Dolby Speaker SB218XL

Owner's Manual

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Notices

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THIS DOCUMENTATION APPLIES TO MODEL: CID1032.

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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

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.

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 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. 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.

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.

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.

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.

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:** Use proper lifting techniques when working with heavy objects to avoid personal injury. **Always be careful when moving the SB218XL and employ at least two people when attempting any relocation of the speakers.**

⚠ **Caution:** Vibration from this type of speaker system may cause 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:** 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:** 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.

Caution:

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.**

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.

Russian environmental regulations and compliance

This product complies with Russian EAC RoHS requirements.

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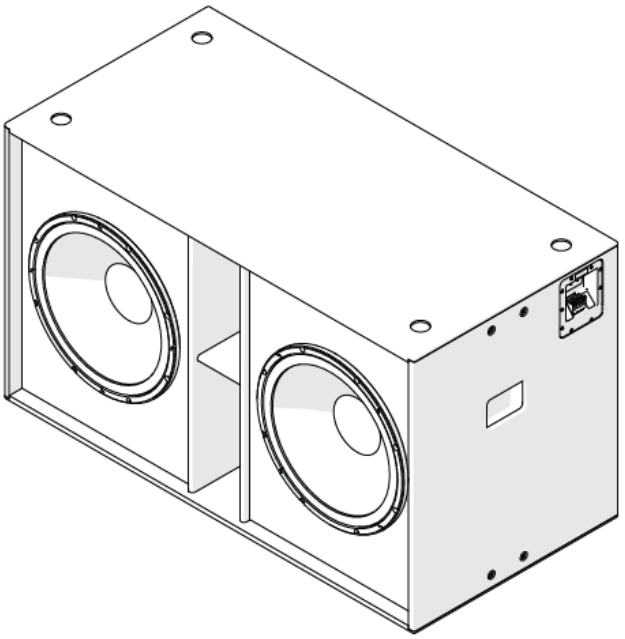
Introduction to Dolby Speaker SB218XL

The Dolby Speaker SB218XL (also referred to as SB218XL in this manual) is designed to meet the needs of high-performance Low Frequency Effects (LFE) channels in large Dolby Atmos or premium large format (PLF) cinemas. The SB218XL delivers extended low-frequency response and high output, filling large theaters with solid low-frequency impact to every seat in the venue. With intuitive ergonomic design and features, the SB218XL enables quick, easy installation and service. Built on the foundation of the Dolby industry-leading system design and support philosophy, the SB218XL provides elevated premium large format (PLF) performance and streamlines speaker integration.

Figure 1: Dolby Speaker SB218XL



This chapter covers:

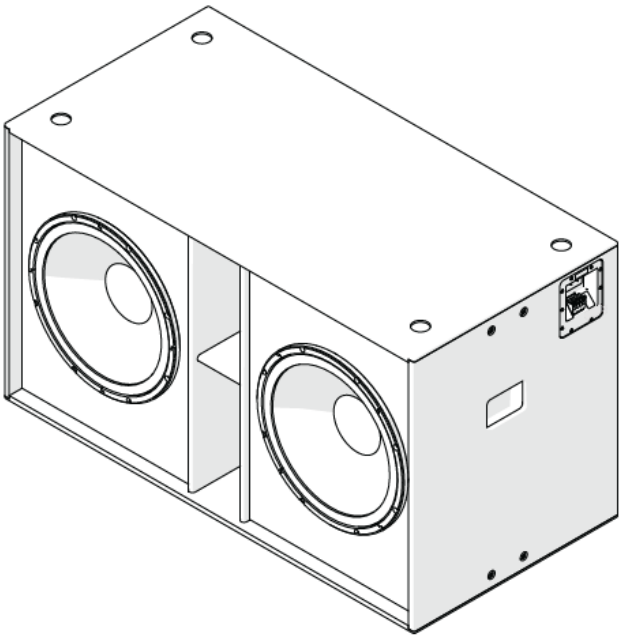
2.1 About this documentation

This documentation provides the key features and benefits of the Dolby Speaker SB218XL and shows you how to install the system in a typical cinematic exhibition environment.

