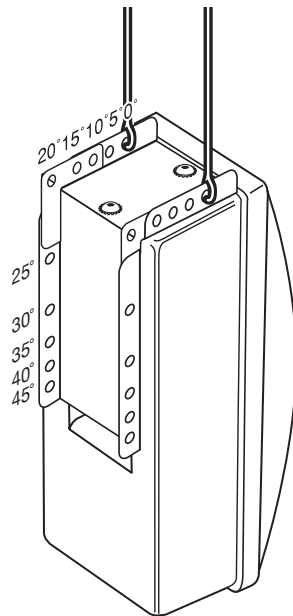
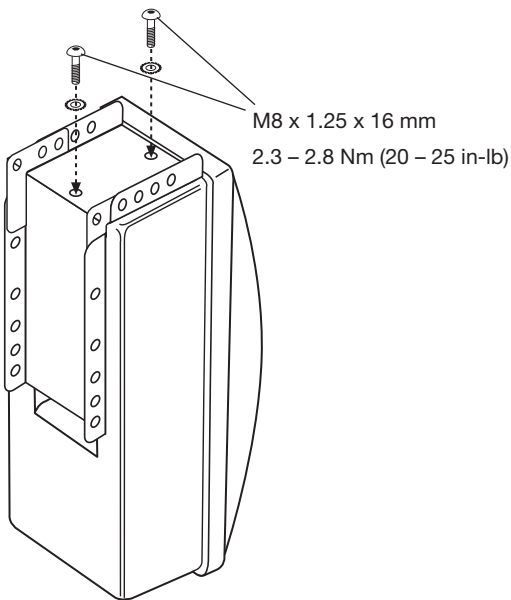
5. Adjust the pitch and yaw using the specified tightening torque.



SB-4 suspension bracket kit (for indoor use only)

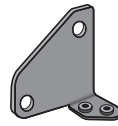
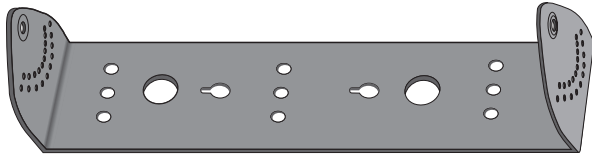


Attach the bracket to the rear of the 402® loudspeaker. Choose a position and mounting method consistent with local building codes and regulations.



Panaray® 502® A loudspeaker mounting options

WCB-5 U-bracket kit (for indoor use only)



M8 x 12 mm (3)

(5)

M5 x 10 mm

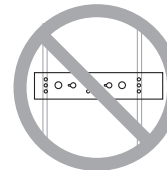
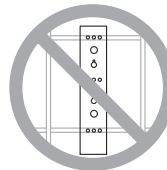
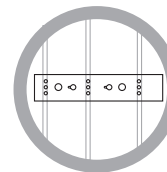
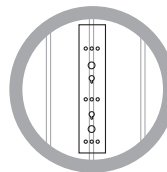
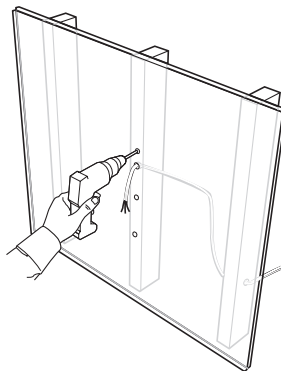
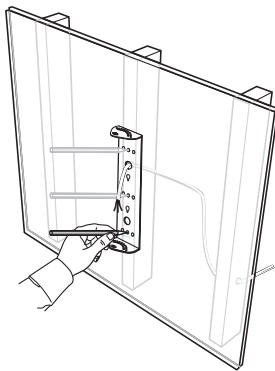
M8 x 20 mm (2)

1. Choose a mounting location that will safely support the weight of the loudspeaker (6.8 kg (15 lb)). Refer to “Guidelines for permanent installation of Bose® Panaray® loudspeakers” on page 3.

