



SLS[™] CS301MH Speaker User's Guide

Issue 1

Part Number 9112477

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IMPORTANT SAFETY INSTRUCTIONS



1. **USER ASSUMES ALL RESPONSIBILITY AND LIABILITY FOR THE INSTALLATION OF THIS PRODUCT.**
2. Prior to installing this product, read and completely understand the installation instructions. You must read these instructions to prevent personal injury and property damage. Keep the installation instructions in an easily accessible location for future reference.
3. Installation must be performed by qualified, licensed, and insured installers, and installed in accordance with all laws, rules, and regulations applicable to the installation site. Failure to do so could result in serious personal injury or even death. Consult an installation professional if the installation instructions are not understood.
4. Compliance with local building codes (and, where applicable, national codes) is the responsibility of the buyer and/or installer. Users should consult with local regulatory authorities for specific codes and/or guidelines for the use of this product.
5. Use proper personal lifting techniques when working with heavy objects to avoid personal injury.
6. Any supplied rigging hardware is intended only for use with the specified loudspeaker. The user assumes all risk of loss and/or injury arising out of the use of the supplied rigging hardware with any other loudspeaker.
7. This guide is meant only for the purpose of instructing the user in the intended use of SLS supplied rigging. All other rigging is considered part of the venue and/or user supplied equipment and is not addressed in this guide."
8. This guide is not a comprehensive source for rigging in general. User assumes all responsibility for ensuring that accepted rigging and safety practices are employed. User assumes all responsibility for the appropriate use of SLS supplied rigging hardware and follows at a minimum all applicable laws, rules, and regulations in force for each venue.
9. Do not install on a building structure that is prone to abnormal vibration, movement, or chance of impact. Failure to do so could result in damage to the equipment and/or damage to the mounting surface.
10. Make sure that no water pipes, natural gas lines, electrical wire, or conduit are present where the speaker is to be installed. Cutting or drilling into water pipes, natural gas lines, electrical wire, or conduit could cause serious personal injury or property damage.
11. Prior to installation, always inspect all hardware components for wear, deformations, corrosion, and missing or damaged parts.
12. This product is intended for installation in dry indoor locations only. Premature product failure or serious personal injury could occur if this product is used outdoors or in wet indoor environments.
13. No open flame sources should be placed on the apparatus.
14. No information contained in this guide is intended as a warranty on the part of SLS. Anyone using this information assumes all liability arising from its use. Product abuse, use of the product not in accordance with SLS instructions, or use in an application for which the product has not been designed is not covered under any SLS warranty, nor is SLS liable for any loss or damage.
15. **DO NOT SUSPEND, HANG, OR FLY THIS APPARATUS.**
THIS FLOOR-STANDING APPARATUS MUST BE ANCHORED TO THE BUILDING STRUCTURE.

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This product should be disposed of in accordance with local or national legislation. For information regarding Waste Electrical and Electronic Equipment (WEEE) and product disposal, go to <http://www.dolby.com/us/en/about/environmental-commitment.html>.

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Introduction

1.1 CS301MH Overview

The SLS™ CS301MH is a cinema mid-high loudspeaker, which is intended for use as the mid-high frequency component in a System 300A and System 400A screen channel for 5.1 and 7.1 cinema auditoriums and medium-to-large sized Dolby Atmos® equipped auditoriums. The SLS CS301MH cannot be installed alone, as it also requires one or two SLS CSB215s or SLS CSB215-CMs to provide the screen channel low frequencies, as described in [Chapter 2](#) in this documentation.

1.2 CS301MH Specifications

Following are the CS301MH general specifications:*

- Frequency response: 200 Hz to 20 kHz
- Sensitivity: 1 watt @ 1 M: 103 dB
- Continuous power rating: 300 watts
- Maximum continuous rated SPL at 1 meter: 128 dB
- Drivers: Dual 8-inch mid-frequency, PRD1200 ribbon high frequency
- Size
 - Width: 18.7 inches (476 millimeters)
 - Height: 38.1 inches (968 millimeters)
 - Depth: 14.5 inches (369 millimeters)
- Net weight: 90 pounds (40.8 kilograms)

* SLS Audio reserves the right to make changes to existing products without notice.