2.2 SB218XL key features and benefits

Dolby Speaker SB218XL is a single enclosure, dual-chamber, dual-driver, high-performance LFE subwoofer designed to produce low frequencies.

Figure 2: Dolby Speaker SB218XL



- Contains two 18-inch woofers that can be driven in parallel, or driven individually to maximize available amplifier power.
- Each 18-inch driver is contained in an independent chamber within the cabinet that provides improved performance and reliability.
- The advanced input plate incorporates a unique flip-card printed circuit board that enables 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 SB218XL flip card, you can select either biamplifier mode or single-amplifier mode.
- Rubber feet on the bottom of the cabinet provide vibration control.
- Integrated handles on the sides of the speaker cabinet are positioned at the center of gravity to improve safety and comfort during handling and installation.
- Integrated mounting points are provided for using tie plates (BKT.136, sold separately) when coupling two SB218XL cabinets together safely and securely in a stacked configuration.
- BKT.FLR floor bracket kit (sold separately) enables secure installation to the building structure. The kit includes two brackets and four M10 washers.
- The advanced input plate features a high-current, spring-loaded terminal block, which enables quick installation with no crimp tools or spade lugs needed, vastly simplifying installation.

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Securing an SB218XL cabinet on page 12

2.3 Selecting the wire for the SB218XL

It is important that you select the correct wire gauge for the SB218XL.

Typically, no more than 0.5 dB (or 11%) of power should be lost in the cabling. The SB218XL input plates accept an American Wire Gauge (AWG) of 18 AWG to 6 AWG (1 mm^2 to 16 mm^2). Typically, we recommend a wire gauge of 14 AWG to 10 AWG (2.5 mm^2 to 6 mm^2).

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.

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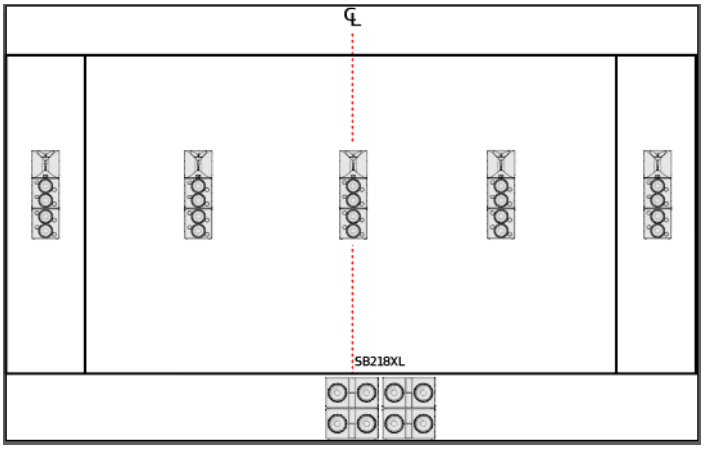
2.4 Installing Speaker SB218XL in a typical auditorium

In a typical auditorium, the SB218XL is installed at the front of the auditorium, near ground level, and equal with the screen plane.

The following figure shows the placement of the speaker, as indicated in the Dolby Atmos Specifications. When multiple screen subwoofers are used, closely clustering the cabinets can increase the efficiency through mutual coupling, as shown in this figure. If a single cabinet or cluster is used, it should be placed near screen center, but asymmetrically with respect to the center of the room to minimize stimulation of standing waves (room modes). Other configurations are also acceptable, such as uniformly spacing multiple cabinets along the front wall to improve coverage.

Figure 3: Typical auditorium installation



The **.GLL format file for software simulation modeling**

There is a `.GLL` file that you can use to simulate SB218XL in acoustical simulation software. You can download the `.GLL` file at https://www.dolby.com/us/en/professional/cinema/products/SB218XL. To run the `.GLL` file, use EASE or EASE Focus software. EASE Focus software is free and can be downloaded from https://focus.afmg.eu/index.php/fc-downloads-en.html.

Following is a description of the SB218XL `.GLL` file:

- **SB218 XL .GLL file**

  The speaker entry point into the simulation is at the bottom of the speaker. For correct simulation, place the height entry point (z axis) at the platform that is attached to the building structure or the auditorium floor height.