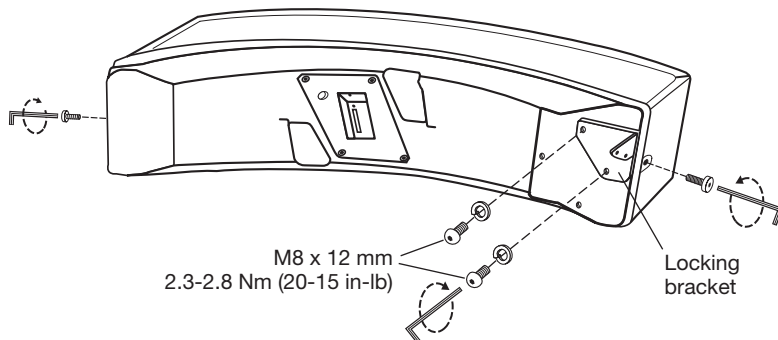
CAUTION: Choose a position and mounting method consistent with local building codes and regulations. Ensure the mounting surface and the method of attaching the loudspeaker to the surface is structurally capable of supporting the weight of the loudspeaker (6.8 kg (15 lb)). A 10:1 safety weight ratio is recommended.

2. Hold the U-bracket in the mounting location to mark and drill the holes.

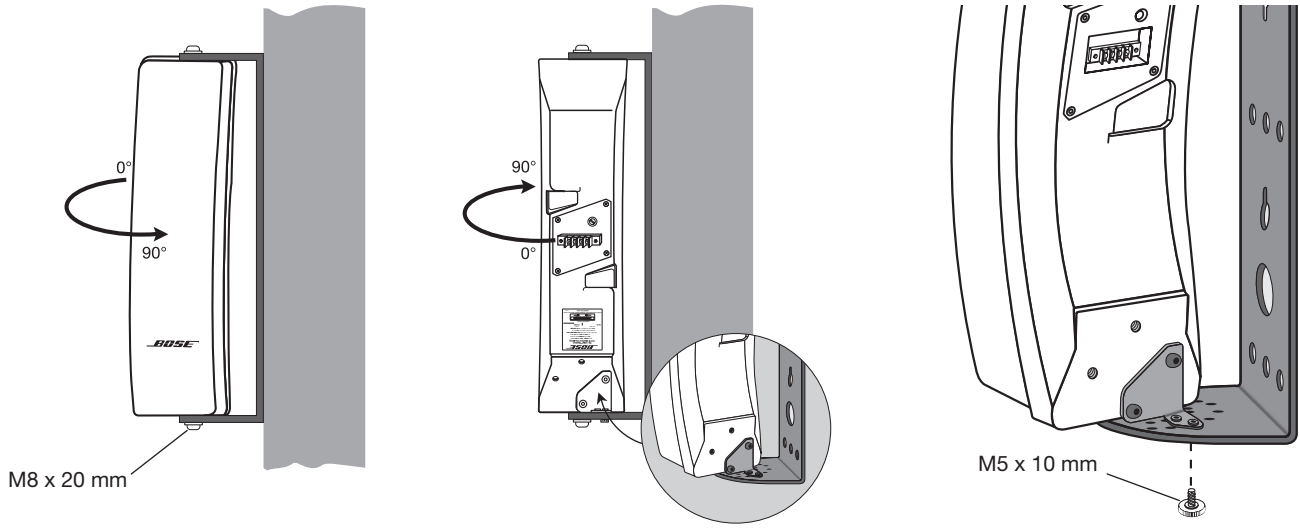
Use at least three (3) of the five (5) holes in the center vertical row of the U-bracket to attach it to the wall. When mounting the bracket vertically, be sure to use the top center hole as one of the three.



