



Dolby System 126

Owner's Manual

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Notices

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Product model

THIS DOCUMENTATION APPLIES TO PRODUCT MODELS: CID1026 and CID1027.

Limited warranty and warranty exclusions

THE LIMITED WARRANTY AND WARRANTY EXCLUSIONS MAY BE FOUND AT THE FOLLOWING URL: <https://www.dolby.com/us/en/about/warranty-and-maintenance-policies.html>

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Important safety and regulatory information



Safety

INSTALLER ASSUMES ALL RESPONSIBILITY AND LIABILITY FOR THE INSTALLATION OF THIS PRODUCT.

No information contained in this guide is intended as a warranty on the part of Dolby. Anyone using this information assumes all liability arising from its use. Product abuse, use of the product not in accordance with Dolby instructions, or use in an application for which the product has not been designed is not covered under any Dolby warranty, nor is Dolby liable for any loss or damage.

Installation must be performed by qualified, licensed, and insured installers, and 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. 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.

A licensed professional engineer must approve the placement and method of attachment to the building structure prior to the installation of the system.

All information presented herein is based upon materials and practices common to North America and may not directly apply to other countries because of differing material dimensions, specifications, and/or local regulations. Installers in other countries should consult with appropriate engineering and regulatory authorities for specific guidelines.

Any supplied rigging hardware is intended only for use with the specified speaker(s). The installer assumes all risk of loss and/or injury arising out of the use of the supplied rigging hardware with any other speaker. All other rigging is considered part of the venue and/or installer-supplied equipment and is not addressed in this guide. This guide is not a comprehensive source for rigging in general. Installer assumes all responsibility for ensuring that accepted rigging and safety practices are employed. Installer assumes all responsibility for the appropriate use of Dolby supplied rigging hardware and follows at a minimum all applicable laws, rules, and regulations in force for each venue.

No open flame sources should be placed on or near the apparatus. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.

Storage temperature: -4 to +140°F (-20 to +60°C). The products covered by this manual are not intended for use in high-moisture environments. Moisture can damage the product and cause corrosion of electrical contacts and metal parts. Avoid exposing the speakers to direct moisture. Keep speakers out of extended or intense direct sunlight. Premature product failure or serious personal injury could occur if this product is used outdoors or in wet indoor environments.

Dolby is not responsible for the application of its products for any purpose or the misuse of this information for any purpose. Furthermore, Dolby is not responsible for the abuse of its products caused by avoiding compliance with inspection and maintenance procedures or any other abuse.

This product is intended for indoor use only.

Do not block any ventilation openings. Install in accordance with the instructions as detailed in this manual and the Product Information document.

When a rolling cart is used to transport the speaker, use caution when moving the cart/speaker system to avoid injury.

Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way.

This product may require installation in a restricted access location. Please refer to this manual and to the Product Information document.



Caution: Hearing damage can occur by prolonged exposure to excessive sound pressure level (SPL); the speaker is easily capable of generating SPL sufficient to cause permanent hearing damage to performers, production crew, or audience members. Caution should be taken to avoid prolonged exposure to SPL in excess of 90 dB.



Caution: Vibration from this type of speaker system may cause cabinets to shift. Failure to secure the speaker cabinet to the building structure may result in the speaker system tipping or falling, which may cause damage or injury.



Caution: 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.



Caution: Use proper lifting techniques when working with heavy objects to avoid personal injury. **Always be careful when moving the CS128LF or the assembled Dolby System 126 and employ at least two people when attempting any relocation of the speakers, as there is danger of tipping if the system is not secured to the building structure.**



High temperature warning: The speaker system may reach elevated temperatures during operation. **Always remove all drive signals and allow ample time for the system to cool down prior to handling.**



To reduce electric shock, do not expose the apparatus to dripping or splashing; no objects filled with liquids, such as mugs, shall be placed on the apparatus.



Caution: Troubleshooting must be performed by a trained electrician. To reduce the risk of electric shock, do not attempt to service this equipment unless you are qualified to do so.

SAFETY SYMBOL KEY

Caution: This symbol that appears on the unit and/or instruction manual is intended to alert the user to the presence of important safety operating and maintenance instructions.

Warning:

This symbol that appears on the unit and/or instruction manual is intended to alert the user to the presence of uninsulated "dangerous" voltage within the product enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

High temperature warning:

This symbol that appears on the unit and/or the instruction manual is intended to alert the user that the item can be hot and that care must be taken accordingly.

EU environmental regulations/compliance and product disposal information

Restriction of Hazardous Substances Directive (RoHS): All Dolby products comply with the requirements of the EU RoHS Directive. This product is electronic equipment and should be disposed of in accordance with all applicable laws.

Do not dispose as household waste. Do not dispose of the product in a fire. Please dispose of this product by taking it to your local electronic waste collection point or recycling center. For information regarding where to recycle electronic equipment, contact your local dealer. For additional information regarding Waste Electrical and Electronic Equipment (WEEE) and product disposal go to <http://www.dolby.com/us/en/about/environmental-commitment.html>.

CID1027 EAC RoHS information

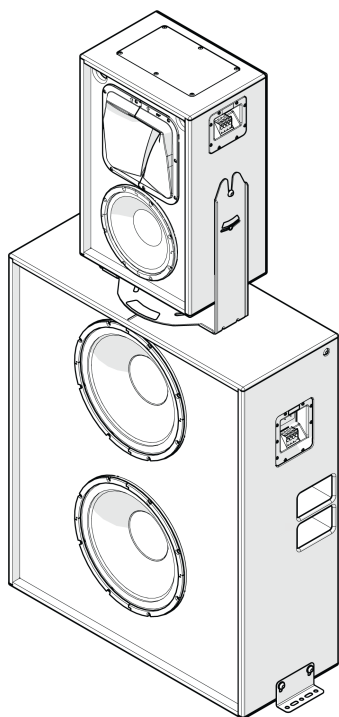
Product model CID1027 complies with EAC RoHS requirements.



Introduction to Dolby System 126

The Dolby System 126 is designed to meet the needs of a high-performance screen speaker in small to medium Dolby Atmos or 7.1 Cinemas, especially those rooms with minimal space behind the screen. The Dolby System 126 delivers consistent audio coverage and uniform volume shading for every seat in the venue up to approximately 49.9 feet (15.2 meters) in depth. The Dolby System 126 consists of a CS126MH speaker for mid and high frequencies and a CS128LF speaker for low frequencies, providing greater intelligibility and enhanced low-frequency extension. These components are coupled together to create a screen speaker system that provides better audience coverage, lower distortion (discomfort), and increased low-frequency response. With intuitive ergonomic design and features, the Dolby System 126 enables quick, easy installation and service. Built on the foundation of the Dolby industry-leading system design and support philosophy, the Dolby System 126 provides elevated performance and streamlines speaker integration.

Figure 1: Dolby System 126 full speaker stack



Following is an outline of this chapter:

- [About this documentation](#)
- [CS126MH key features and benefits](#)
- [CS128LF key features and benefits](#)
- [System 126 preinstallation information](#)
- [Selecting the wire for System 126](#)
- [GLL format files for software simulation modeling](#)
- [Additional information](#)
- [Contacting Dolby](#)

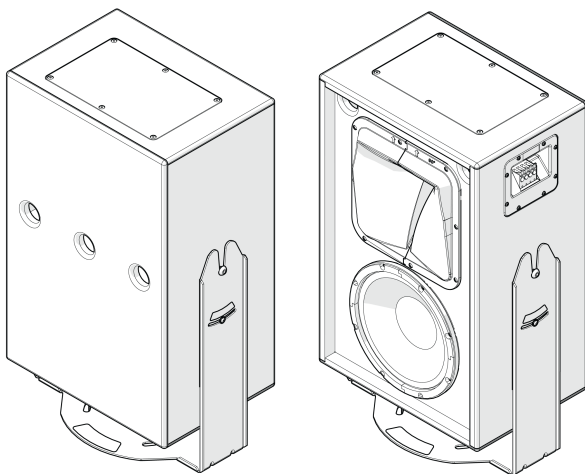
2.1 About this documentation

This documentation describes the key features and benefits of Dolby System 126 and shows you how to install the system in a typical cinematic exhibition environment.

2.2 CS126MH key features and benefits

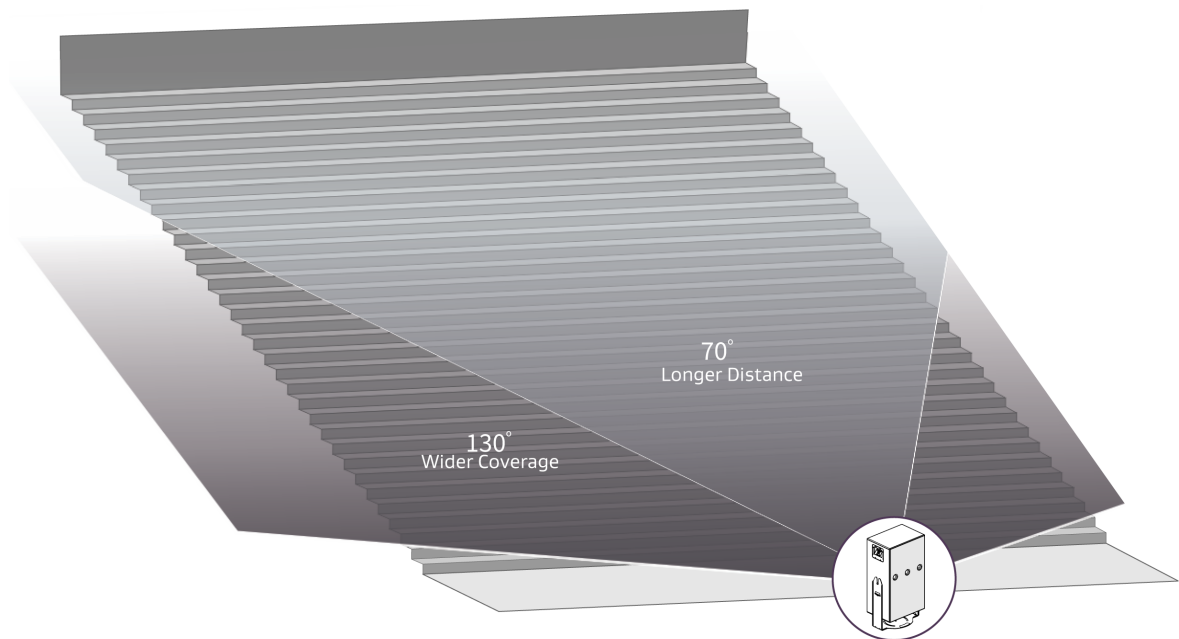
The Dolby System 126 utilizes one CS126MH unit, which consists of an asymmetrical high-frequency horn with a high-performance transducer, and a low-distortion 10-inch midrange driver. This configuration provides improved pattern and amplitude control within the high-frequency operating range, yielding smoother response and coverage to all seats in the auditorium.

Figure 2: CS126MH rear (left) and front (right)



- The high-frequency driver is a very low-distortion 1.7 inch (43.2 mm) polyimide dome driver with a frequency response up to 20 kHz.
- The mid-frequency driver is a high sensitivity 10-inch transducer with an optimized Finite Element Modeling (FEM) motor and suspension with optimized cooling for low power compression.
- The advanced input plate features a high-current, spring-loaded terminal block that enables quick installation without the need for spade lugs or a crimping tool.
- The CS126MH assembly mounts directly to the top of a CS128LF unit and features independent horizontal and vertical aiming adjustments.
- The ports on the front and back of the unit provide natural convection cooling.
- The unique asymmetrical high-frequency horn design provides long-distance coverage to the back of the auditorium from the top of the horn, while the bottom of the horn provides wider coverage and volume shading for the audience closer to the screen. This provides greatly improved coverage for the auditorium in comparison to conventional horn designs.
- An optional crossover is available for single channel, full-range operation. This crossover mounts in the top of the CS126MH and wires down into the CS128LF, which allows a single amplifier to drive the entire system.

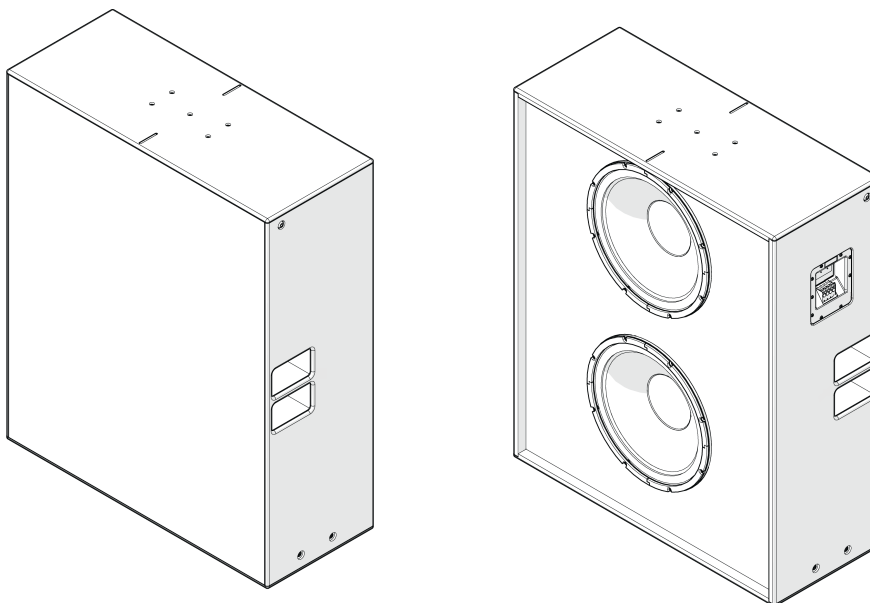
Figure 3: Dolby asymmetrical horn coverage



2.3 CS128LF key features and benefits

Dolby System 126 utilizes a single CS128LF to produce low frequencies.