2.5 Additional information

Additional information regarding the SB218XL is available.

- System weight for stability calculations is approximately 94.1 kg (207.5 lb).
- Amplifier selection is aided by additional data, as indicated in the SB218XL 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 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).
- Wire gauge selection should always use industry-standard practice based on the speaker rated ohms and cable length. Typical maximum acceptable power loss is 0.5 dB, or less than 11%.

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2.6 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: +86-400-842-4894
  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.

3

Assembling Dolby Speaker SB218XL

This chapter provides instructions for assembling and installing Dolby Speaker SB218XL.

The following sections provide instructions on how to assemble and install Speaker SB218XL.

3.1 Assembling and installing Dolby Speaker SB218XL

This section provides instructions for assembling and installing an SB218XL.

About this task

The SB218XL is designed to not shift during use when placed directly on a flat and level concrete floor. Installation on any other surface type may cause the cabinets to shift during use. Should the SB218XL shift during use, regardless of the surface type it is installed on, it must be secured to the building structure. The Installer is responsible for inspecting any installation of an unsecured SB218XL to ensure that it does not shift over time. The Installer assumes all responsibility and liability for the installation of this product.

3.1.1 Securing an SB218XL cabinet

Instructions are provided to install a single SB218XL cabinet. When stacking a second SB218XL speaker on an installed unit, refer to the link at the end of this section.

About this task

Parts and tools:

- Installer-provided 6 mm hex driver.
- BKT.FLR brackets (not required when installing on the ground).
- Installer-provided serviceable thread-locking compound (recommended).
- Installer-provided acoustic or nonhardening caulking (recommended).

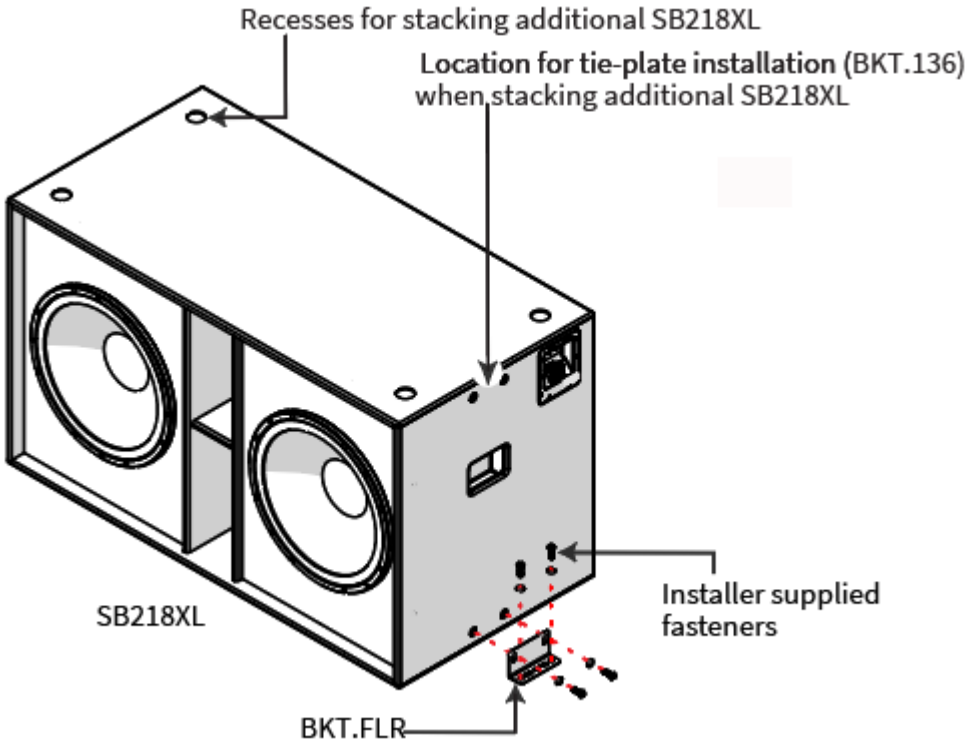
Note: BKT.FLR floor brackets are available from Dolby (sold separately) to secure the speaker system to the building structure. When using the BKT.FLR brackets, the installer must supply the mounting hardware necessary to secure the speaker system to the building structure. The holes in the bracket are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

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

Procedure

1. Determine the proper placement of the system.
2. Determine if it is necessary to secure the SB218XL to the building structure to prevent the speaker system from shifting during use.
3. Remove the four M10 bolts from the bottoms side of the SB218XL speaker cabinet, as shown in the following figure. These bolts are pre-installed in the SB218XL cabinet.