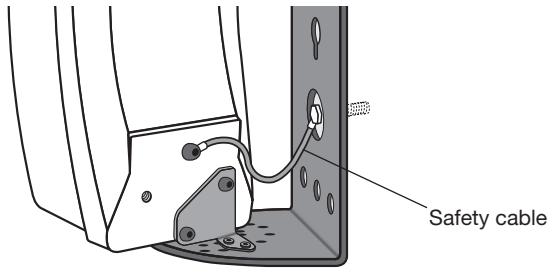
3. Remove end screws and mount lock bracket.



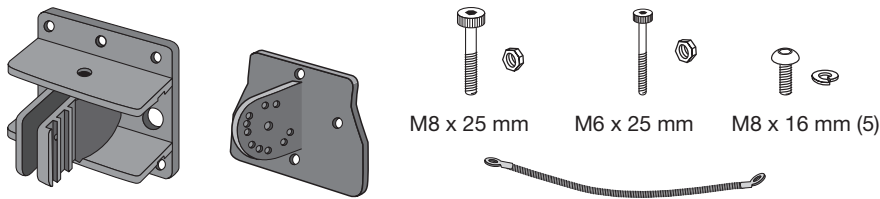
- Attach the 502® A loudspeaker to the U-bracket. Rotate the loudspeaker to the desired angle and insert the thumbscrew into the locking bracket.



- Make sure the safety cable is installed.



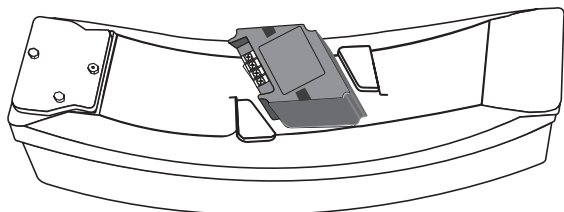
WBP-5 wall-mount kit (for indoor use only)



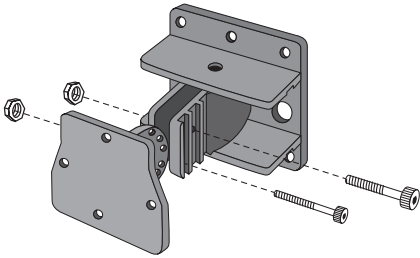
- Choose a mounting location that will safely support the weight of the loudspeaker (6.8 kg (15 lb)). Refer to “Guidelines for permanent installation of Bose® Panaray® loudspeakers” on page 3.

CAUTION: Choose a position and mounting method consistent with local building codes and regulations. Ensure the mounting surface and the method of attaching the loudspeaker to the surface is structurally capable of supporting the weight of the loudspeaker. A 10:1 safety weight ratio is recommended.

CVT-5 transformer kit (for indoor use only)