1.3 Customer Support and Spare Parts

If you need assistance, require replacement parts, or have other questions, you can contact us at:

Portal: www.dolbycustomer.com

Email: cinemasupport@dolby.com

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Installing the SLS CS301MH

2.1 Installing the SLS CS301MH

The CS301MH provides the mid and high frequencies for a screen channel. Other components are needed to provide the low frequencies. For medium-sized auditoriums, the SLS™ CS301MH requires a single SLS CSB215 or CSB215-CM loudspeaker (System 300A). To complete a screen channel for larger auditoriums, dual CSB215s or CSB215-CMs (System 400A) may be required. The CSB215 and CSB215-CM are interchangeable, so any reference to a CSB215 in this documentation is also applicable for a CSB215-CM.

This chapter provides installation instructions for a CS301MH with a CSB215. The installation steps for combining a CS301MH with a CSB215-CM are the same, but use different size fasteners, as listed in [Section 2.1.1](#). Dedicated 3/8"-16 sized inserts and screws are provided for use with the included yoke.



Warning: TO PREVENT INJURY, THIS APPARATUS MUST BE SECURELY ANCHORED TO THE FLOOR IN ACCORDANCE WITH THE INSTALLATION INSTRUCTIONS. CONSULT A PROFESSIONAL MECHANICAL OR STRUCTURAL ENGINEER TO OBTAIN APPROVAL FOR ALL ATTACHMENTS TO THE BUILDING STRUCTURE. THIS APPARATUS MUST BE INSTALLED BY LICENSED PROFESSIONAL INSTALLERS. IF NOT ATTACHED TO THE BUILDING STRUCTURE PROPERLY, THIS APPARATUS COULD FALL AND CAUSE PERSONAL INJURY OR DEATH. INSPECT ALL COMPONENTS BEFORE INSTALLATION. ALL LOCAL BUILDING AND SEISMIC CODES MUST BE ADHERED TO. YOU CAN STACK ONLY TWO CSB215s TOGETHER FOR SYSTEM 400A INSTALLATIONS. YOU CANNOT STACK SYSTEM 300A UNITS.

2.1.1 Tools Required

- Integrating with CSB215: 7/32-inch Allen wrench for removing fasteners from the CSB215 to install CS301MH yoke into the available CSB215 3/8"-16 install points
- Integrating with CSB215-CM: 6 mm Allen wrench for removing fasteners from the CSB215 to install the CS301MH yoke into available M10 install points
- 5/32-inch Allen wrench to anchor the mid-high cabinet vertical angle
- Tools and user-provided hardware to anchor the CSB215 to building structure (See [Required User-Provided Hardware](#))
- #2 Phillips screwdriver for attaching speaker wire to barrier strip

2.1.2 Positioning the CSB215

When used with the CS301MH, you must position the CSB215 on the building structure such that the two drivers are aligned horizontally, as shown in [Figure 2-1](#).

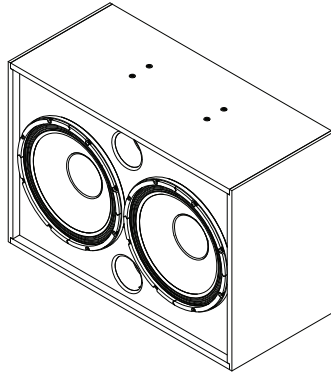


Figure 2-1 Correct CSB215 Alignment for Use with CS301MH

2.1.3 Installing the CS301MH with a CSB215

To install the CS301MH with a CSB215:

1. Remove the four screws on the top of the CSB215 cabinet using the 7/32-inch Allen wrench.
2. Align the yoke provided with the CS301MH such that the two slots on the side of the yoke are facing the back of the CSB215.
If the CS301MH mid/high needs to rotate up, turn the yoke 180 degrees from what is shown in the following figure.
3. Align the four holes in the yoke with the four holes on top of the CSB215, reinsert the screws through the yoke, and then tighten.