Figure 4: Secure a single SB218XL speaker



4. Reinstall the M10 bolts with the M10 washers, included with the BKT.FLR kit, securing the BKT.FLR brackets, and then tighten the M10 bolts to 12 Nm (8.9 ft-lb, 106 in-lb).
5. Secure the SB218XL to the building structure with installer provided mounting hardware.

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.

Caution: Dolby disclaims any liability, including damage or injury, for failing to properly place or secure the speaker system. The Installer assumes all responsibility and liability for the installation of this product.

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.

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3.1.2 Stacking two SB218XL speakers

Instructions are provided for stacking a second SB218XL speaker on an installed unit.

About this task

Parts and tools:

- Installer-provided 6 mm hex driver.
- BKT.136 tie-plates (sold separately).
- BKT.FLR brackets (recommended [sold separately]).
- Installer-provided serviceable thread-locking compound (recommended).
- Installer-provided acoustic or nonhardening caulking (recommended).

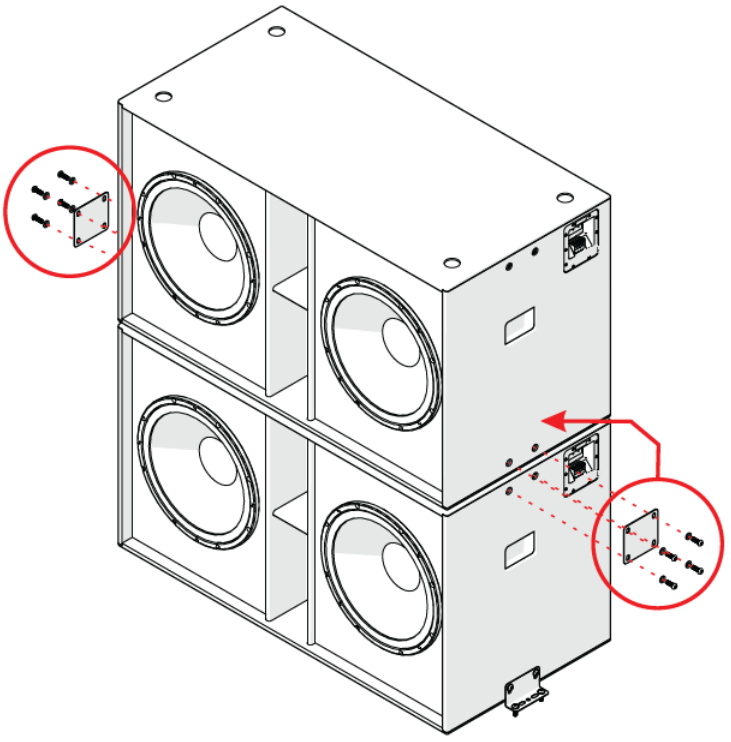
Note: BKT.136 tie (coupling) plates are available (sold separately) and are used to connect two SB218XL speakers together in a stacked configuration to prevent movement or shifting of the cabinets during use. These tie plates must be installed on stacked units prior to system use.

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.

Procedure

1. Place the upper SB218XL on top of the lower secured cabinet, ensuring that the rubber feet of the upper unit properly seat within the recesses of the lower unit.
2. Locate the two-bolt tie-plate mounting locations on the sides of each cabinet.
3. Remove the two M10 bolts from the side of the lower SB218XL cabinet, and then remove the two M10 bolts from the side of the upper SB218XL cabinet.

Figure 5: Remove M10 bolts from lower and upper cabinet



4. Reinstall the M10 bolts through the BKT.136 tie plates using the included M10 washers (packaged with BKT.136), and then tighten the M10 bolts to 12 Nm (8.9 ft-lb, 106 in-lb)

Note: We recommend a serviceable thread-locking compound (for example, Loctite 243). When installing the M10 bolts.