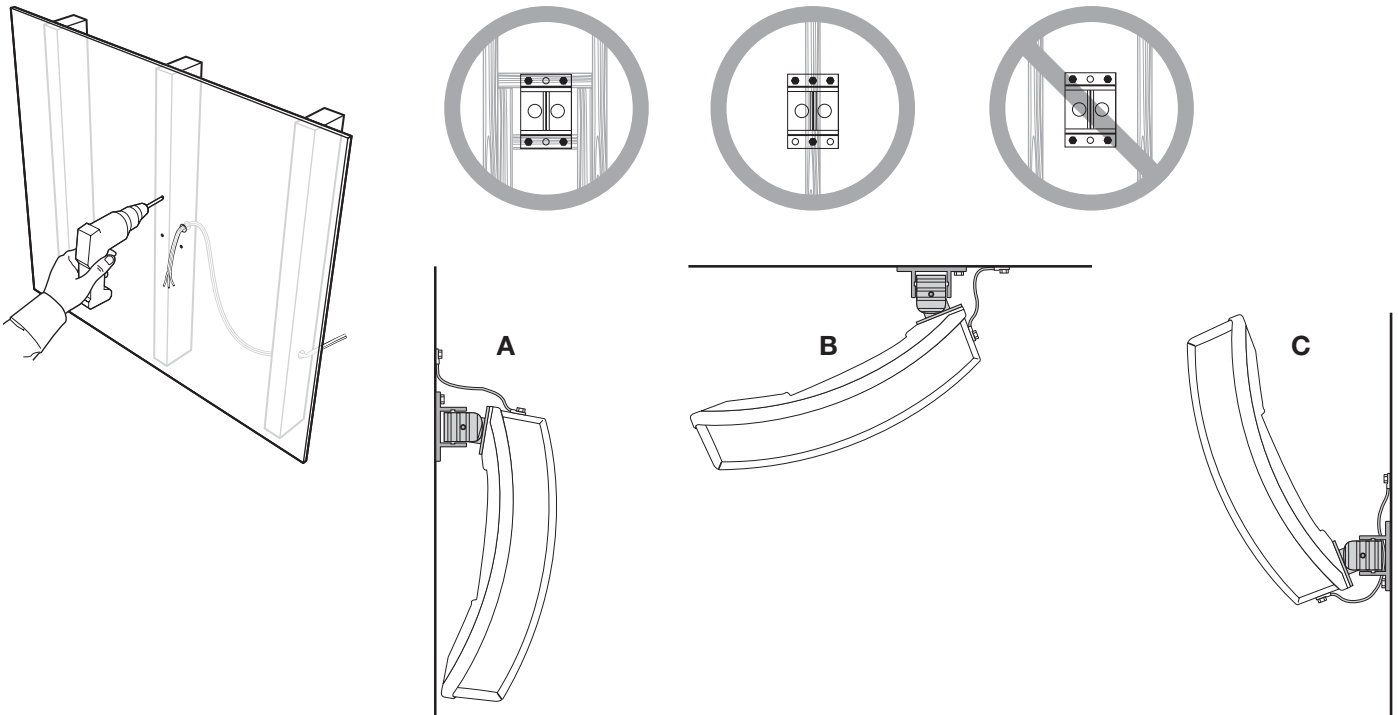


2. Remove both screws from the bracket and separate the two pieces.

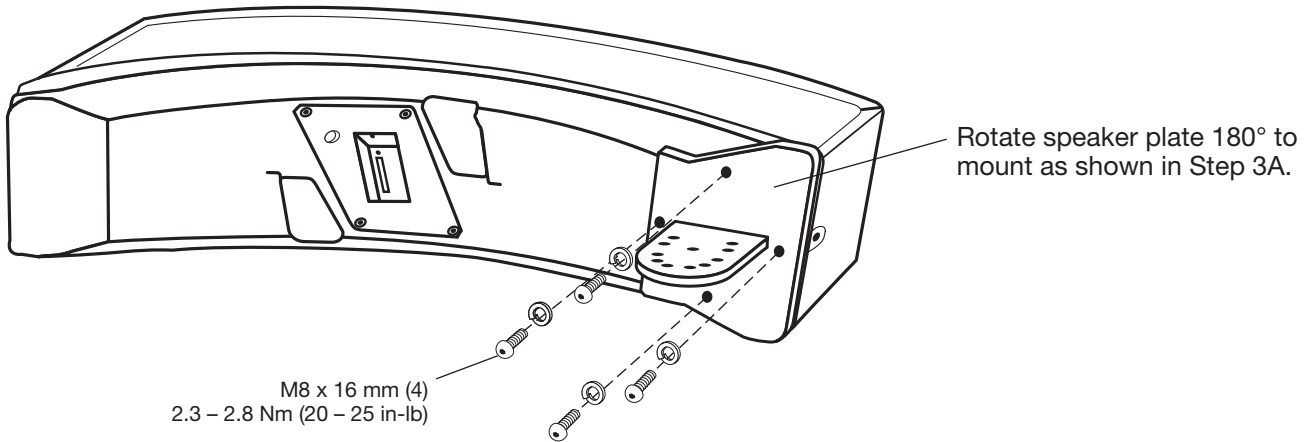


3. Hold the wall bracket in the mounting location to mark and drill the holes.
Use four (4) screws per bracket to attach it to the wall.