Figure 4: CS128LF rear (left) and front (right)



- Each unit contains two 15-inch woofers that can be driven in parallel or driven individually to maximize available amplifier power.
- Each 15-inch driver is contained in an independent chamber within the cabinet to provide improved performance and reliability.
- On the CS128LF, a unique flip-card allows you to change the electrical routing for parallel wiring of the drivers powered from a single amplifier channel, or individual wiring to the amplifier channel on each driver. With the CS128LF flip-card, you can easily select either bi-amplifier mode or single-amplifier mode without the need of any additional tools.

- The close spacing of the woofers to each other, combined with placing the pair toward the top of the cabinet, improves system vertical dispersion.
- Rubber feet on the bottom of the cabinet help with stability and isolate the cabinet from transmitting vibration to the building structure.
- Dual side acoustical ports (one on each side of the cabinet) can be used as integrated handles to improve safety and comfort during handling and installation.
- A BKT.FLR floor bracket kit, which is available from Dolby (sold separately), enables secure installation of the speaker system to the building structure. The kit includes two brackets and four M10 washers.
- CS128LF attachment points are provided for connecting to the auditorium building structure only; they are not intended for hanging or flying the speaker. Always adhere to local building codes in your region.
- The advanced input plate features a high-current, spring-loaded terminal block that enables quick installation with no spade lugs or crimping tool needed, vastly simplifying installation.

2.4 System 126 preinstallation information

Preinstallation information is provided for the System 126.

2.4.1 System 126 screen placement and acoustic center information

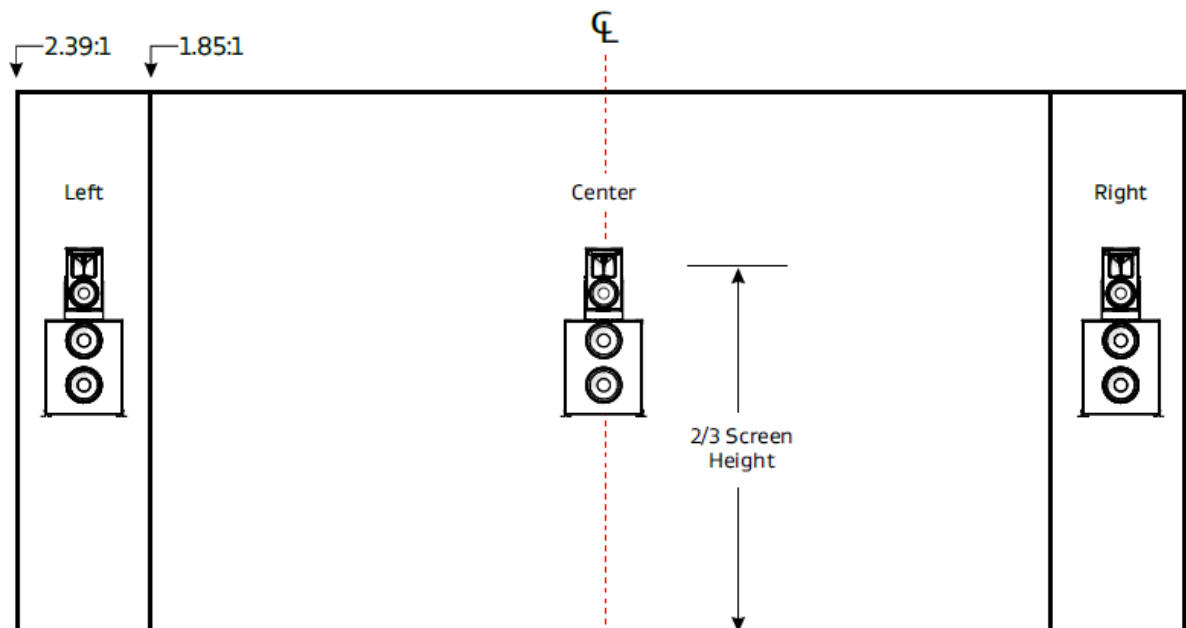
In a typical auditorium, the Dolby System 126 is installed behind the screen, with the acoustic center of the speaker located two-thirds of the distance from the bottom of the screen.

The placement of the speakers behind the screen should follow the guidance provided in the Dolby Atmos Specifications for cinema, or industry standard guidance for a 7.1 screen. To improve localization and smooth pan-throughs, larger cinemas can benefit by adding left-center and right-center screen speakers. You may need to build a screen platform to position the speaker system to the correct height. A screen platform must be secured to the building structure.



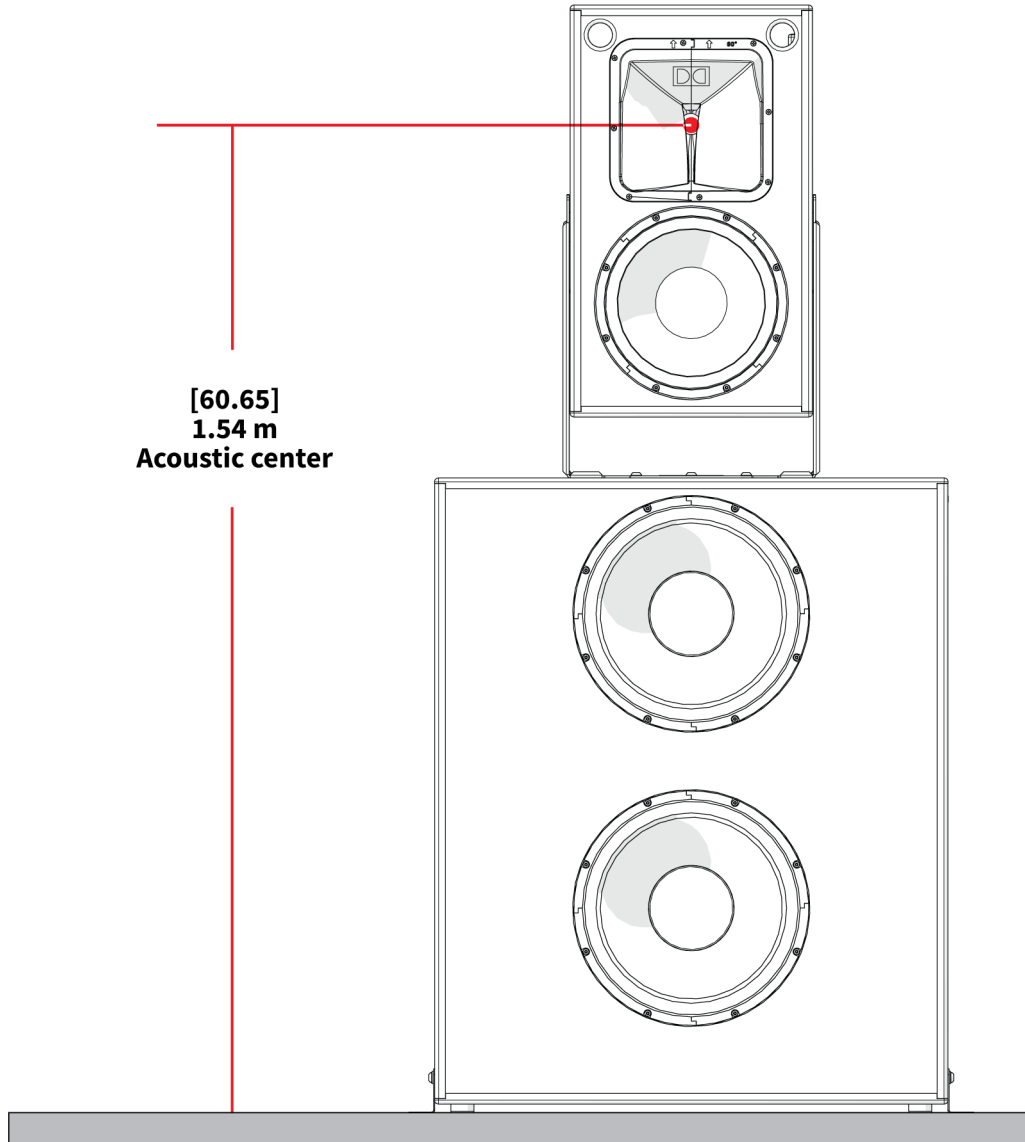
Caution: Design and construction of a screen platform must be performed by a qualified, licensed, and insured professional in accordance with all laws, rules, and regulations applicable to the installation site. Failure to do so could result in serious personal injury or even death.

Figure 5: Typical auditorium installation



The elevation of the speaker system should be located with the acoustic center of the horn positioned exactly two-thirds the distance from the bottom of the screen. The acoustic center of the speaker system is 1.54 meters (60.65 inches) above the building structure from which it is secured, as shown in the following figure.

Figure 6: Dolby System 126 acoustic center

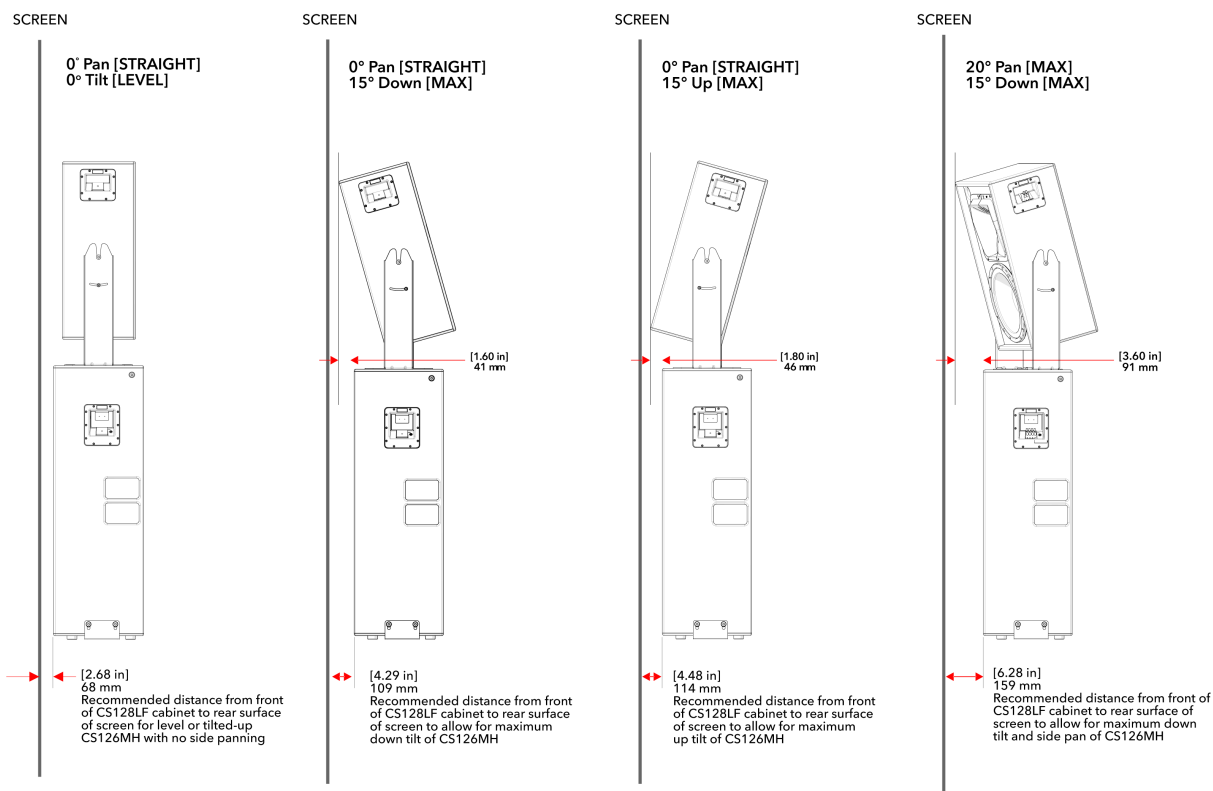


The Dolby System 126 is designed to be placed as close to the screen surface as possible, with a minimum distance of 5-7 cm. This minimizes high-frequency reflections (screen loss) but does not locate the speaker too close to the screen. When aiming the system, angling of the CS126MH may require that the speaker system be set back from the screen to accommodate proper tilting and aiming.



Caution: Always be careful when moving the Dolby System 126 or the assembled Dolby System 126, and employ at least two people when attempting any relocation of the speakers, as there is a danger of tipping if the system is not secured to the building structure.

Figure 7: System 126 screen planes



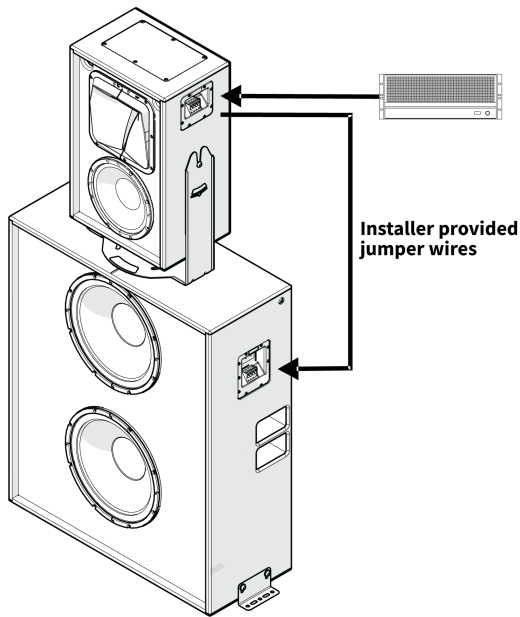
2.4.2 System 126 configuration modes

You can install the Dolby System 126 in two configurations. These different configuration modes are based on the number of amplification channels used.

