

# Cinema Loudspeaker Systems



User Guide

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SB-2180 Dual-18" Subwoofer

TD-000512-00-A



## EXPLANATION OF SYMBOLS

The term "**WARNING!**" indicates instructions regarding personal safety. If the instructions are not followed the result may be bodily injury or death.

The term "**CAUTION!**" indicates instructions regarding possible damage to physical equipment. If these instructions are not followed, it may result in damage to the equipment that may not be covered under the warranty.

The term "**IMPORTANT!**" indicates instructions or information that are vital to the successful completion of the procedure.

The term "**NOTE**" is used to indicate additional useful information.



The intent of the exclamation point within an equilateral triangle is to alert the user to the presence of important safety, and operating and maintenance instructions in this manual.



### IMPORTANT SAFETY INSTRUCTIONS



1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Do not submerge the apparatus in water or liquids.
7. Do not use any aerosol spray, cleaner, disinfectant or fumigant on, near or into the apparatus.
8. Clean only with a dry cloth.
9. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
10. Only use attachments/accessories specified by the manufacturer.
11. Refer all servicing to qualified service personnel.
12. Adhere to all applicable, local codes.
13. Consult a licensed, professional engineer when any doubt or questions arise regarding a physical equipment installation.

## Warranty

For a copy of the QSC Limited Warranty, visit the QSC's website at [www.qsc.com](http://www.qsc.com)

# Introduction

The SB-2180 is a specially designed cinema subwoofer, featuring dual 18" (460 mm), low-frequency transducers, mounted in a ported enclosure. The enclosure is tuned to 29 Hz.

The two custom 18" transducers were developed especially for cinema use. The woofers feature 4" (100 mm) voice coils and vented pole pieces to ensure cool operation, even at high power levels. Cooler temperatures increase driver lifespan and decrease problematic power compression at high drive levels. Undercut pole pieces provides a Symmetrical Magnetic Gap (SMG), reducing second harmonic distortion.

Enclosures are constructed of high quality MDF panels and feature Single Woofer Chambers (SWC). The separate chamber for each transducer makes the enclosure stronger, provides rigidity, and prevents cone over-exursion in the rare event of a driver failure (enclosure "loading" is not lost for the remaining transducer).

Large, Fully Radiused Ports (FRP) ensure smooth air flow through the ports, especially at higher drive levels. This prevents potentially audible port turbulence noise. Both internal and external port openings are fully radiused.

With Symmetrical Port Loading (SPL) bass ports are evenly spaced on each side of the transducers, making internal pressure more uniform across the back surface of the transducer.

This prevents the cone from being displaced to one side or another by unbalanced air pressure, reducing the chance of driving the voice coil out of the center of the gap at high drive levels.