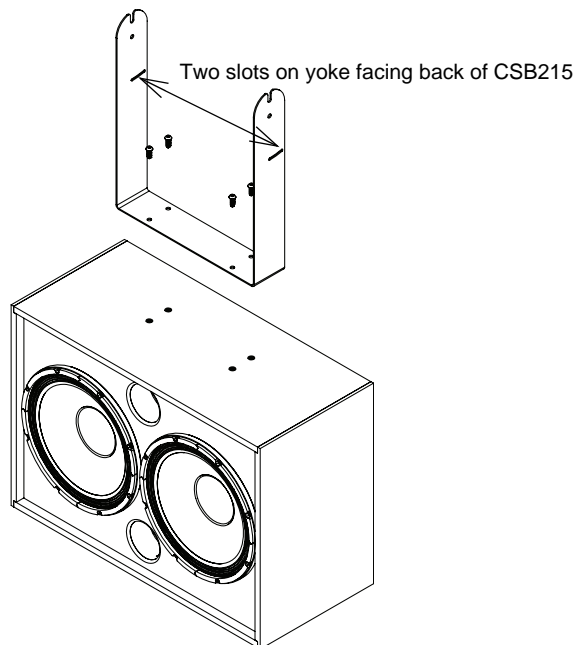


Figure 2-2 Placing CS301MH Yoke on CSB215

4. Loosen the two screws on the side of the CS301MH cabinet using the 7/32" Allen wrench, to provide enough space for the yoke to slide in-between the screw and the side of the cabinet.
5. Remove the two vertical set screws from the CS301MH using the 5/32-inch Allen wrench.
6. Place the cabinet into the top slots in the yoke, and loosely tighten the screws.
7. Set the vertical angle of the cabinet, and tighten the two screws. Insert the vertical set screws, and tighten to anchor in the vertical angle.

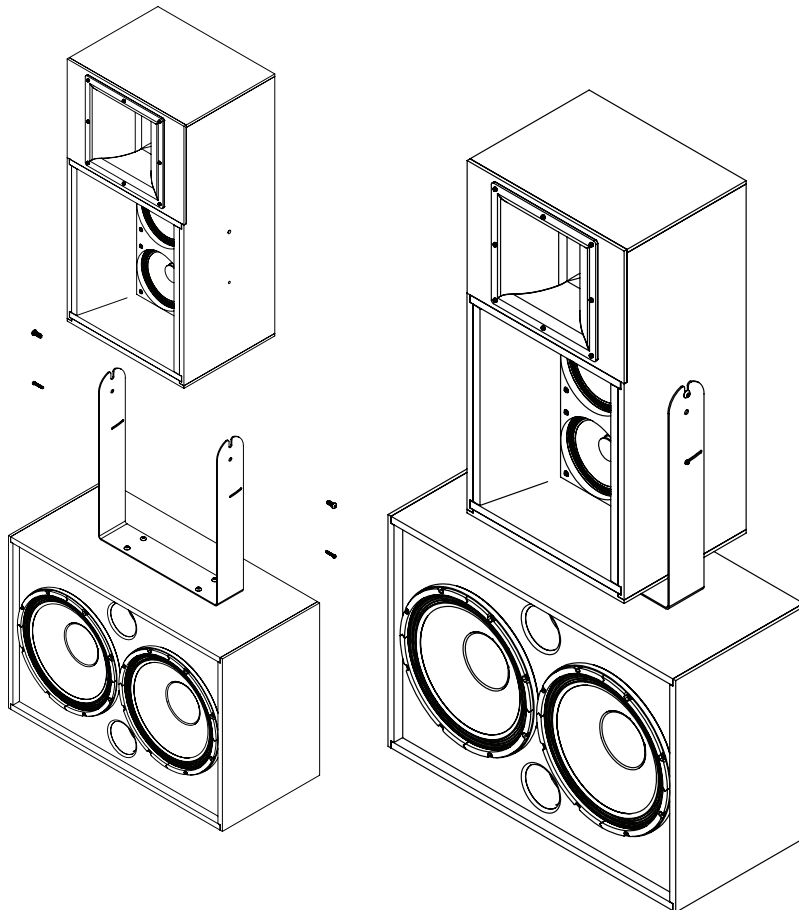


Figure 2-3 Placing CS301 on CSB215 (System 300A)