- Single-amplifier mode is for auditoriums with a maximum depth of 40.7 feet (12.4 meters).
- Bi-amplifier mode is for auditoriums with a maximum depth of 49.9 feet (15.2 meters).

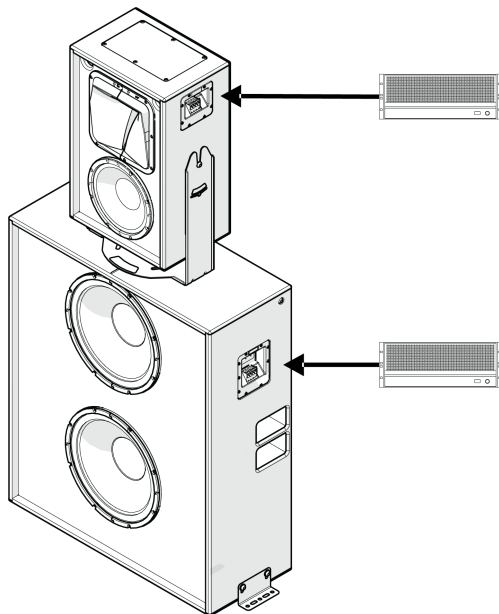
For single-amplifier mode, a single pair of wires is connected to the speaker stack from the amplifier. A full-range crossover (PXO.126) is installed in the top of the CS126MH cabinet to route the audio correctly. A short pair of installer-provided jumper wires connects the CS126MH to the CS128LF. For single-amplifier mode, the PXO.126 is sold separately by Dolby and must be installed in each System 126.

Figure 8: System 126 single-amplifier mode



For bi-amplifier mode, two pairs of wires are connected to the speaker stack from two amplifier channels. One pair connects to the CS126MH for mid/high-frequency audio, and the second pair connects to the CS128LF for low-frequency audio. No optional crossover (PXO.126) is used for this configuration.

Figure 9: System 126 bi-amplifier mode



2.5 Selecting the wire for System 126

It is important that you select the correct wire gauge for System 126.

Typically, no more than 0.5 dB (or 11%) of power should be lost in the cabling. The System 126 input plates accept an American Wire Gauge (AWG) of 18 AWG to 6 AWG (1 mm² to 16 mm²). When selecting the wire gauge, you should always follow industry-standard practices, based on the rated impedance of the speaker and the cable length.

For Dolby System 126, we recommend a wire gauge of 16 AWG to 12 AWG (1.5 mm² to 4 mm²).



Note: The input terminals are marked with indicators to show the polarity. Per International Electrotechnical Commission (IEC) standards, a positive voltage on the positive marked input results in the transducers moving outward. You must verify the positive and negative markings for each respective product. Always tie the cable down to the available hardware to minimize any buzzing or pullouts. If possible, after wiring is completed, play sound through the speaker to identify any connection issues, buzzing, or rattling.

2.6 GLL format files for software simulation modeling

There are .gll files that you can use to simulate Dolby System 126 in acoustical simulation software.

You can download a folder (Dolby_Screen_System_126_GLL_Files.zip) that contains the .gll files at <https://professional.dolby.com/product/cinema-audio-products/System126/>. To run the .gll files, use EASE or EASE Focus software. You can download EASE Focus software at no charge from <https://focus.afmg.eu/index.php/fc-downloads-en.html>.

Dolby System 126 .gll file descriptions

There are two .gll files for Dolby System 126, CS128LF.gll and CS126MH.gll.

CS128LF.gll

- The filename for the LF portion of the Dolby System 126 screen channel is Dolby_CS128LF.
- For correct simulation, place the LF entry point (z axis) at the height of the CS128LF speaker cabinet base in the auditorium.
- The GLL preset defaults to the Dolby System 128, so select **Sys126** in the input configuration for correct bi-amplifier System 126 simulation.
- Select **Sys126 passive** in the input configuration if you are using the optional crossover for single-amplifier channel operation.
- When simulating the bi-amplifier Dolby System 126 setup, we recommend experimenting by removing the default 0.75 ms delay if the reference listening position is at or above the placement of the screen channel. Since this delay is coded into the GLL, you can null it by adding a 0.75 ms delay to the CS126MH, which equals the LF delay.

CS126MH.gll

- To finish the Dolby System 126 screen channel, use the Dolby_CS126MH file.
- Place the CS126MH height entry point (z axis) at 1.53 m (5 ft) above the height entry point of the CS128LF . GLL. The x and y axes should match the settings of the LF.
- The CS126MH . GLL file can then pan ± 20 degrees horizontally, and tilt ± 15 degrees, independent of the CS128LF, as it would in a typical configuration.
- The GLL preset defaults to the System 126 bi-amplifier setup. Select **Sys126 passive** in the input configuration if you are using the optional crossover for single-amplifier channel operation.
- When simulating the single-amplifier channel operation, we recommend experimenting by changing the CS126MH polarity to negative if the reference listening position is at or above the placement of the screen channel.

2.7 Additional information

There is additional information regarding System 126 that you need to consider.

- System weight for stability calculations is approximately 79.2 kg (174.7 lb).
- Allow at least 11 inches (30 cm) between the port exits and any obstruction (including side wall or baffle wall construction). Blockage of the ports results in reduced low-frequency extension and a decreased life span of the product.
- Amplifier selection is aided by additional data, as indicated in the Dolby System 126 specifications. (See the link at the end of this section.)

- The power-draw specification provides the actual power draw in watts at the rated V_{rms} in the design, instead of calculated power. This can aid in optimizing amplifier power budgets, as the measured power is almost always lower than the calculated power (sometimes significantly).
- The maximum voltage peak specification is useful for selecting an amplifier that has a voltage rail at or above the rating for the speaker maximum dynamic performance. Some amplifier companies provide this data in their respective technical data sheets (or provide the data by request).

Related information

[Dolby System 126 and system components specifications](#) on page 37

2.8 Contacting Dolby

You can contact Dolby Cinema Solutions and Support using email or regional telephone numbers. You can also access documentation by visiting the Dolby customer portal.

Contact Dolby Cinema Solutions and Support

- Send an email to cinemasupport@dolby.com.
- Call:

AMERICAS: +1-415-645-4900

ASIA, CHINA, and PACIFIC RIM: +86-400-810-5850

EMEA: +44-33-0808-7700

JAPAN: +81-3-4520-9798

Access documentation

Visit <https://customer.dolby.com>.

Submit feedback about this documentation

Send an email to documentation@dolby.com.

Assembling and installing System 126

Instructions are provided for assembling and installing System 126. Each section of instructions specifies the tools that are needed to complete the required tasks. Refer to each section for more details on required tools.



Note: BKT.FLR floor brackets are available from Dolby (sold separately) to secure the speaker system to the building structure. When using the BKT.FLR brackets, the installer must supply the mounting hardware necessary to secure the speaker system to the building structure. The holes in the bracket are sized for M10 or 3/8-inch bolts.



Caution: Vibration from this type of speaker system is high and may cause cabinets to shift. Failure to secure the bottom speaker cabinet to the building structure may result in the system tipping or falling, which may cause damage or injury.



Caution: Dolby disclaims any liability, including damage or injury, for the use of mounting hardware, supports, and brackets not supplied by Dolby. Any modification to the speaker system (for example, mounting by drilling holes into the speaker system) will render the product warranty null and void.

Following is an outline of this chapter:

- [Assembling and Securing the CS128LF](#)
- [Installing the optional full-range crossover into the CS126MH](#)
- [Installing the CS126MH onto the CS128LF](#)
- [Aiming Dolby System 126](#)
- [Connecting and configuring Dolby System 126MH](#)

3.1 Assembling and Securing the CS128LF

Instructions are provided for assembling and securing a CS128LF.

About this task

The following tools are needed to secure the Dolby CS128LF:

- 6 mm hex driver or wrench
- BKT.FLR brackets
- Installer-provided serviceable thread-locking compound (recommended)
- Installer-provided acoustic or non-hardening caulk (recommended)

Procedure



Caution: Vibration from this type of speaker system is high and may cause the cabinets to shift. Failure to secure the bottom speaker cabinet to the building structure may result in the speaker system tipping or falling, which may cause damage or injury.



Caution: Dolby disclaims any liability, including damage or injury, for the use of mounting hardware, supports, and brackets not supplied by Dolby. Any modification to the speaker system (for example, mounting by drilling holes into the speaker system) will render the product warranty null and void.



Attention: The Dolby System 126 was designed to be placed as close to the screen as possible, within 5-7 cm. When aiming the system, angling of the CS126MH may require that the speaker system be set back from the screen to accommodate proper tilting and aiming.

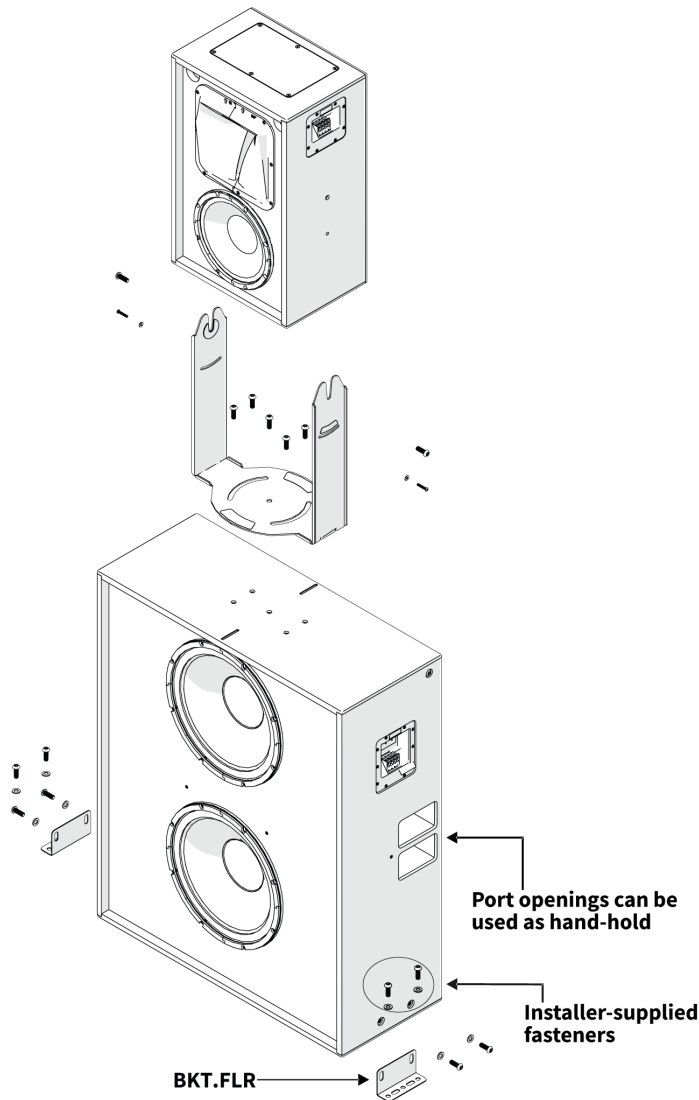
1. Determine the proper placement of the system.




Note: Check with local building codes, and always refer the installation to a qualified professional.

2. Remove the four M10 bolts from the bottom sides of the CS128LF speaker cabinet, as shown in the following figure. These bolts are preinstalled in the CS128LF cabinet.
3. Reinstall the M10 bolts with the M10 washers that are included with the BKT.FLR kit, securing the BKT.FLR brackets, and then tighten the M10 bolts to 8-10 Nm (8.9 ft-lb, 106 in-lb).
4. Secure the CS128LF to the building structure with installer-provided mounting hardware.

Figure 10: Securing the CS128LF



 **Note:** Proper selection and installation of mounting hardware is the exclusive responsibility of the installer. We recommend using M10 bolts and a serviceable thread-locking compound (for example, Loctite 243). We also recommend applying acoustic or other nonhardening caulk to the bottom side of the bracket to isolate speaker vibration from the building structure.

3.2 Installing the optional full-range crossover into the CS126MH

Instructions are provided for installing the optional full-range crossover (PXO.126) into the CS126MH for System 126 single amplifier channel operation. For this configuration, you need to purchase the optional full-range crossover from Dolby.

About this task

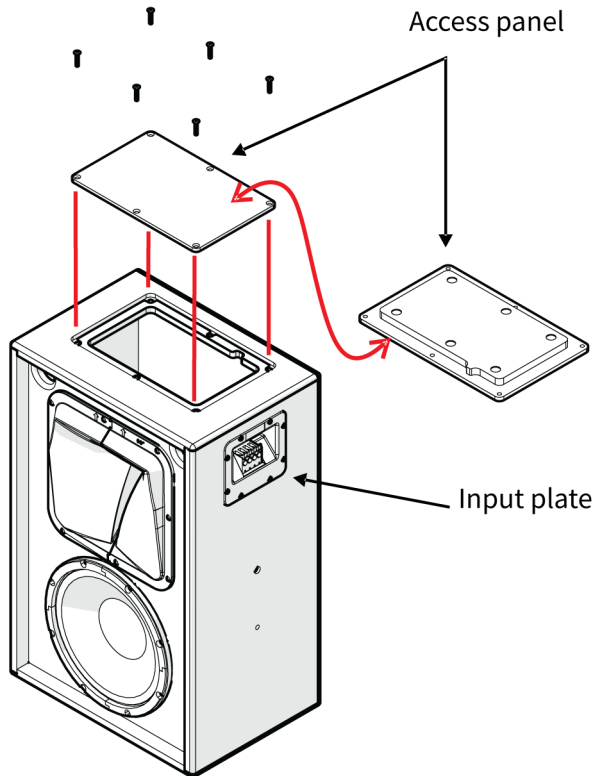
The following tools are required:

- 3 mm hex driver or wrench
- Phillips head screwdriver
- Flat head screwdriver


Procedure

1. Remove the six 3 mm hex-drive screws that secure the CS126MH top access panel, and then place the screws in a safe place.
2. Carefully remove the access panel by gently prying it up with the flat head screwdriver. Once removed, flip the access panel over to expose its back side where you will secure the full-range crossover.