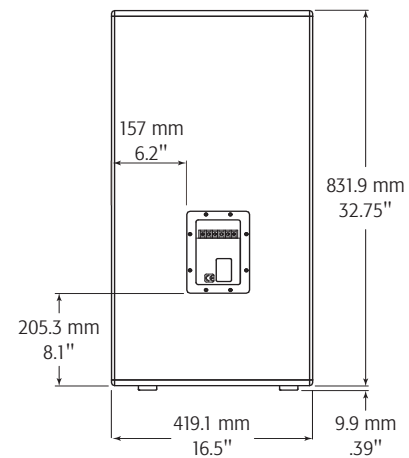
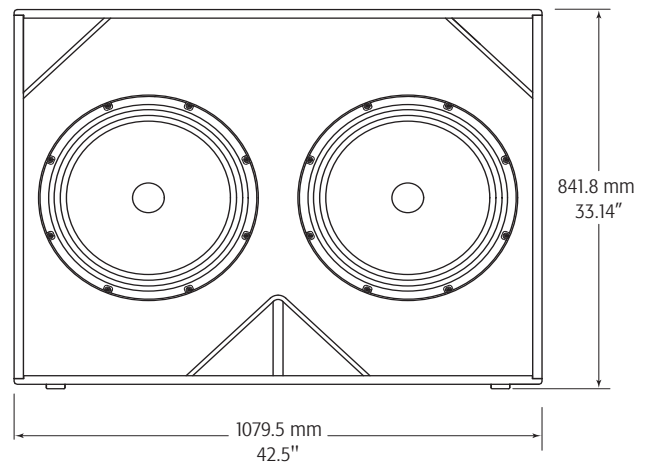
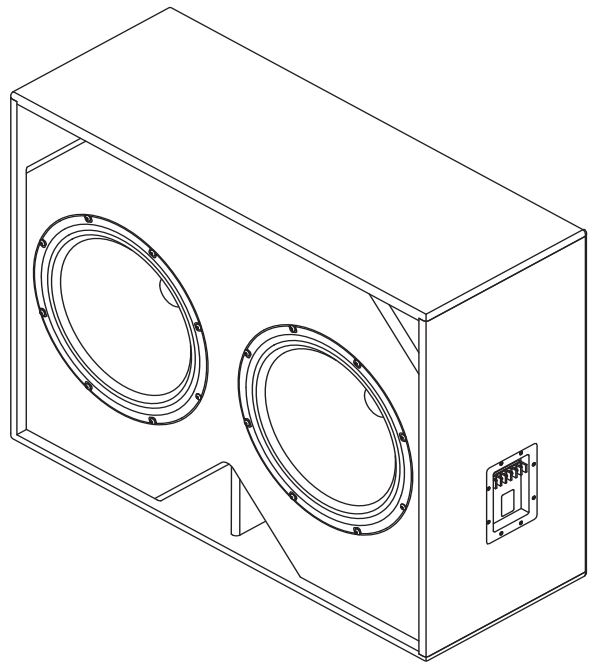
**WARNING:** Enclosure is not designed to be suspended, flown, or rigged. Do not suspend, fly, or rig this enclosure.

This product is capable of producing sound pressure levels that can permanently damage human hearing. Always keep sound pressure levels in the listening area below levels that can damage human hearing.

Install in accordance with QSC's instructions and a licensed, professional engineer. Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way.



**WARNING:** Before placing or installing, any speaker product, inspect all hardware, cabinets, transducers and associated equipment for damage. Consult a licensed, professional engineer when any doubt or questions arise regarding a physical equipment installation.



– Figure 1 –

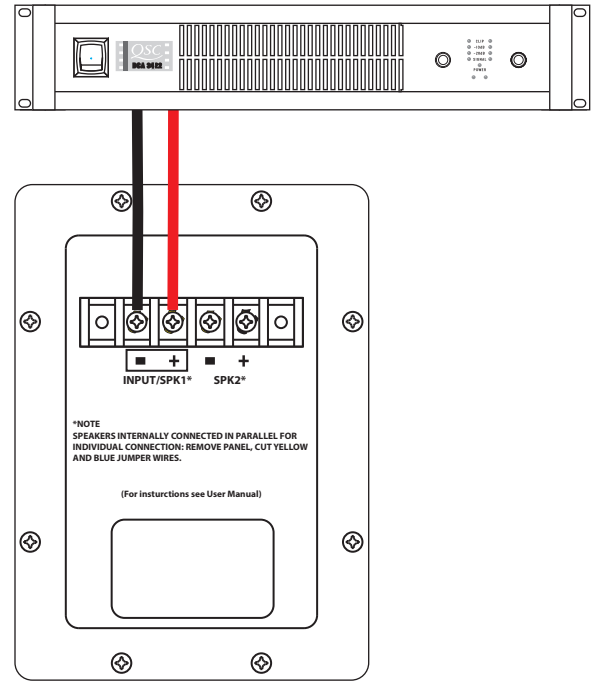
# Connections

## Normal Connection

The SB-2180 has barrier strip screw terminals for connection. The terminals accept up to #10 AWG stranded loudspeaker wiring. Use the largest wire size and shortest wire length possible for a given installation. Observe the polarity markings and keep polarity consistent throughout the system for best performance.