Required User-Provided Hardware

Due to vibrations created by speaker systems, you must secure CSB215 low-frequency cabinets to each other (when more than one cabinet is used). In addition, you must anchor the speaker stack to the building structure to prevent it from moving out of position.

To anchor CSB215s together and to the building structure to prevent screen channel movement during operation, user-provided hardware is required. Following is an example of user-provided hardware that you can use for this purpose.

- Use at least two #10 × 2-inch wood screws or 4-5 mm diameter wood screws for each side of the cabinet (four screws for each plate) that enable a minimum of 0.75" (19 mm) to a maximum of 1.5 inches (38 mm) penetration into the speaker cabinet.
- The wood screws must be at least 2" (51 mm) apart for attaching an angled steel plate to the CSB215. (See the following figure.) The metal plate should be at least 0.05" (1.25 mm) for the floor plates (angle brackets) and 0.039" (1.0 mm) for the tie plates. The minimum plate (angle or flat) size must be .063" (1.6 mm). Install the screws so that the center plate is over the seam between the speakers (centered front to rear) to keep the screws and plate away from the edge of the speaker.
- You can use self-taping screws with a pilot hole, if desired. However, do not drill into the cabinet or the bit will tangle in the damping material. The hole should be about half the diameter of the screws. You can use pan head or flat head (countersunk) screws for wood, but we recommend pan head screws for metal. If the head buries in the wood, that is no problem. If mounting the angle plate into metal or concrete, always use appropriate hardware for the material.



Warning: THE CSB215 MAY VIBRATE OUT OF POSITION IF NOT ANCHORED TO THE BUILDING STRUCTURE. CONSULT A PROFESSIONAL MECHANICAL OR STRUCTURAL ENGINEER TO APPROVE ALL ATTACHMENTS TO BUILDING STRUCTURE. USE AN APPROPRIATE SIZE AND QUANTITY OF HARDWARE TO ANCHOR TO BUILDING STRUCTURE. (WE RECOMMEND #10 × 2-INCH WOOD SCREWS OR 4-5 MM DIAMETER SCREWS.) YOU MUST TIGHTEN ALL HARDWARE SECURELY. FOR MORE DETAILS, SEE THE FOLLOWING FIGURE. YOU CAN STACK ONLY TWO CSB215s TOGETHER FOR SYSTEM 400A INSTALLATIONS. YOU CANNOT STACK SYSTEM 300A UNITS.

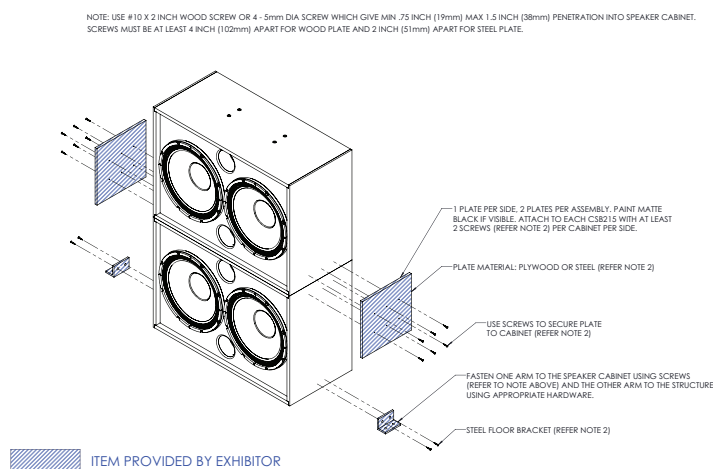


Figure 2-4 Anchor CSB215 Together (System 400A Only) and to Building Structure (System 400A and System 300A)

2.2 Connecting Audio

The input barrier strip accepts 16 to 12 gauge wire, either with #6 spade lugs or bare wire. Always use industry standard practice for selecting wire gauge based on the product power rating and cable length. Note that the barrier strip is marked with plus (+) or red indicators to show the polarity. As per IEC standard, a positive voltage on the positive marked input results in the low-frequency drivers moving outward. Always tie down the cable to available hardware to minimize any buzzing or pullouts.