Figure 11: Remove CS126MH access panel

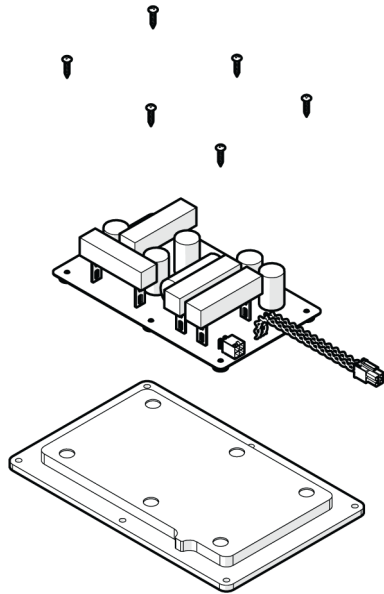


3. Remove the full-range crossover from its packaging and place it on the back side of the CS126MH access panel, lining it up with the indentations.

 **Note:** The full-range crossover fits into all the CS126MH access panel indentations only in one orientation.

4. Use the six Phillips-head wood screws provided in the PXO.126 kit to secure the full-range crossover to the bottom side of the access panel in all six locations.

Figure 12: Mount optional crossover in CS126MH access panel



5. Look through the open area where the panel was removed. On one side of the speaker is an internal crossover, which splits the signal between the CS126MH high and mid drivers and the input plate.
6. Locate the input plate (where the wiring connection is made to the outside of the speaker). There is one connector bundle with wires going to the internal crossover (red and black wire color).
7. Grip the wire harness connector on the back side of the input plate, and then release it by pushing down on the top side of the connector tab and pulling it outward.

Figure 13: Back side of CS126MH input plate (rear panel removed for illustration)

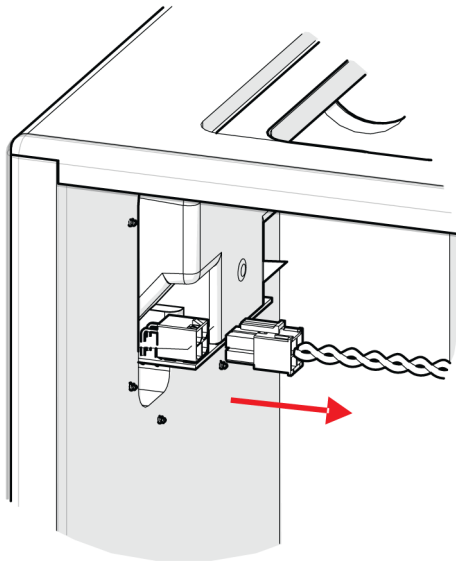
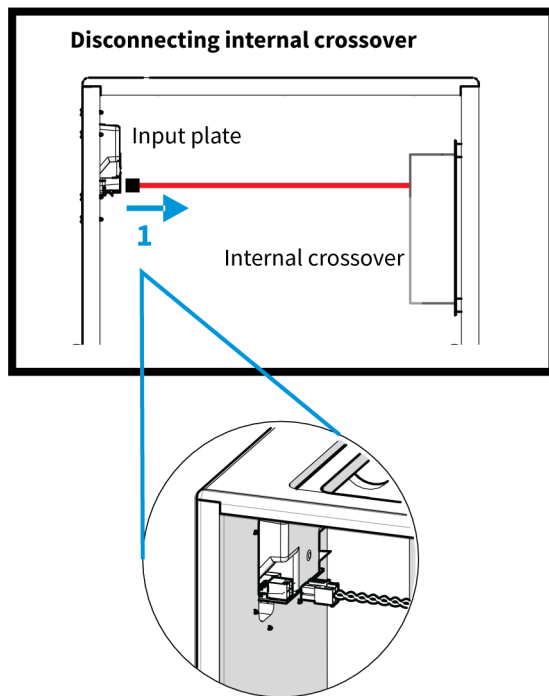
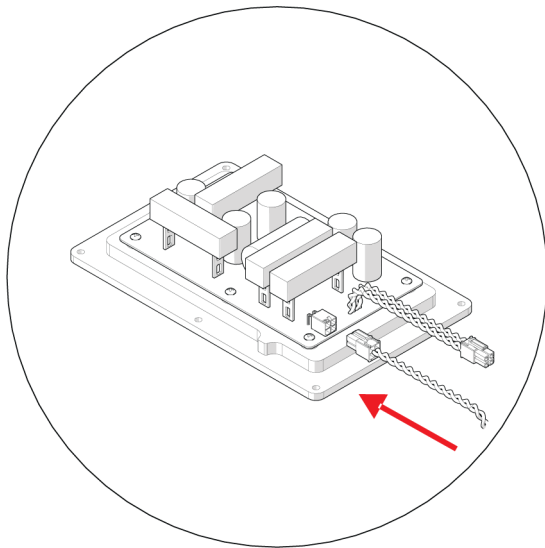


Figure 14: Disconnect internal crossover harness from CS126MH input plate



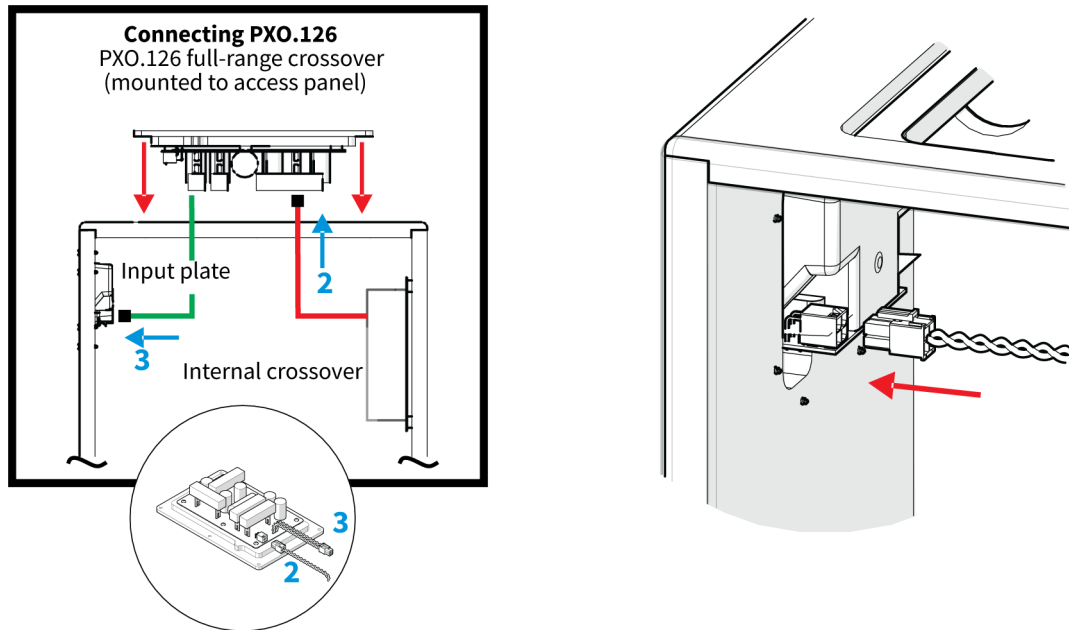
8. Connect the internal crossover wire harness to the full-range crossover output connector. The internal crossover wire harness has only two wires, colored red and black. Make sure that the connector is fully latched.

Figure 15: Connect internal crossover wire harness to full-range crossover output



9. Connect the full-range crossover wiring harness to the back side of the input plate (in the same location from which it was disconnected in Step 7). The full-range crossover wiring harness has four total wires, colored green and back/green, red and black/red. Make sure that the connector is fully latched to the back side of the input plate.

Figure 16: Connect full-range crossover to CS126MH input plate



10. Install the screws that you set aside in Step 1 (with a torque of 2 Nm) to reinstall the access panel on top of the CS126MH.



Remember: The access panel is keyed, so you must install it in the correct orientation.

3.3 Installing the CS126MH onto the CS128LF

Instructions are provided for installing the CS126MH onto the CS128LF.

About this task

This tool is required to install the yoke:

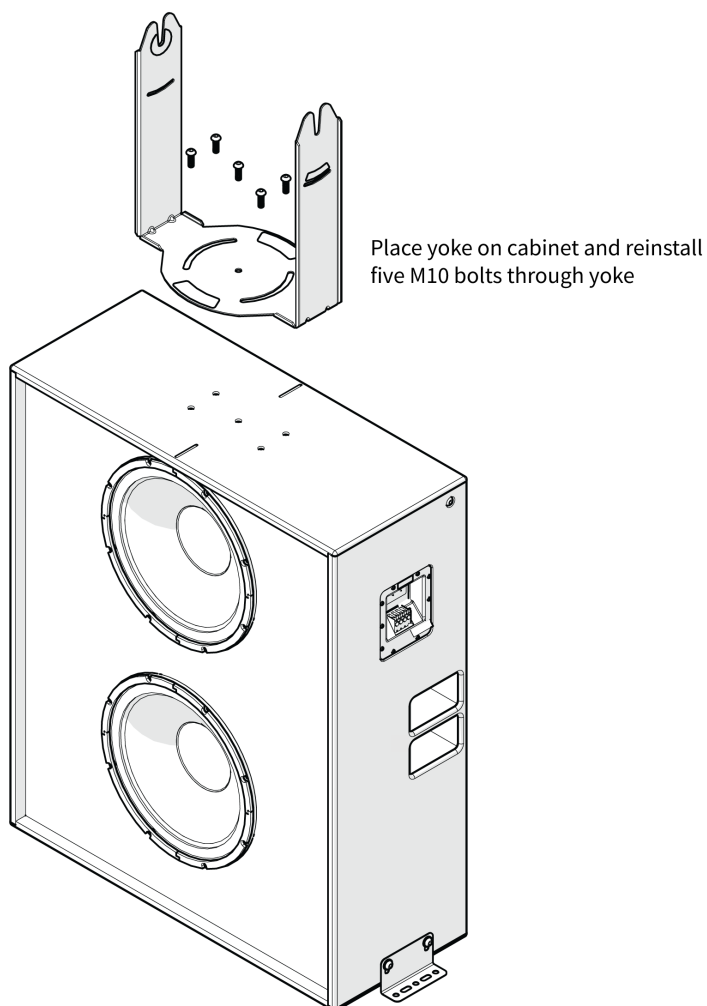
- 6 mm hex driver

Procedure

1. Remove the five M10 bolts from the top of the CS128LF low-frequency cabinet.
2. Place the provided yoke onto the top of the CS128LF, and then reinstall the five M10 bolts, as shown in the following figure. At this point, we recommend performing horizontal aiming.

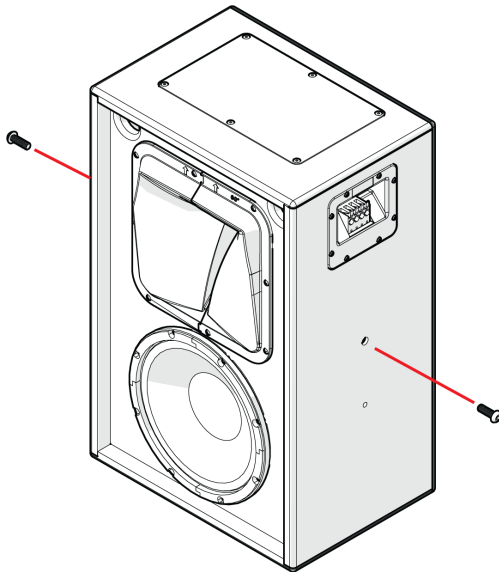
Figure 17: Mount yoke to top of CS128LF low frequency cabinet

Remove five M10 bolts from CS128LF top panel



3. Fully tighten the bolts to 4-7 Nm. Optionally, you can loosely install and tighten the M10 bolts, as described in Aiming Dolby System 126. (See the link for related information at the end of this section.)
4. Install the two M10 bolts supplied in the CS126MH mounting hardware package into the two side mounting locations on the CS126MH cabinet. The bolts must remain loose enough to allow the cabinet to slide into the yoke as described in step 5. The following figure shows the M10 yoke mounting locations.

Figure 18: Installing M10 bolts to side locations on CS126MH



- Carefully lift the CS126MH, and then insert it into the mounting yoke, such that the M10 bolts (inserted in step 4) seat into the left and right cradles that are located at the top of the yoke attached to the CS128LF.



Caution: Always be careful when moving the CS128LF or the assembled Dolby System 126, and employ at least two people when attempting any relocation of the speakers, as there is danger of tipping if the system is not secured to the building structure.

Related information

[Aiming Dolby System 126](#) on page 24

3.4 Aiming Dolby System 126

You need to aim Dolby System 126 for precise sound distribution.

About this task

You need the following tools to aim the Dolby CS126MH;

- 6 mm hex driver or wrench
- 3 mm hex driver or wrench



Note: If a laser pointer will be used for aiming, it must be provided by the installer.

Procedure

- After assembling Dolby System 126, adjust the speaker horizontal axis by rotating the CS126MH on the cabinet. The angle adjustment range is ± 20 degrees from the center, as shown on the provided decal stickers.