Caution: Use proper lifting techniques when working with heavy objects to avoid personal injury. Always be careful when moving the SB218XL, and employ at least two people when attempting any relocation of the speakers.

Caution: Dolby disclaims any liability, including damage or injury, for failing to properly secure the speaker system. The Installer assumes all responsibility and liability for the installation of this product.

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3.2 Connecting electrical components

To be sure that the speakers work correctly, you must connect all electrical components properly.

Connecting audio

Required tool: Wire stripper

Caution: Turn off all amplifiers when connecting speaker wiring.

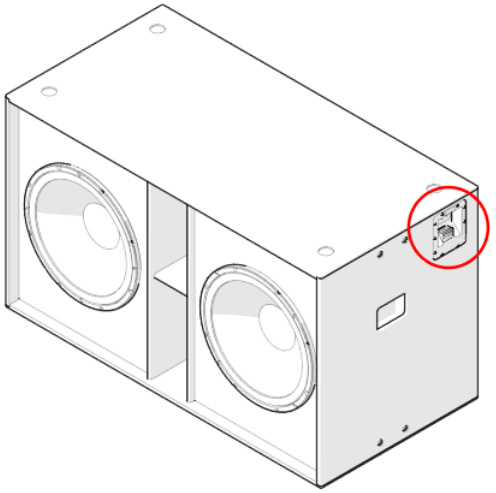
The Speaker SB218XL connectors accept an American Wire Gauge (AWG) of 18 AWG to 6 AWG (1 mm^2 to 16 mm^2). Typically, a wire gauge of 14 AWG to 10 AWG is recommended (2.5 mm^2 to 6 mm^2).

Basic information is provided regarding the SB218XL input plates, choosing between the two modes of operation, and installing the wiring. Detailed information regarding speaker operating modes is also provided.

Connecting and configuring the SB218XL

The SB218XL input plate is mounted on the side of the speaker for easy access to the wiring and the flip card, as shown in the following figure.

Figure 6: SB218XL input plate location



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 position 1 powers both of the 18-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. Terminal pair 1 powers the left driver, and terminal pair 2 powers the right driver (when viewed from the front). This requires connections to both wiring position 1 and wiring position 2. (See the following two figures.)

Figure 7: SB218XL parallel operating mode

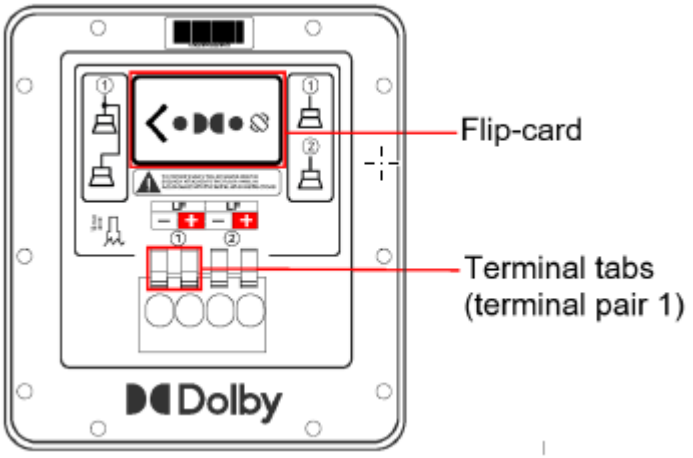
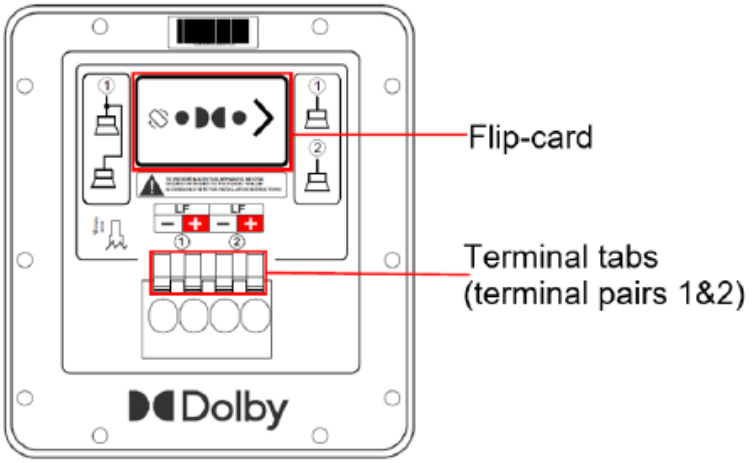