2.3 Dimensions

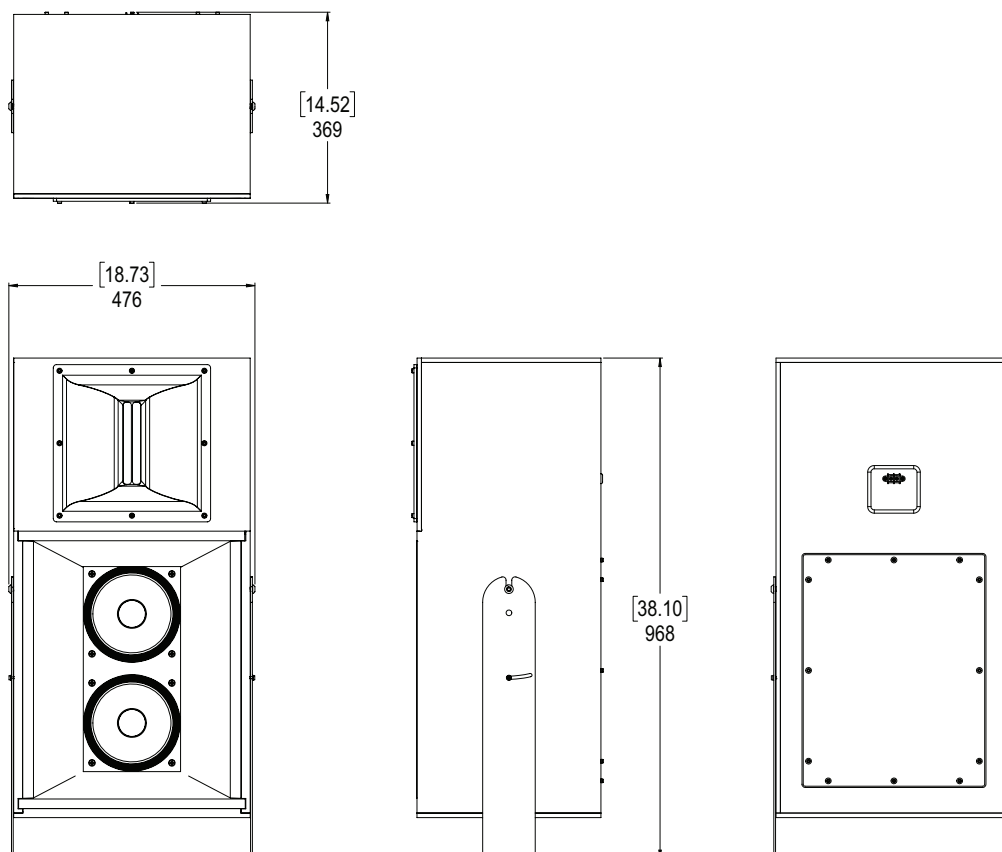


Figure 2-5 CS301MH [inches] mm

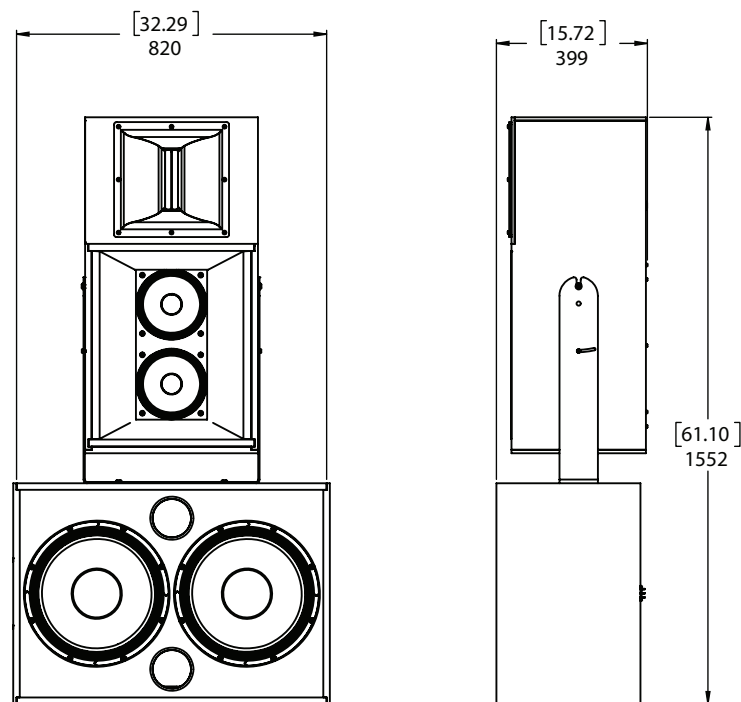