Figure 19: Adjust CS126MH horizontal axis

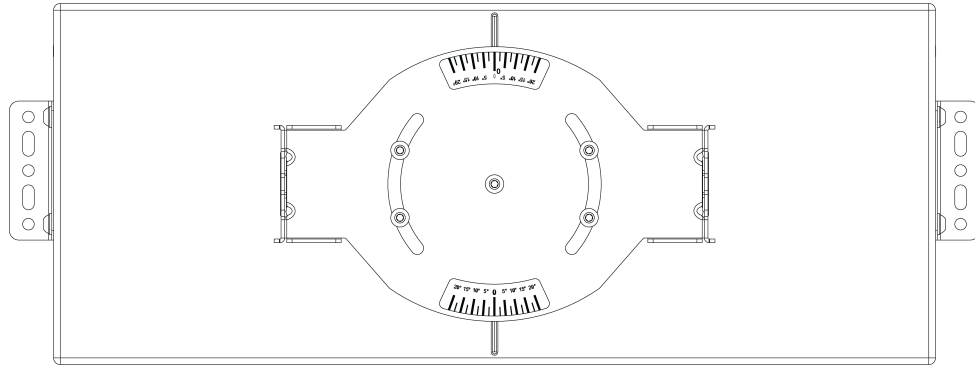
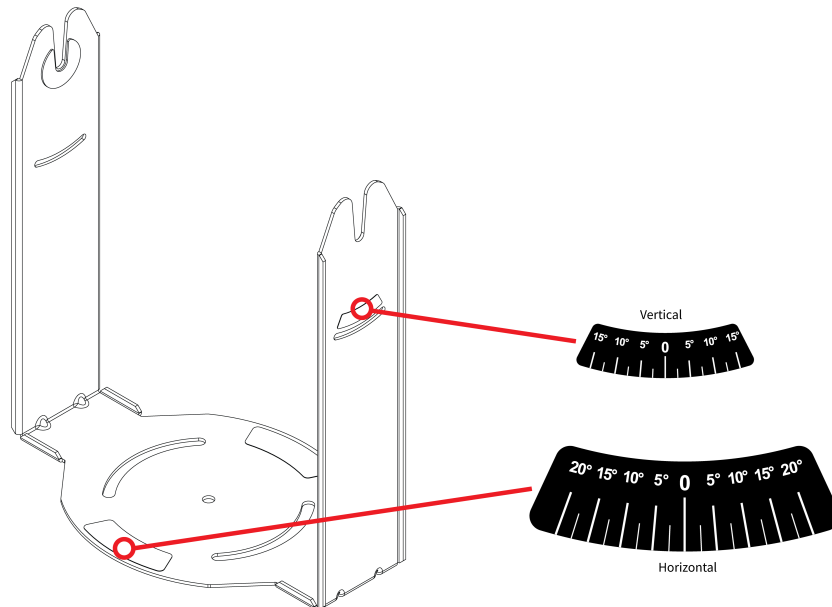
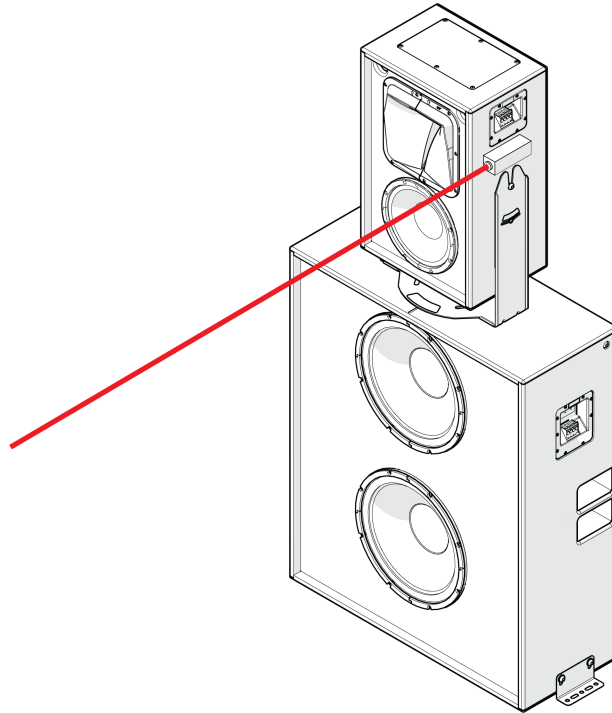


Figure 20: Vertical and horizontal aiming guide



2. Aim the Dolby CS126MH toward the theater Reference Listening Position (RLP).
3. If you are using a laser pointer to assist in the horizontal aiming process:
 - a. Place the laser pointer on the outside left or right side of the CS126MH enclosure.
 - b. Align the laser with the vertical plane of the enclosure.
 - c. Adjust the CS126MH horizontal angle until the laser is directed at the RLP horizontal plane.

Figure 21: Laser pointer positioning for horizontal aiming



- 4.** Tighten the M10 bolts to 4 Nm (2.95 ft-lb, 35.4 in-lb), so the horizontal adjustment is locked in place.
- 5.** Loosen the M10 vertical angle adjustment points on the side of the CS126MH and tilt the cabinet to aim the CS126MH toward the theater RLP. The angle adjustment range is ± 20 degrees.
If you are using a laser pointer to assist in the vertical aiming process:
 - a.** Place the laser pointer on the top of the CS126MH enclosure.
 - b.** Align the laser with the vertical plane of the enclosure.
 - c.** Adjust the vertical angle of the CS126MH until the laser is directed at the RLP vertical plane.

Figure 22: Laser pointer positioning for vertical aiming

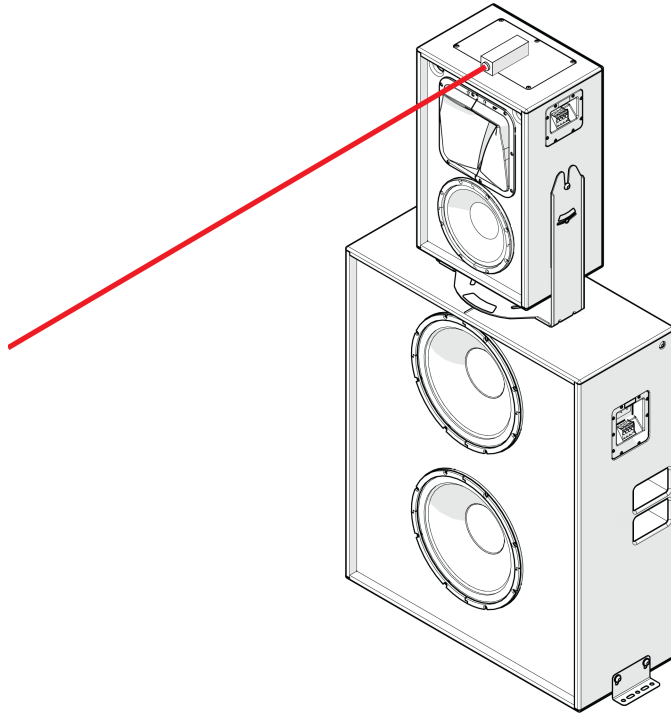
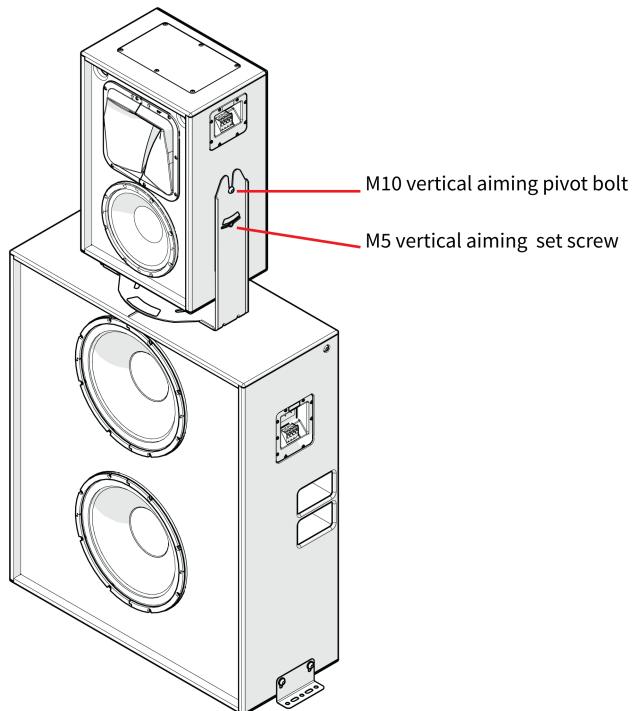
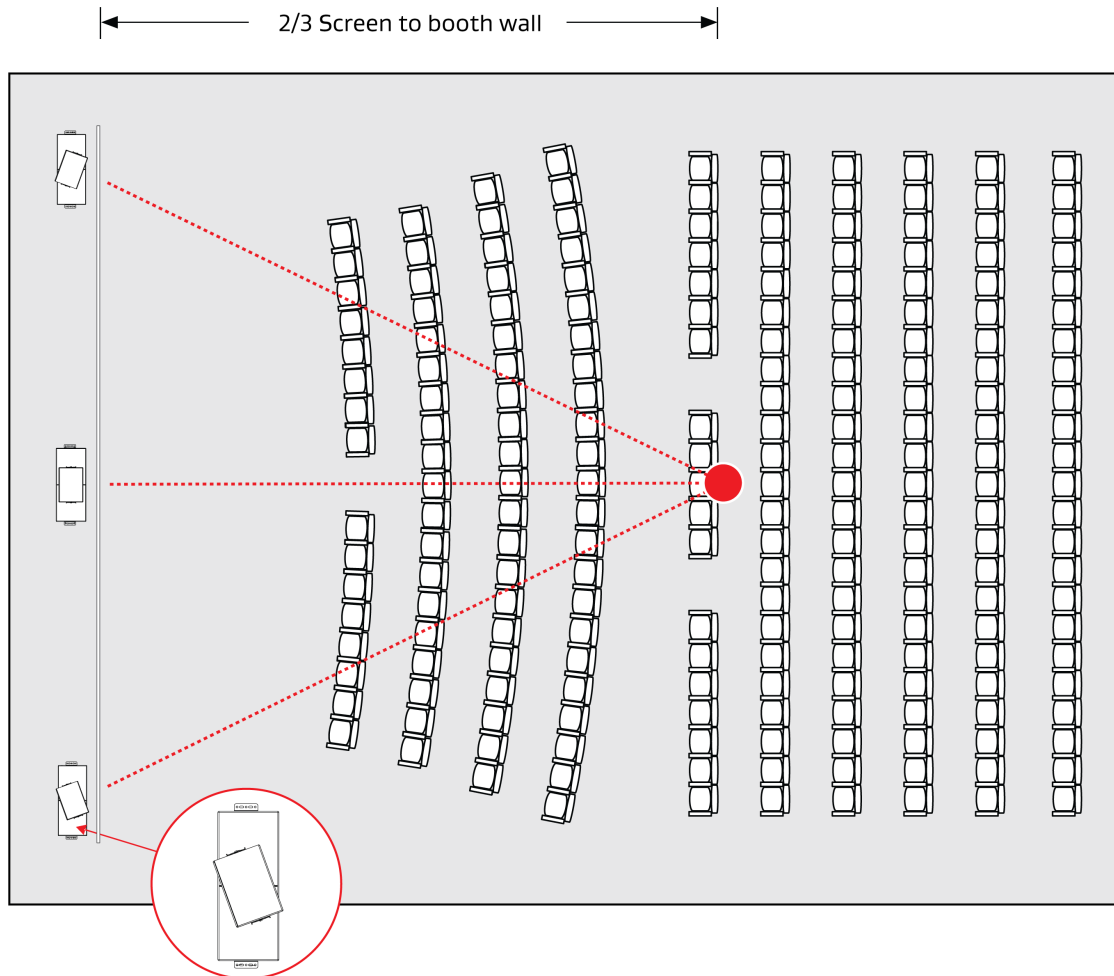


Figure 23: M10 vertical adjustment pivot bolt and M5 set screw



6. Tighten the M10 bolts and M5 vertical aiming set screws to 4 Nm (2.95 ft-lb, 35.4 in-lb) so the vertical angle adjustment is locked in place.

Figure 24: Aiming for the reference listening position (RLP) overhead view



3.5 Connecting and configuring Dolby System 126MH

About this task

Basic information regarding Dolby System 126 input plates, choosing between the two modes of operation, and installing the wiring is provided. In addition, detailed information regarding speaker operating modes is provided.



Caution: Turn off all amplifiers when connecting speaker wiring.



Note: The input terminals are marked with indicators to show their polarity. Per IEC standards, a positive voltage on the positive marked input causes the transducers to move outward.

3.5.1 Connecting the CS126MH

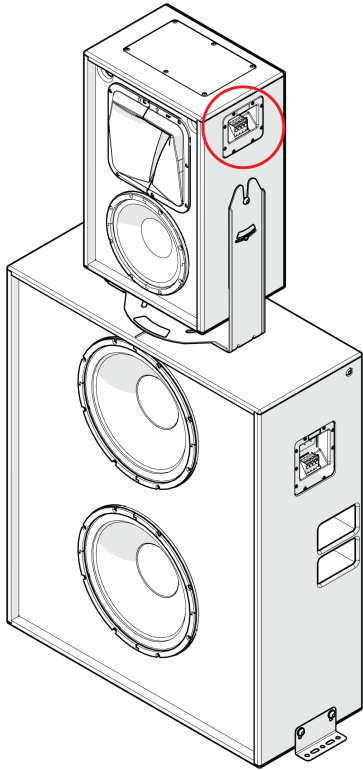
Information is provided on how to connect the CS126MH.

About this task

To be sure the CS126MH works correctly, you must connect all electrical components properly. You need a wire stripper to complete some of these tasks.