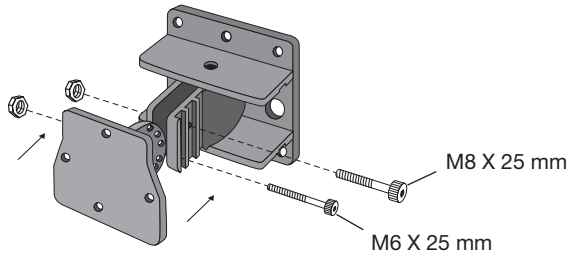
The loudspeaker can be mounted vertically on a wall (A), angled down from a ceiling (B) or angled out from a wall (C).



4. Mount the speaker plate on the 502® A loudspeaker using four M8 x 16 mm screws.



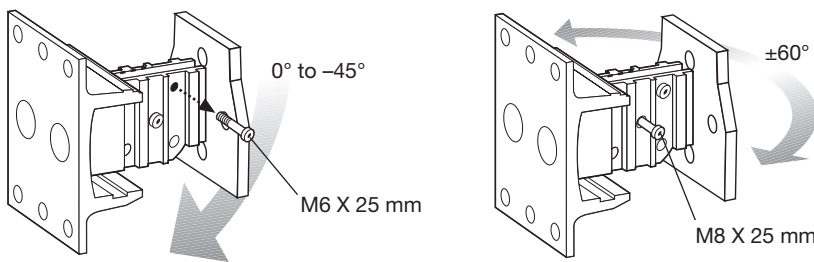
5. Mount the loudspeaker on the wall plate. Slide the fin of the speaker bracket into the wall bracket and install the M8 x 25 mm pivot screw, and then the M6 x 25 mm pitch locking screw.



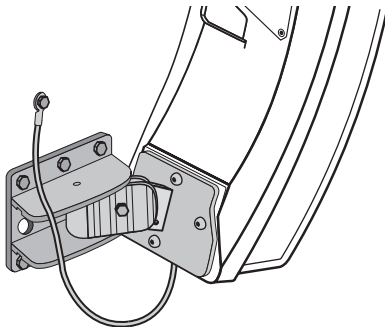
6. Set the pitch and yaw of the loudspeaker.

To set the pitch: Loosen the M8 x 25 mm screw, remove the M6 x 25 mm screw, change the angle and re-insert the screw. Tighten both screws.

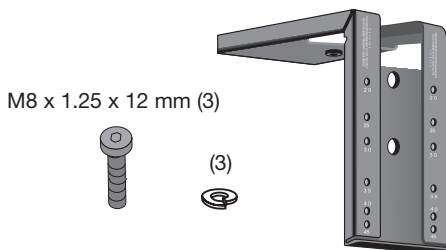
To set the yaw: loosen both screws screw, change the angle and tighten both screws.



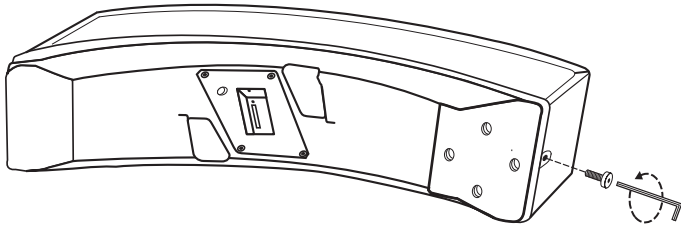
7. Using an M8 x 16 mm screw, attach the safety cable to the speaker. Make sure the safety cable is attached to the wall independent of the wall plate.