Figure 8: SB218XL independent operating mode



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. 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. Refer to the figures in the wiring sections that follow.

To install wires into the advanced input plate:

1. Strip back the wire insulation/sheath to 18 mm (0.7 in).

2. Locate the orange terminal tab and push it inward. This terminal tab is spring loaded; pushing it inward opens the gap in the hole directly below the tab.

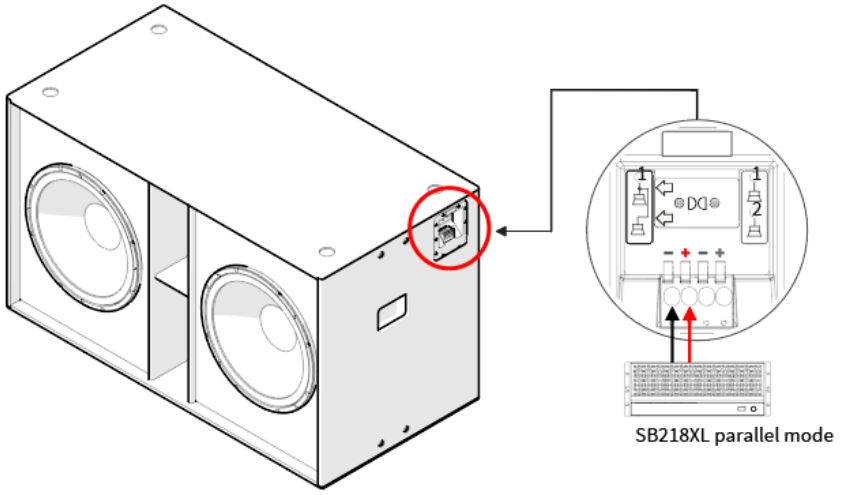
3. Insert the wire fully into the hole.

4. Release the terminal tab. The spring mount clamps the wire securely.

5. Inspect the terminal for any stray wire strands.

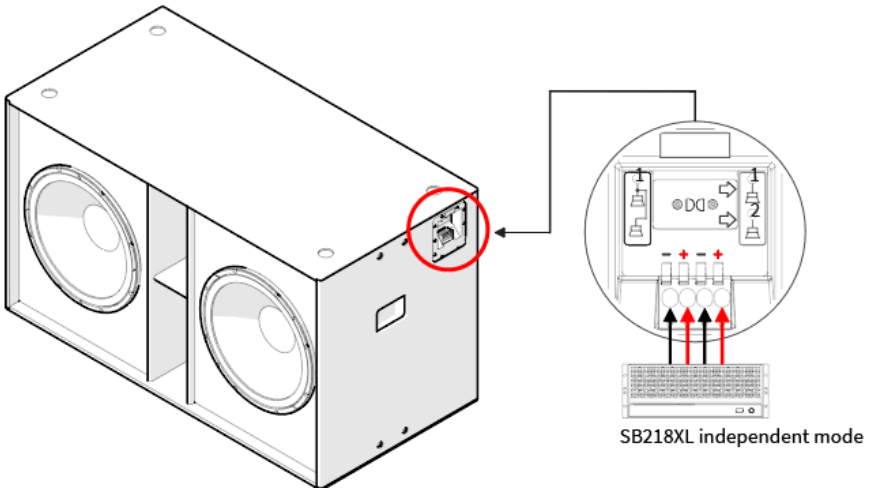
The low-frequency parallel configuration is a 4-ohm load to a single amplifier channel.