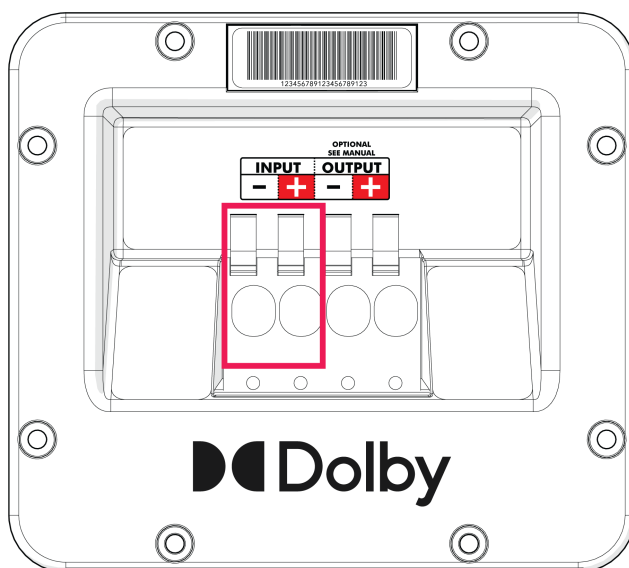
1. Locate the input plate on the side of the CS126MH.

Figure 25: Locate CS126MH input plate



2. Strip back the wire insulation/sheath to 18 mm.
3. Locate the left two orange terminal tabs labeled **INPUT**. Select the correct polarity tab and then push it inward. This terminal tab is spring loaded, and pushing it inward opens the gap in the hole directly below the tab.
4. Insert the wire fully into the hole.
5. Release the terminal tab to secure the wire with the spring mount clamp.
6. Inspect the terminal for any stray wire strands and if you find any, remove them.

Figure 26: CS126MH input terminals

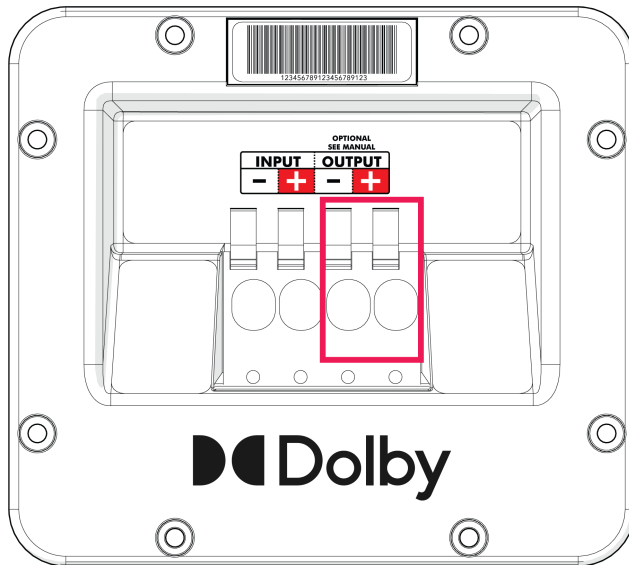




Note: The input terminals are marked with indicators to show their polarity. Per IEC standards, a positive voltage on the positive marked input causes the transducers to move outward. Always tie the cable down to the available hardware to minimize any buzzing or pullouts. If possible, after wiring is completed, play sound through the speaker to identify any connection issues, buzzing, or rattling. For wiring information, refer to the figures in the sections that follow.

If you are using System 126 in a single amplifier channel mode and have installed the optional passive crossover (see the link for related information at the end of this section), use the right two terminal tabs (terminal pair 2) labeled **OUTPUT** to connect to the CS128LF cabinet. Use the previous procedure to prepare the wire for connection to the optional output terminals.

Figure 27: CS126MH optional output terminals



Related information

[Installing the optional full-range crossover into the CS126MH on page 18](#)

3.5.2 Connecting and configuring the CS128LF

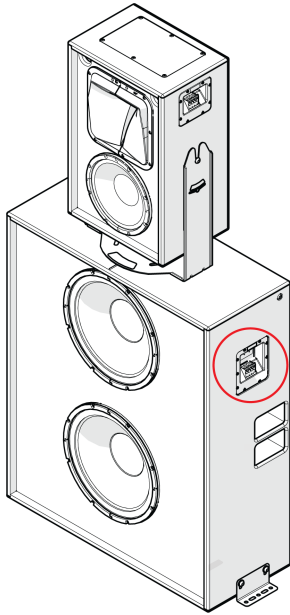
Information is provided on how to connect and configure the CS128LF.

About this task

To be sure speakers work correctly, you must connect all electrical components properly. You need a wire stripper to complete some of these tasks.

1. Locate the input plate on the side of the CS128LF.

Figure 28: CS128LF input plate



The input plate contains a flip-card that you can use to select the operation mode. To remove the flip-card, pull it straight out (rocking it a little if needed). The flip-card orientation determines whether the drivers are operated in parallel or individually. If you turn the flip-card so the arrow points to the left, the wiring connection to **terminal pair 1** drives both of the 15-inch speaker drivers in parallel. If you turn the flip card so the arrow points to the right, each of the drivers is independent and must be powered individually by separate amplifier channels. This requires wiring connections to both **terminal pair 1** and **terminal pair 2**. (See the following two figures.)



Note: The input plate displays two LF connections, and their icons are the same size because the drivers are the same size. Icon 1 represents the top driver in the cabinet, and icon 2 represents the bottom driver in the cabinet. There is no crossover on the CS128LF.

2. Strip back the wire insulation/sheath to 18mm.
3. Locate the orange terminal tab, and then push it inward. The terminal tab is spring loaded, and pushing it inward opens the gap in the hole directly below the tab.
4. Insert the wire all the way into the hole.
5. Release the terminal tab to secure the wire with the spring mount clamp.
6. Inspect the terminal for any stray wire strands, and then remove them if any are found.

Figure 29: CS128LF parallel operating mode

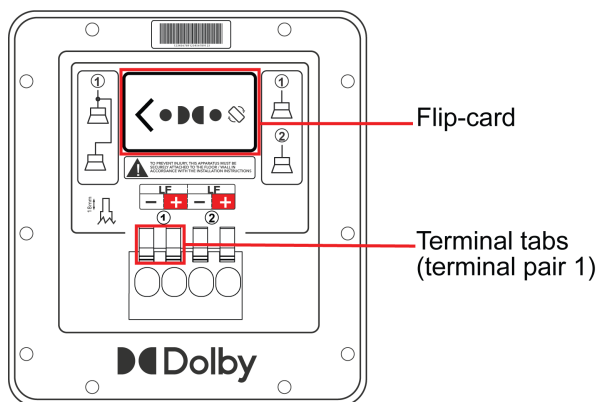
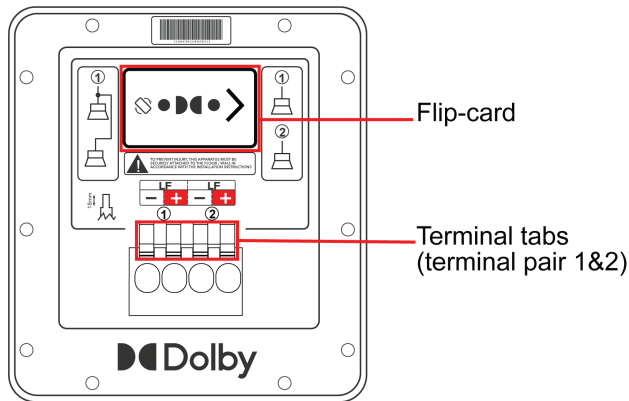


Figure 30: CS128LF independent operating mode



Note: The input terminals are marked with indicators to show their polarity. Per IEC standards, a positive voltage on the positive marked input results in the transducers moving outward. Always tie the cable down to the available hardware to minimize any buzzing or pullouts. If possible, after wiring is completed, play sound through the speaker to identify any connection issues, buzzing, or rattling. Refer to the figures in the wiring sections that follow.



Important:

If you are using System 126 in single amplifier channel mode and have installed the optional passive crossover (see the link for related information at the end of this section), you must configure the CS128LF for parallel mode, as shown in Figure 29.

Related information

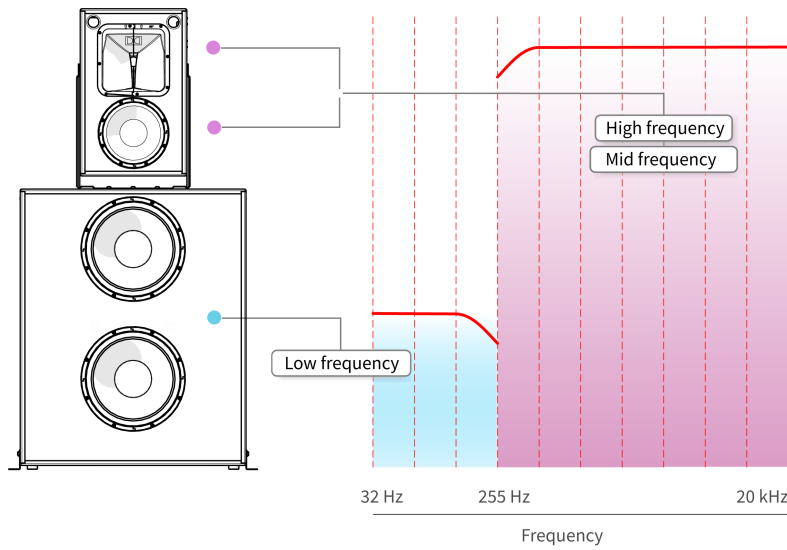
[Installing the optional full-range crossover into the CS126MH](#) on page 18

3.5.3 Configuring System 126 in bi-amplifier mode

Dolby System 126 ships from the factory ready to operate in bi-amplifier mode with the CS126MH and CS128LF requiring external amplifier processing for crossovers and gain settings. The CS128LF ships in parallel mode (single amplifier channel for both drivers). However, you can change the mode to enable an individual amplifier channel to use each 15-inch woofer.

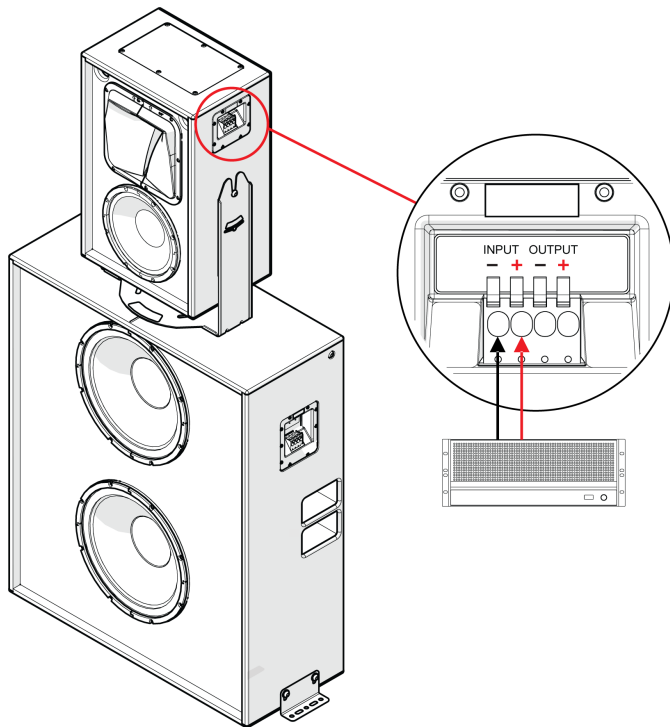
If you are using System 126 in a single-amplifier channel mode and have installed the optional passive crossover, see the link for related information at the end of this section for configuration instructions.

Figure 31: Dolby System 126 bi-amplifier configuration



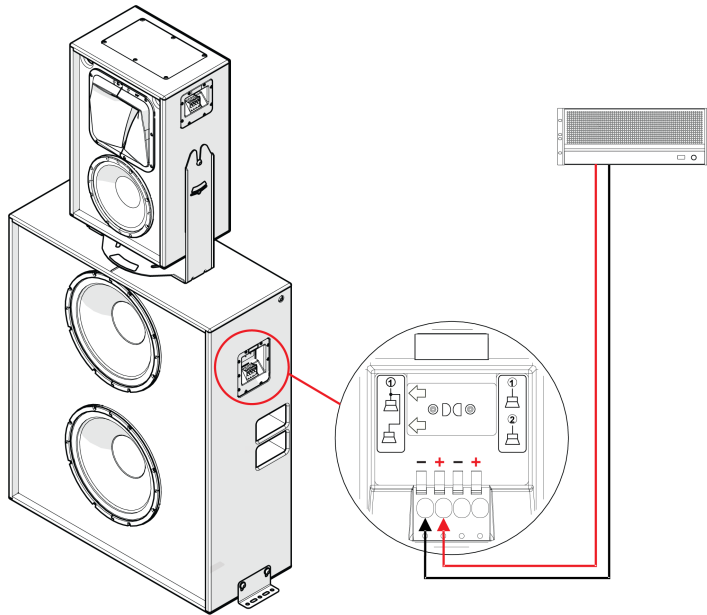
The mid/high is nominally rated at 8 ohms and driven by a single amplifier channel.

Figure 32: Dolby System 126 mid/high-wiring configuration



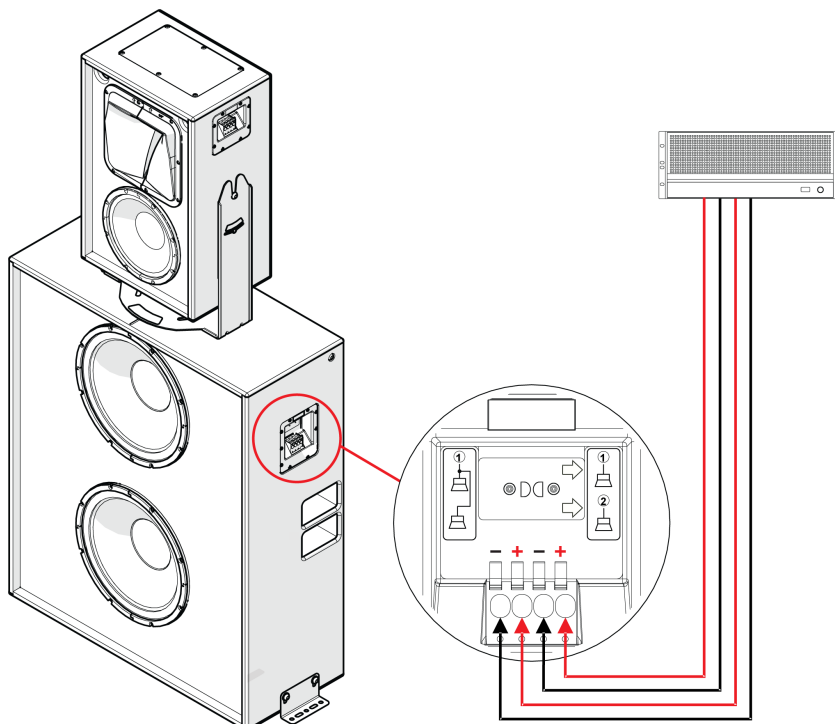
The low-frequency parallel configuration is nominally rated at 4 ohms and driven by a single amplifier channel.