CSB-5A suspension bracket kit (for indoor use only)

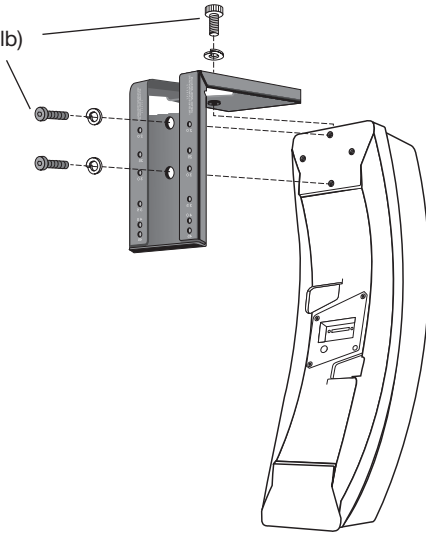


1. Remove the screw from the end of the 502[®] A loudspeaker.

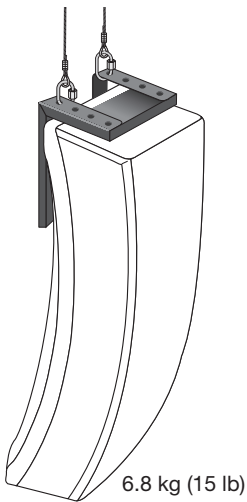


2. Mount the bracket to the loudspeaker.

M8 x 1.25 x 12 mm
2.3 – 2.8 Nm (20 – 25 in-lb)



3. Choose a position and mounting method consistent with local building codes and regulations.



Actual angles for 502 A with a constant voltage transformer

Bracket	Actual angle
0°	0°
5°	5°
10°	10°
15°	15°
20°	20°
25°	24°
30°	27°
35°	32°
40°	37°
45°	40°

Recommended power amplifiers

Selecting the proper amplifier size for a given loudspeaker requires analysis of the transducer long-term (or RMS) power rating, dynamic range of the input-source material (crest factor), desired sound pressure levels, and other factors. As a general guideline, the following table provides recommended power amplifier ranges for Bose® Panaray® loudspeakers:

Model	Nominal Impedance	Required Channels	Amp Power Rating
802® Series IV	8 ohms	1	250 – 500 Watts
402® Series IV			125 – 250 Watts
502® A			150 – 300 Watts

CAUTION: Failure to follow these guidelines may result in damage to the loudspeaker!

Please refer to the specifications listed on the pro.Bose.com website for PowerMatch® amplifiers and compare with the table above to determine which PowerMatch model is best for your particular Panaray loudspeaker system design.

Recommended DSP settings

Bose Panaray loudspeakers require active equalization for optimal sound quality. The recommended equalization is contained in the preset libraries of the Bose PowerMatch® configurable power amplifiers, ControlSpace® engineered sound and loudspeaker processors. EQ values can be downloaded using the Hardware Manager feature in ControlSpace Designer™ software.

The following table contains recommended loudspeaker parametric EQ values that have been confirmed with Bose ControlSpace Designer software and Bose Engineered Sound Processor (ESP) hardware. Results may vary with other brands of DSP hardware.

Panaray 802 Series IV recommended EQ settings

	Band 1	Band 2	Band 3	Band 4	Band 5	Band 6	Band 7	Band 8	Band 9
Type	PEQ	PEQ	PEQ	PEQ	PEQ	PEQ	PEQ	HiShelf	PEQ
Frequency	80	160	300	619	979	1322	2845	6200	—
Gain	4.0	4.0	-4.5	-5.7	1.2	-5.6	-0.5	5.2	—
Bandwidth	1.400	1.200	1.000	1.500	1.388	1.000	1.000	—	—

Panaray 402 Series IV recommended EQ settings

	Band 1	Band 2	Band 3	Band 4	Band 5	Band 6	Band 7	Band 8	Band 9
Type	PEQ	PEQ	PEQ	PEQ	PEQ	PEQ	PEQ	PEQ	PEQ
Frequency	100	160	500	1544	3390	6024	12000	14400	—
Gain	2.0	1.6	-4.0	-5.2	-1.3	3.9	4.0	2.8	—
Bandwidth	1.000	1.000	1.500	1.500	1.000	1.000	1.000	1.888	—