Figure 2-6 CS301MH Used in System 300A [inches] mm

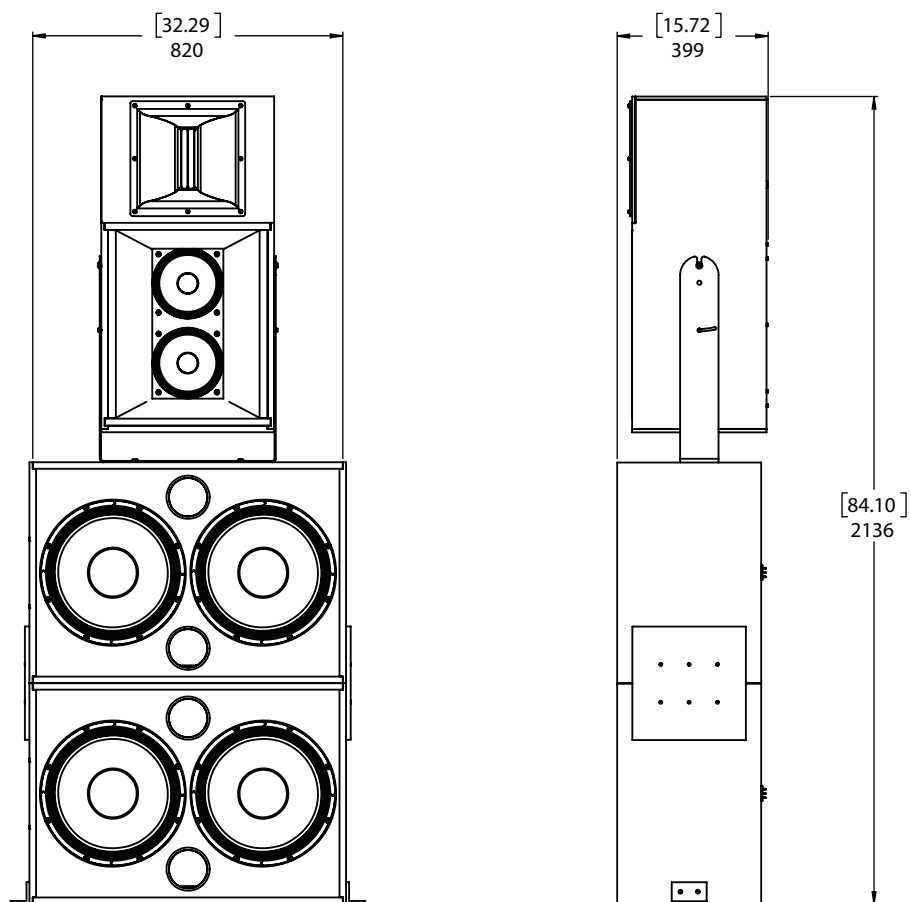


Figure 2-7 CS301MH Used in System 400A [inches] mm