Figure 33: Dolby System 126 low-frequency parallel wiring configuration



The low-frequency independent configuration is nominally rated at 8 ohms per driver and is driven by two amplifier channels. The same signal processing must be used for both channels. RMS voltage limiting remains the same as in parallel mode, as only the amplifier power requirement decreases by 50 percent for the respective amplifier channel. In this configuration, you must orient the flip-card with the arrows pointing to the right.

Figure 34: Dolby System 126 Low-frequency independent wiring configuration



Related information

[Installing the optional full-range crossover into the CS126MH on page 18](#)

3.5.4 Configuring System 126 in single-amplifier channel mode

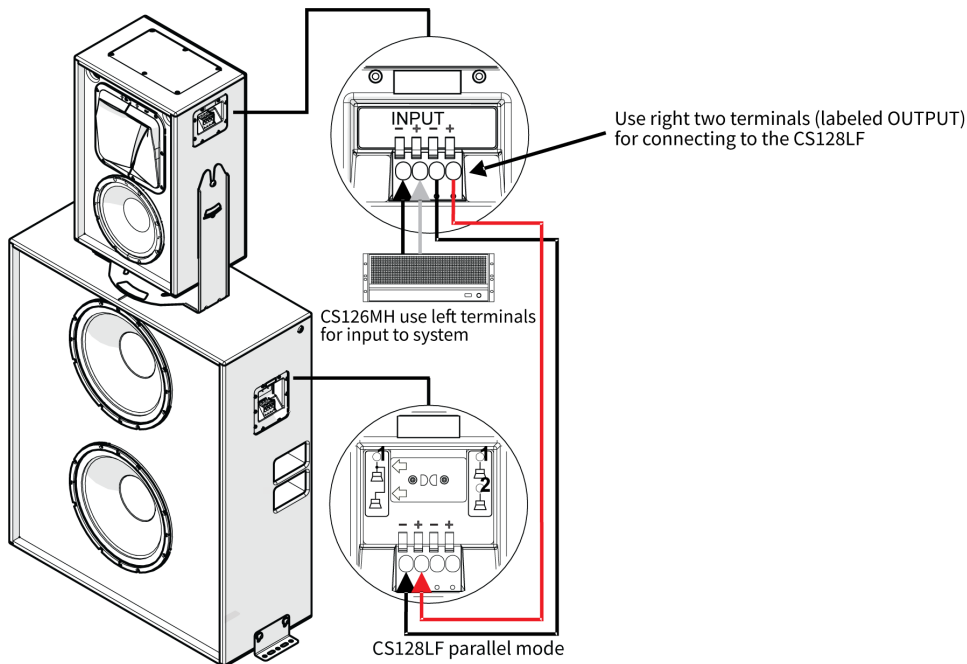
Information is provided on how to connect and configure System 126 for single- amplifier channel mode.

About this task

System 126 ships from the factory ready to operate in bi-amplifier mode with the CS126MH and CS128LF requiring external amplifier processing for crossovers and gain settings. To configure the System 126 for single-amplifier channel mode, you need to purchase and install the optional full-range crossover using the access panel on the top of the CS126MH. (See the link at the end of this section.)

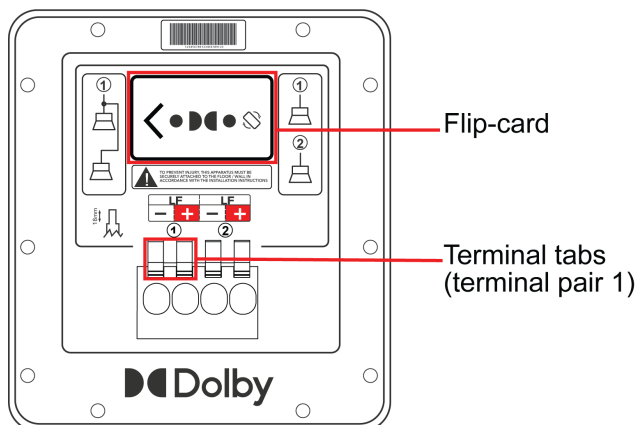
1. Prepare a two-conductor cable of at least 3 1/2 ft (107 cm) to connect the CS126MH **OUTPUT** to the CS128LF **INPUT**. (See the link at the end of this section for wire preparation and input plate terminal usage.)

Figure 35: System 126 single-amplifier channel configuration



2. Ensure that the CS128LF is configured for parallel operating mode (flip-card pointing toward the left).

Figure 36: CS128LF parallel operating mode



System 126 is nominally rated at 4 ohms when configured for single-amplifier channel mode.

The full-range crossover is optimized for coverage with the CS126MH pointed downward. If the CS126MH is pointed at or above 0 degrees vertical and/or the primary measurement microphone is at or above the top edge height of the CS128LF cabinet, switch the CS126MH speaker wiring polarity on both the **INPUT** and

OUTPUT. This reverses the CS126MH polarity while maintaining the CS128LF positive polarity, which results in improved room summation with the LFE channel. If you are not sure of the vertical elevation of the measurement microphone in relation to the screen channel and notice a large frequency response null (dip) between 300 Hz and 500 Hz, proceed as follows:

- Before any EQ correction is made, try changing the wiring polarity, as described previously, to determine which of the two configurations results in the flattest response at the primary measurement microphone.

Related information

[Installing the optional full-range crossover into the CS126MH](#) on page 18

[Connecting the CS126MH](#) on page 28

4

Dolby System 126 and system components specifications

The detailed specifications for Dolby System 126 and the system components are provided.

Following is an outline of this chapter:

- [Dolby System 126 specifications for bi-amplifier mode](#)
- [Dolby System 126 specifications for single-amplifier mode](#)
- [Dolby CS126MH specifications](#)
- [Dolby CS128LF specifications](#)
- [Dolby System 126 dimensions](#)

4.1 Dolby System 126 specifications for bi-amplifier mode

Specifications are provided for Dolby System 126 bi-amplifier mode.

Table 1: Dolby System 126 specifications

Specification	Technical data	Notes
Frequency range	39 Hz-20 kHz	+3 dB/-6 dB in half-space conditions using required processing.
Usable LF response	32 Hz	-10 dB in half space conditions.
Coverage window (asymmetrical)	70 degrees top horizontal, 130 degrees bottom horizontal, 60 degrees vertical	Horizontal top and vertical -6 dB averaged to on-axis response. Horizontal bottom -9 dB averaged to on-axis response for near-field proximity compensation.
CS126MH rated impedance	8 ohms	
CS128LF rated impedance	4 ohms in parallel, 8 ohms independent drive	
CS126MH sensitivity @ 1 W	100 dB	Measured with 12 dB crest pink noise @ $2.83 V_{rms}$ in whole-space conditions with required high-pass filter (HPF) and 48 dB bandwidth (BW) low-pass filter (LPF) @ the rated system frequency range.
CS128LF sensitivity @ 1 W	101 dB	Measured with 12 dB crest pink noise @ $2 V_{rms}$ in half-space conditions with required processing.
CS126MH power handling	200 W @ $40 V_{rms}$	12 dB crest pink noise for two hours with required HPF and 48 dB LPF at the rated system frequency range, calculated power based on rated impedance.
CS128LF power handling	600 W @ $49 V_{rms}$	12 dB crest pink noise for two hours with required HPF and LPF based on AES2-2012 standard; calculated power based on rated impedance.
CS126MH maximum continuous SPL @1 meter	123 dB	Calculated from rated sensitivity and power.
CS128LF maximum continuous SPL @ 1 meter	129 dB	Calculated from rated sensitivity and power.
Dolby System 126 bi-amplifier mode maximum summed continuous SPL @ 1 meter	128 dB	Total SPL is a noncoherent summation. LF max SPL reduced by 3 dB for content spectrum power balancing.
Dolby System 126 weight (including mounting bracket)	79.2 kg [174.7 lb]	



Note: These specifications provide typical values and do not represent absolute limits.

4.2 Dolby System 126 specifications for single-amplifier mode

Specifications are provided for Dolby System 126 single-amplifier channel mode.

Table 2: Dolby System 126 single-amplifier channel specifications

Specification	Technical data	Notes
Frequency range	39 Hz-20 kHz	+3 dB/-6 dB in half-space conditions using required processing.
Usable LF response	32 Hz	-10 dB in half space conditions.
Coverage window (asymmetrical)	70 degrees top horizontal, 130 degrees bottom horizontal, 60 degrees vertical	Horizontal top and vertical -6 dB averaged to on-axis response. Horizontal bottom -9 dB averaged to on-axis response for near-field proximity compensation.
Rated impedance	4 ohms	
Sensitivity @ 1 W	98 dB	Measured with 12 dB crest pink noise in half-space conditions for LF; whole space for MF/HF equaling the rated system frequency range @ $2 V_{rms}$. Total SPL is a noncoherent summation.
Power handling	400 W @ $40 V_{rms}$	12 dB crest pink noise for two hours with required HPF and 48 dB bandwidth (BW) LPF @ the rated system frequency range; calculated power based on rated impedance.
Power draw	250 W	Measured average power over 5 seconds at the rated V_{rms} using 12 dB crest pink noise with required HPF and LPF. This measured power draw from the amplifier is useful for estimating amplifier sizing in overall system design.
Maximum voltage peak	160 Vpk	Measured Vpk over 100 hours using a Hann shaped sine-wave burst spaced at 1/3-oct intervals within the rated passband. This data is useful for setting peak stop limiters and amplifier selection.
Dolby System 126 single amplifier channel maximum summed continuous SPL @ 1 meter	124 dB	Calculated from rated sensitivity and power.
Dolby System 126 single amplifier channel measured acoustic peak SPL @ 1 meter	135 dB	Measured peak SPL over 5 seconds at rated V_{rms} using 12 dB crest pink noise with required HPF and LPF.



Note: These specifications provide typical values and do not represent absolute limits.

4.3 Dolby CS126MH specifications

Specifications are provided for the Dolby CS126MH.

Table 3: Dolby CS126MH specifications

Specification	Technical data	Notes
Frequency range	255 Hz-20 kHz	+3 dB/-6 dB in whole-space conditions using required processing.
Coverage window (asymmetrical)	70 degrees top horizontal, 130 degrees bottom horizontal, 60 degrees vertical	Horizontal top and vertical -6 dB averaged to on-axis response. Horizontal bottom -9 dB averaged to on-axis response for near-field proximity compensation.
Rated impedance	8 ohms	
Sensitivity @ 1 W	100 dB	Measured with 12 dB crest pink noise @ 2.83 V _{rms} in whole-space conditions with required HPF and a 48 dB BW LPF at the rated frequency range of the system.
Power handling	200 W @ 40 V _{rms}	12 dB crest pink noise for 2 hours with required HPF and 48 dB BW LPF @ the rated system frequency range; calculated power based on rated impedance.
Power draw	170 W	Measured average power over 5 seconds at the rated V _{rms} using 12 dB crest pink noise with required HPF and LPF. This measured power draw from the amplifier is useful for estimating amplifier sizing in overall system design.
Maximum voltage peak	160 Vpk	Measured Vpk over 100 hours using a Hann shaped sine-wave burst spaced at 1/3-oct intervals within the rated passband. This data is useful for setting peak stop limiters and amplifier selection.
Maximum continuous SPL @ 1 meter	123 dB	Calculated from rated sensitivity and power.
Measured acoustic peak SPL @ 1 meter	135 dB	Measured peak SPL over five seconds at rated V _{rms} using 12 dB crest pink noise with required HPF.
Dolby CS126MH weight	19.7 kg [43 lb]	



Note: These specifications provide typical values and do not represent absolute limits.

4.4 Dolby CS128LF specifications

Specifications are provided for the Dolby CS128LF.