Figure 9: Low-frequency parallel wiring configuration



The alternate low-frequency cabinet wiring configuration provides independent wiring of the two drivers for two 8-ohm loads that are driven by independent amplifier channels. You should use the same recommended processing for both channels. V_{rms} 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 need to point the flip card to the right.

Figure 10: Low-frequency independent-wiring configuration



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4

Dolby Speaker SB218XL specifications

The specifications and dimensions for Dolby Speaker SB218XL are provided here.

4.1 SB218XL specifications

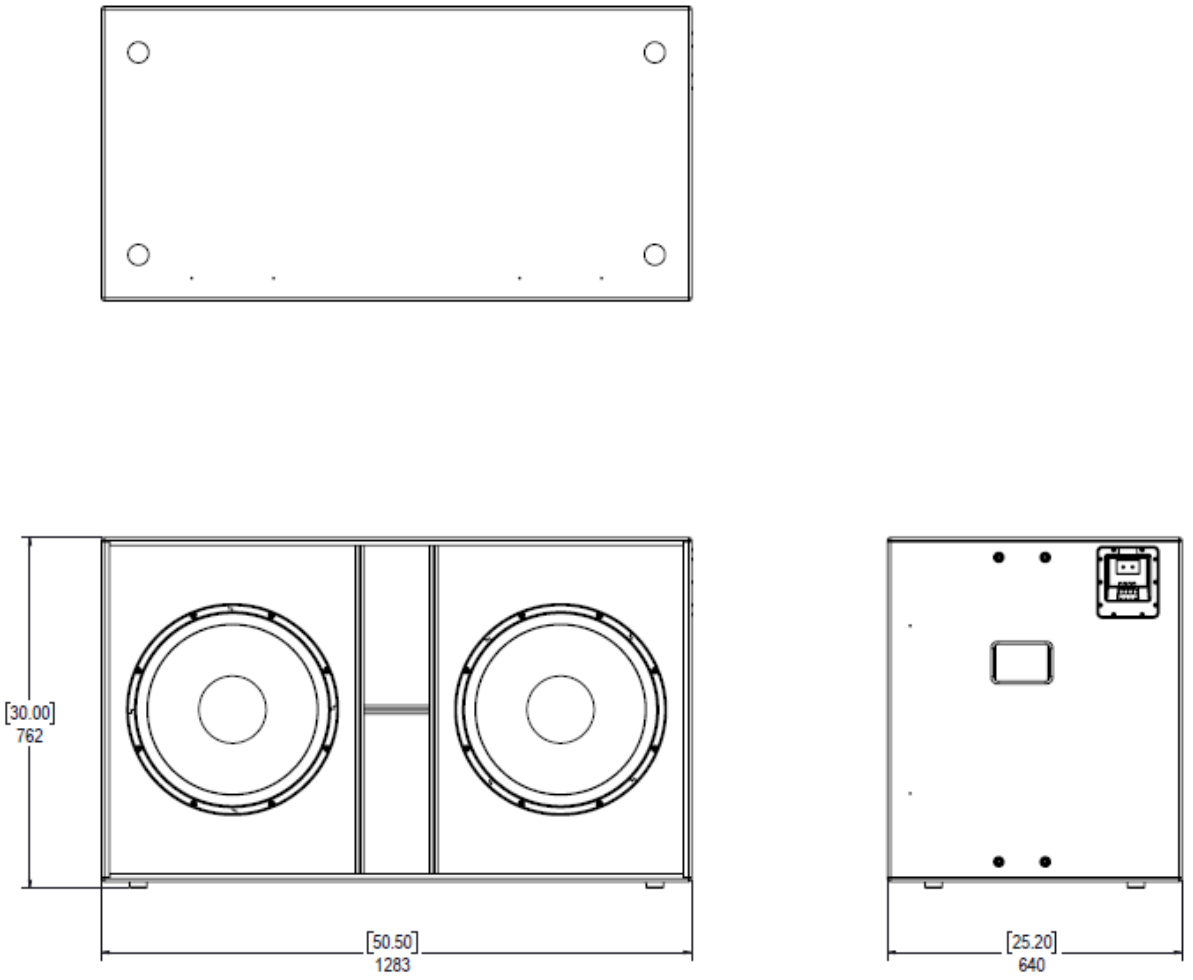
These are the specifications for the SB218XL.