Panaray 502 A recommended EQ settings

	Band 1	Band 2	Band 3	Band 4	Band 5	Band 6	Band 7	Band 8	Band 9
Type	PEQ	PEQ	PEQ	PEQ	PEQ	PEQ	PEQ	PEQ	PEQ
Frequency	150	206	338	655	1021	1367	4072	6282	12361
Gain	1.0	-4.7	-5.0	-4.8	-1.4	-5.1	0.2	6.2	3.8
Bandwidth	0.688	0.400	0.700	1.000	1.018	1.000	0.700	1.000	1.388

Panaray® 802® Series IV Loudspeaker Specifications

Panaray® 802® Series IV		
System Performance		
Frequency Range (-10 dB) ⁽¹⁾	52 Hz – 15 kHz	
Recommended High-Pass Protection Filter	55 Hz with minimum 12 dB / octave filter	
Nominal Coverage Pattern	120° H x 100° V	
Loudspeaker EQ	active EQ required for optimal performance	
Overload Protection	power limiting circuit (non-fused; automatic reset)	
	Bose extended-lifecycle test⁽²⁾	AES component test⁽³⁾
Power Handling, long-term continuous	240 W	300 W
Power Handling, peak	960 W	1200 W
	Free field	Free field
Sensitivity (SPL / 1 W @ 1 m) ⁽⁴⁾	92 dB	92 dB
Calculated Maximum SPL @ 1 m ⁽⁵⁾	116	117
Calculated Maximum SPL @ 1 m, peak	122	123
Transducers		
Full-range Drivers	8 x Bose 4.5-inch (114 mm) full-range cone transducers	
Nominal Impedance	8 ohms	
Physical		
Enclosure Material	mineral-reinforced HDPE	
Grille	power-coated steel grille	
Environmental	outdoor per IEC 529 IP55	
Connectors	2 x Neutrik® NL4 wired parallel	
Suspension / Mounting	8 x M8 threaded inserts (2 back, 2 bottom, 4 sides)	
Dimensions (H xW xD)	336 mm x 523 mm x 335 mm (13.2" x 20.6" x 13.2")	
Net Weight	13.6 kg (30 lb)	
Shipping Weight	17.2 kg (38 lb)	
Product Code		
Black	739058-0110	

Notes:

1. Frequency range measured on-axis with recommended EQ in an anechoic environment.
2. Bose extended-lifecycle test: pink noise, IEC268-5 filtered, 6-dB crest factor, 100-hour duration, with recommended EQ.
3. AES component test: pink noise, IEC268-5 filtered, 6-dB crest factor, 2-hour duration, with recommended EQ.
4. Sensitivity measured in anechoic acoustic boundary conditions with recommended EQ, referenced to 1 W/m.
5. Maximum SPL calculated from sensitivity and power handling specifications, exclusive of power compression.

For additional specifications and application information, please visit pro.Bose.com. Specifications subject to change without notice.

Panaray® 402® Series IV Loudspeaker Specifications

Panaray® 402® Series IV		
System Performance		
Frequency Range (-10 dB) ⁽¹⁾	73 Hz – 15 kHz	
Recommended High-Pass Protection Filter	75 Hz with minimum 12 dB / octave filter	
Nominal Coverage Pattern	120° H x 60° V	
Loudspeaker EQ	active EQ required for optimal performance	
Overload Protection	power limiting circuit (non-fused; automatic reset)	
	Bose extended-lifecycle test⁽²⁾	AES component test⁽³⁾
Power Handling, long-term continuous	120 W	150 W
Power Handling, peak	480 W	600 W
	Free field	Free field
Sensitivity (SPL / 1 W @ 1 m) ⁽⁴⁾	91 dB	91 dB
Calculated Maximum SPL @ 1 m ⁽⁵⁾	112	113
Calculated Maximum SPL @ 1 m, peak	118	119
Transducers		
Full-range Drivers	4 x Bose 4.5-inch (114 mm) full-range cone transducers	
Nominal Impedance	8 ohms	
Physical		
Enclosure Material	mineral-reinforced HDPE	
Grille	power-coated steel grille	
Environmental	outdoor per IEC 529 IP55	
Connectors	2 x Neutrik® NL4 wired parallel	
Suspension / Mounting	7 x M8 threaded inserts (4 back, 2 bottom, 1 top)	
Dimensions (H xW xD)	592 mm x 206 mm x 202 mm (23.3" x 8.1" x 8.0")	
Net Weight	7.3 kg (16 lb)	
Shipping Weight	9.1 kg (20 lb)	
Product Code		
Black	739706-0110	
White	739706-0210	