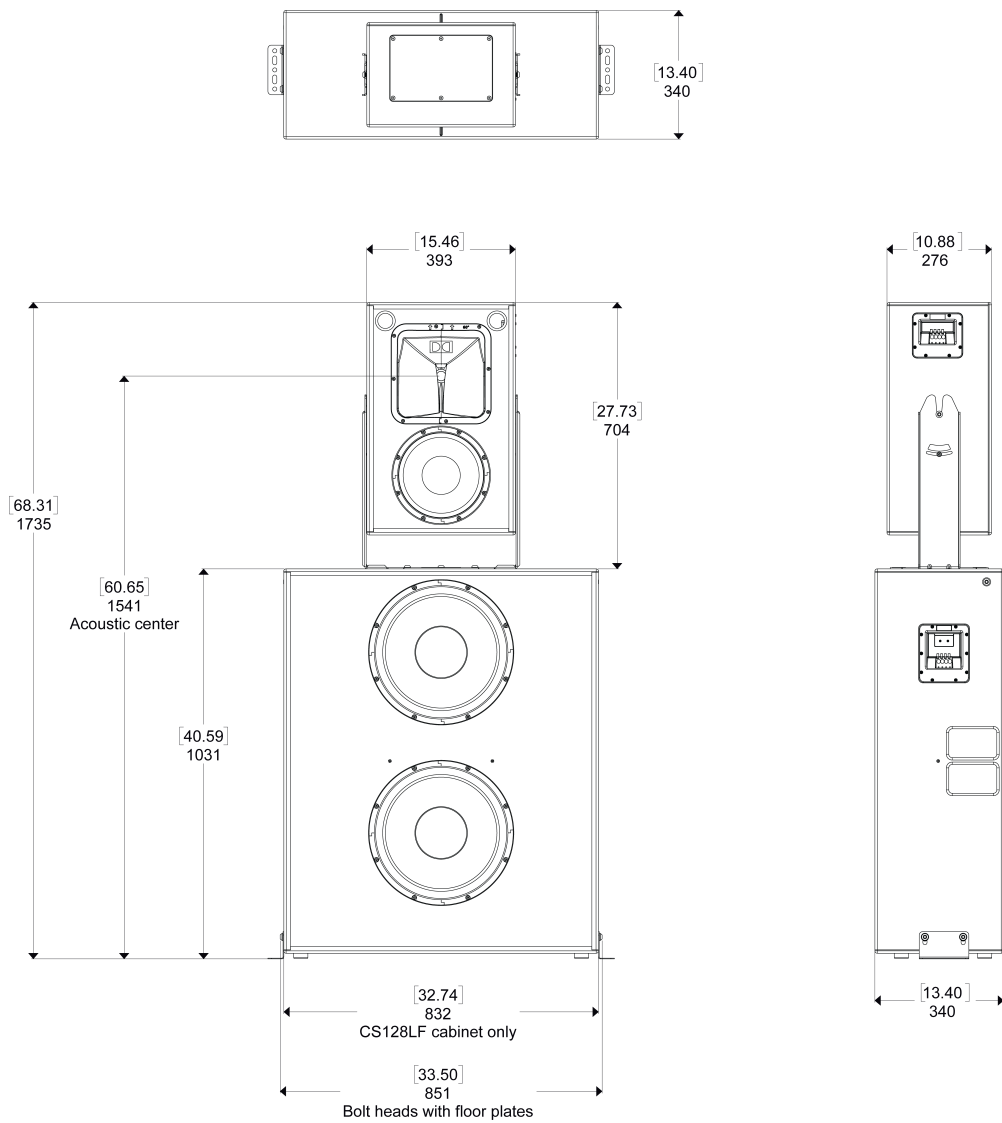
Table 4: Dolby CS128LF specifications

Specification	Technical data	Notes
Frequency range	39 Hz-255 Hz	-6dB in half-space conditions, high frequency determined by required processing.
Usable LF response	32 Hz	-10 dB in half-space conditions
Coverage window (asymmetrical)	160 degrees horizontal, 100 degrees vertical	Horizontal and vertical 6 dB relative to on-axis response within rated frequency range.
Rated impedance	4 ohms in parallel, 8 ohms in direct drive	
Sensitivity @ 1 W	101 dB	Measured with 12 dB crest pink noise@ 2 V_{rms} in half-space conditions with required processing.
Power handling	600 W @ 49 V_{rms}	12 dB crest pink noise for two hours with required processing, based on AES2-2012 standard; calculated power based on rated impedance.
Power draw	420 W	Measured average power over five seconds at the rated V_{rms} using 12 dB crest pink noise with required HPF and LPF. This measured power draw from the amplifier is useful for estimating amplifier sizing in overall system design.
Maximum voltage peak	138 Vpk	Measured Vpk over 100 hours using a Hann shaped sine-wave burst at the maximum excursion frequency of the system. This data is useful for setting peak stop limiters and amplifier selection.
Maximum continuous SPL @ 1 meter	129 dB	Calculated from rated sensitivity and power.
Measured acoustic peak SPL @ 1 meter	139 dB	Measured half space peak SPL over five seconds at rated V_{rms} using 12 dB crest pink noise with required processing.
Dolby CS128LF weight	54.4 kg [120 lb]	



Note: These specifications provide typical values and do not represent absolute limits.

4.5 Dolby System 126 dimensions



[inches] millimeters

Dolby System 126 digital signal processing requirements

Dolby System 126 digital signal processing is subject to a variety of requirements. The requirement values apply to both bi-amplifier and full-passive modes.

Following is an outline of this chapter:

- [CS126MH and CS128LF single-amplifier channel digital signal processing requirements](#)
- [Dolby CS126MH bi-amplifier digital signal processing requirements](#)
- [Dolby CS128LF bi-amplifier digital signal processing requirements](#)

5.1 CS126MH and CS128LF single-amplifier channel digital signal processing requirements

The CS126MH and CS128LF single-amplifier channel digital signal processing requirements are provided.

Table 5: Dolby CS126MH and CS128LF single-amplifier channel general filtration, gain, and delay requirements

Highpass filter	Lowpass filter	Overall gain in dB	Polarity	Delay
35 Hz, 24 dB (4 th order) Butterworth	None	0	Positive*	None

* The full-range crossover is optimized for coverage with the CS126MH pointed downwards. If the CS126MH is pointed at or above 0 degrees vertical and/or the primary measurement microphone is at or above the top edge height of the CS128LF cabinet, switch the speaker wiring polarity on both the CS126MH input and output. This switches the CS126MH polarity, while maintaining the CS128LF positive polarity for improved room summation with the LFE channel. If you are not sure of the vertical elevation of the microphone in relation to the screen channel and you are seeing a large frequency response null (dip) between 300 Hz and 500 Hz, before any EQ correction is made, try changing the wiring polarity as described previously to see which of the two configurations results in the flattest response at the primary measurement microphone.

Table 6: Dolby CS126MH and CS128LF single-amplifier channel parametric equalization requirements

EQ frequency	Constant Q		Constant bandwidth	EQ gain
40 Hz	2.87 Q	0.5 BW	0.89	+7.5
2.05 kHz	6 Q	0.24 BW	0.31	-2
3 kHz	6 Q	0.24 BW	0.31	+2
7 kHz	2.87 Q	0.5 BW	0.64	-2



Note: There are two principal implementations for parametric EQ filters in DSP processors. You need to select either the Constant Q or Constant Bandwidth (BW) mode in your DSP user interface (UI). The DSP UI may provide both Q and BW settings, or it may show only BW, with no option to input or show Q. To correctly match the intended performance of this Dolby product, confirm with your DSP manufacturer as to which implementation is used. The Dolby CP850 and Dolby CP950 cinema processors use constant-bandwidth parametric EQ filters.

Table 7: Dolby CS126MH and CS128LF single-amplifier channel limiter requirements

RMS limiting in V_{rms}	Attack time in ms	Release time in ms	Peak stop in V_{pk}
40	45	720	160

5.2 Dolby CS126MH bi-amplifier digital signal processing requirements

The CS126MH bi-amplifier digital signal processing requirements are provided.

Table 8: Dolby CS126MH general filtration, gain, and delay requirements

Highpass filter	Lowpass filter	Overall gain in dB	Polarity	Delay
255 Hz, 24 dB (4 th order) Linkwitz-Riley	None	-2	Positive	None

Table 9: Dolby CS126MH parametric equalization requirements

EQ frequency	Constant Q	Constant bandwidth	EQ gain
525 Hz	2 Q	0.71 BW	+2
3 kHz	6 Q	0.24 BW	+2
7 kHz	2.87 Q	0.5 BW	-2



Note: There are two principal implementations for parametric EQ filters in DSP processors. You need to select either the Constant Q or Constant Bandwidth (BW) mode in your DSP user interface (UI). The DSP UI may provide both Q and BW settings, or it may show only BW, with no option to input or show Q. To correctly match the intended performance of this Dolby product, confirm with your DSP manufacturer as to which implementation is used. The Dolby CP850 and Dolby CP950 cinema processors use constant-bandwidth parametric EQ filters.

Table 10: Dolby CS126MH limiter requirements

RMS limiting in V_{rms}	Attack time in ms	Release time in ms	Peak stop in V_{pk}
40	2	32	160

5.3 Dolby CS128LF bi-amplifier digital signal processing requirements

The CS128LF bi-amplifier digital signal processing requirements are provided.

Table 11: Dolby CS128LF general filtration, gain, and delay requirements

Highpass filter	Lowpass filter	Overall gain in dB	Polarity	Delay
35 Hz, 24 dB (4 th order) Butterworth	255 Hz, 24 dB (4 th order) Linkwitz-Riley	0	Positive	0.75*

* The DSP crossover is optimized for coverage with the CS126MH pointed downwards. If the CS126MH is pointed at or above 0 degrees vertical and/or the primary measurement microphone is at or above the top edge height of the CS128LF cabinet, remove the 0.75 ms delay. If you are not sure of the vertical elevation of the microphone in relation to the screen channel and you are seeing a frequency response null (dip) around 200Hz-400Hz, before any EQ correction is made, try removing the LF delay as described previously to see which of the two configurations results in the flattest response at the primary measurement microphone.

Table 12: Dolby CS128LF parametric equalization requirements

EQ frequency	Constant Q		Constant bandwidth	EQ gain
50 Hz	2.87 Q	0.5 BW	0.67	+2.5
120 Hz	1.41 Q	1 BW	1.43	-4
215 Hz	2 Q	0.71 BW	1.06	-4.5



Note: There are two principal implementations for parametric EQ filters in DSP processors. You need to select either the Constant Q or Constant Bandwidth (BW) mode in your DSP user interface (UI). The DSP UI may provide both Q and BW settings, or it may show only BW, with no option to input or show Q. To correctly match the intended performance of this Dolby product, confirm with your DSP manufacturer as to which implementation is used. The Dolby CP850 and Dolby CP950 cinema processors use constant-bandwidth parametric EQ filters.

Table 13: Dolby CS128LF limiter requirements

RMS limiting in Vrms	Attack time in ms	Release time in ms	Peak stop in Vpk
49	45	720	138



System limiters

We recommend using one or more system limiters to control and protect the System 126 speakers.

Following is an outline of this chapter:

- [Setting system limiters](#)

6.1 Setting system limiters

You can use an RMS limiter in a digital signal processor (DSP) to perform the system limiting operation. We recommend setting up the system limiter thresholds with the proper System 126 digital signal processing parameters engaged. (For DSP parameter details, see the link at the end of this section.)

About this task

We recommend that you set up the system gain structure with the amplifier channel volumes turned all the way up if the volume setting is easily accessible by any user, such as via a front-panel knob that is not behind a security panel. Disconnecting the speakers from the amplifier during this process will most likely result in conservative settings. You can connect the speakers to the amplifier during this process if caution is observed when increasing the stimulus level and confidence in the measuring setup is secured.



Caution: Speaker damage as a result of exceeding the power-handling specifications, as defined in the Dolby System 126 specifications, is not covered under the warranty.



Caution: Hearing damage can occur by prolonged exposure to an excessive sound pressure level (SPL); the speaker is easily capable of generating an SPL sufficient to cause permanent hearing damage to performers, production crew, or audience members. Make sure that you avoid prolonged exposure to SPL in excess of 90 dB.

We recommend that you set the system limiter for each amplifier channel individually. However, you can copy the limiter settings to other channels if those channels share identical speaker models, identical amplifier models, and identical gain structure in the signal path (including any amplifier front-panel volume controls).

Procedure

1. Connect a wide-bandwidth multimeter with averaging to the amplifier output. A wide-bandwidth meter has a rated measuring bandwidth of at least 20 kHz with an averaging function that is more than five seconds (very important for low-frequency outputs).
2. Access the RMS limiter setting in the digital signal processor (DSP), and set it to the maximum value, such that no limiting should occur.
3. Set the attack and release times based on the highpass filter (HPF), according to the recommended digital signal processing settings for the respective speaker being measured. If that data is not available, we recommend these HPF settings:
 - <30 Hz: Attack 45 ms, release 720 ms
 - 30 Hz to 59 Hz: Attack 16 ms, release 256 ms
 - 60 Hz to 99 Hz: Attack 8 ms, release 128 ms
 - 100 Hz to 224 Hz: Attack 4 ms, release 65 ms
 - 225 Hz to 449 Hz: Attack 2 ms, release 32 ms
 - 450 Hz to 999 Hz: Attack 1 ms, release 16 ms
 - 1 kHz to 1.99 kHz: Attack 0.5 ms, release 8 ms
 - >2 kHz: attack 0.3 ms, release 4.8 ms
4. Mute all outputs into the system except for the output you are setting.
5. Play low-level pink noise into the amplifier channel, and confirm that the expected speaker is playing (if the speaker is connected to the amplifier) and that the multimeter is reading the voltage.
6. While monitoring the meter, slowly increase pink noise until the V_{rms} is at the published rating.

For low-frequency outputs, an average of at least five seconds at the same pink-noise level is required for the reading to stabilize. Typically, some amplifier clipping will occur. However, if the amplifier clipping light is almost solid, stop increasing the pink noise and leave it at a V_{rms} level below the published rating.

7. While pink noise is playing at the rated V_{rms} (or there is heavy amplifier clipping), turn down the threshold on the root mean square (RMS) limiter block until the measured V_{rms} goes down slightly.

8. Turn up the stimulus gain, and then confirm that the V_{rms} does not increase beyond the rated V_{rms} . If it does, turn down the limiter threshold again until the V_{rms} is not above the speaker rating when the stimulus is driven heavily.

Related information

[Dolby System 126 digital signal processing requirements](#) on page 43



Documentation revision history

The documentation revision history lists the date, issue number, and description of all publications of the *Dolby System 126 Owner's Manual*.

Date	Issue	Description
1 April 2023	Issue 1	Initial release