Table 1: Dolby Speaker SB218XL specifications

Specification	Technical data	Notes
Frequency range	22 Hz - 170 Hz	-6 dB in half-space conditions using required processing.
Usable low-frequency response	19 Hz	-10 dB in half-space conditions.
Coverage window	Omni	
Rated impedance	4 ohms parallel mode/8 ohms independent mode	
Sensitivity @ 1 watt	102 dB	Measured with 12 dB crest pink noise @ 2 V_{rms} in half-space conditions with required highpass filter and lowpass filter.
Power handling	1,600 W @ 80 V_{rms}	12 dB crest pink noise for two hours with required highpass filter and lowpass filter, based on AES2-2012 standard, calculated power based on rated impedance.
Power draw	1,140 W	Measured average power over five seconds at the rated V_{rms} using 12 dB crest pink noise with required highpass filter and lowpass filter. This measured power draw from the amplifier is useful for estimating amplifier sizing in overall system design.
Maximum voltage peak	200 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 sound pressure level (SPL) @ 1 meter	134 dB	Calculated from rated sensitivity and power.
Measured acoustic peak SPL @ 1 meter	144 dB	Measured peak SPL over five seconds at rated V_{rms} using 12 dB crest pink noise with required highpass filter and lowpass filter.
SB218XL weight	207.5 lb (94.1 kg)	

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

4.2 Dolby Speaker SB218XL dimensions



5

Dolby Speaker SB218XL digital signal processing requirements

The tables in this chapter show the Dolby Speaker SB218XL digital signal processing requirements for the different modes of operation.

5.1 SB218XL digital signal processing requirements

There are a variety of SB218XL digital signal processing requirements.

Table 2: SB218XL general filtration, gain, and delay requirements

Highpass filter	Lowpass filter	Polarity	Delay
23 Hz, 24 dB (4th order Butterworth)	170 Hz, 24 dB (4th order Butterworth)	Positive	None

Table 3: SB218XL parametric equalization requirements

EQ frequency	Constant Q		Constant bandwidth	EQ gain
23 Hz	3 Q	0.48 bandwidth	0.68	+3.5 dB
33 Hz	4 Q	0.36 bandwidth	0.48	+2 dB
45 kHz	2.87 Q	0.5 bandwidth	0.65	+2 dB
120 Hz	1.41 Q	1.0 bandwidth	1.34	-3 dB

Note: There are two principal implementations for parametric EQ filters in DSP processors. You need to select either the Constant Q or Constant Bandwidth mode in your DSP user interface. The DSP UI may provide both Q or bandwidth settings, or it may show only bandwidth, 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 4: SB218XL limiter requirements

RMS limiting	Attack time	Release time	Peak stop
80 V_{rms}	45 ms	720 ms	200 Vpk

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Setting system limiters

You can run system limiters with the required digital signal processing engaged.

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 defined in Chapter 4 is not covered under the warranty.

⚠ **Caution:** Hearing damage can occur by prolonged exposure to excessive sound pressure levels (SPL); the speaker is easily capable of generating a 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.

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 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, according to the recommended digital signal processing settings for the speaker being measured. If that data is not available, we recommend these settings:
   - highpass filter <30 Hz: Attack 45 ms, release 720 ms
   - highpass filter 30 Hz to 59 Hz: Attack 16 ms, release 256 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 the multimeter is reading the voltage.
6. While monitoring the meter, slowly turn up the 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 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.

   It is preferable and safe to measure each amplifier channel individually. However, to save time it is acceptable to copy the limiter settings to other channels that share identical speaker models, identical amplifier models, and identical gain structure after the limiter in the signal path (including any amplifier front-panel volume controls). It is also acceptable to copy the limiter settings to

identical channels if the auditorium and/or gain structure is different before the limiter in the signal path.

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Documentation revision history

The documentation revision history lists the date, issue number, and description of all publications of the *Dolby Speaker SB218XL Owner's Manual*.

Date	Issue	Description
3 March 2022	Issue 1	Initial release