Notes:

1. Frequency range measured on-axis with recommended EQ in an anechoic environment.
2. Bose extended-lifecycle test: pink noise, IEC268-5 filtered, 6-dB crest factor, 100-hour duration, with recommended EQ.
3. AES component test: pink noise, IEC268-5 filtered, 6-dB crest factor, 2-hour duration, with recommended EQ.
4. Sensitivity measured in anechoic acoustic boundary conditions with recommended EQ, referenced to 1 W/m.
5. Maximum SPL calculated from sensitivity and power handling specifications, exclusive of power compression.

For additional specifications and application information, please visit pro.Bose.com. Specifications subject to change without notice.

Panaray® 502® A Series Loudspeaker Specifications

Panaray® 502A		
System Performance		
Frequency Range ± (-10 dB) ⁽¹⁾	103 Hz – 15 kHz	
Recommended High-Pass Protection Filter	110 Hz with minimum 12 dB / octave filter	
Nominal Coverage Pattern	120° H x 70° V	
Loudspeaker EQ	active EQ required for optimal performance	
Overload Protection	fused: 4-ampere AGC 4 (Buss) or 3AG (Littlefuse)	
	Bose extended-lifecycle test⁽²⁾	AES component test⁽³⁾
Power Handling, long-term continuous	150 W	200 W
Power Handling, peak	600 W	800 W
	Free field	Free field
Sensitivity (SPL / 1 W @ 1 m) ⁽⁴⁾	88 dB	88 dB
Calculated Maximum SPL @ 1 m ⁽⁵⁾	110	111
Calculated Maximum SPL @ 1 m, peak	116	117
Transducers		
Full-range Drivers	5 x Bose 4.5-inch (114 mm) full-range cone transducers	
Nominal Impedance	8 ohms	
Physical		
Enclosure Material	mineral-reinforced structural foam	
Grille	power-coated steel grille	
Environmental	indoor use only	
Connectors	2 x Neutrik® NL4 and 2x barrier strips, wired parallel	
Suspension / Mounting	4 x M8 threaded inserts (4 back)	
Dimensions (H xW xD)	603 mm x 146 mm x 179 mm (23.8" x 5.8" x 7.1")	
Net Weight	6.8 kg (15 lb)	
Shipping Weight	8.3 kg (18 lb)	
Product Code		
Black	040170	
White	040171	

Notes:

1. Frequency range measured on-axis with recommended EQ in an anechoic environment.
2. Bose extended-lifecycle test: pink noise, IEC268-5 filtered, 6-dB crest factor, 100-hour duration, with recommended EQ.
3. AES component test: pink noise, IEC268-5 filtered, 6-dB crest factor, 2-hour duration, with recommended EQ.
4. Sensitivity measured in anechoic acoustic boundary conditions with recommended EQ, referenced to 1 W/m.
5. Maximum SPL calculated from sensitivity and power handling specifications, exclusive of power compression.

For additional specifications and application information, please visit pro.Bose.com. Specifications subject to change without notice.

Visit us on the web at **pro.Bose.com** for more information, including specifications, technical literature, product warranty, parts and accessories, and global support contact information.

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See website for other countries



747960-0010

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