**CAUTION:** Use an amplifier capable of driving 4  $\Omega$  loads.



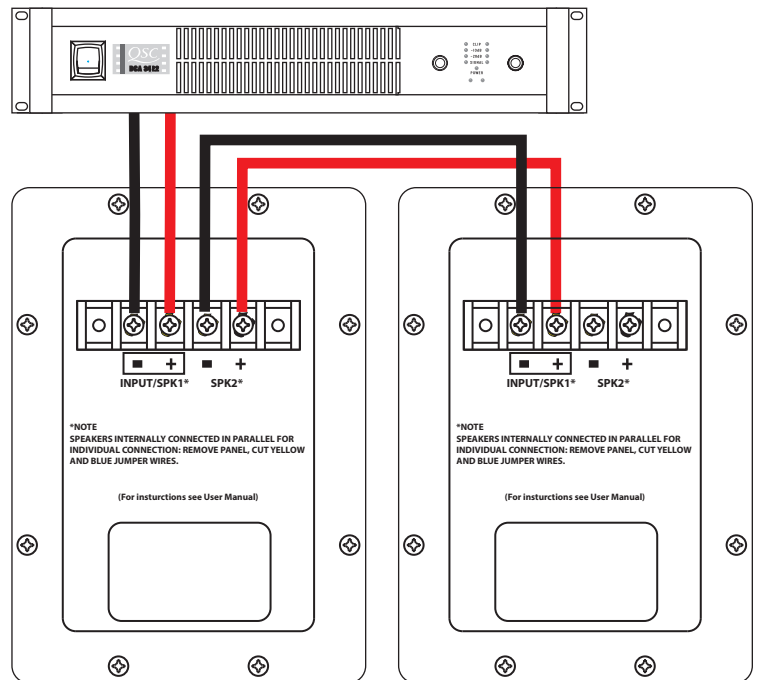
– Figure 2 –

## Connecting a Second SB-2180 in Parallel

The terminals marker SPK2 may be used to connect another SB-2180 in parallel. Connect the wires as shown in the illustration, at right. Note: If the internal wiring of the SB-2180 has been modified in any way, this may not function. If this is the case, remove the terminal cup and verify the presence of the factory yellow jumper and blue jumper wires; correct as required or have the loudspeaker serviced.



**CAUTION:** Use an amplifier capable of driving 2  $\Omega$  loads.



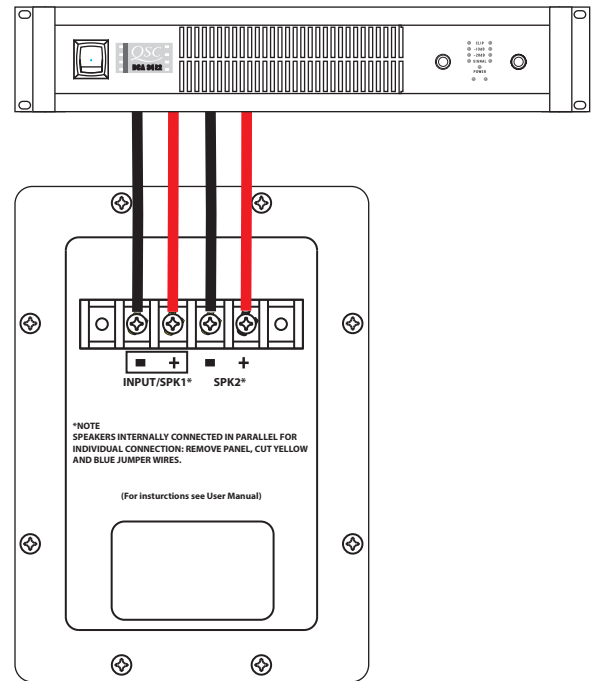
– Figure 3 –

## Individual Transducer Connection (requires modification)

The transducers are wired in parallel inside the enclosure. If individual transducer connection is required, remove the terminal cup and remove the yellow and the blue jumper wires that are connected between the SPK1 and SPK2 terminals. Replace the terminal cup and mark the enclosure with a note of the modification.



**CAUTION:** Requires removal of the terminal cup then cutting the yellow and blue jumper wires connecting the SPK1 and SPK2 terminals



– Figure 4 –

## SB-2180 Specifications

Frequency Range <sup>1</sup> (-10 dB)	25 Hz to 150 Hz
Rated Noise Power <sup>2</sup>	1100 W
Sensitivity <sup>3</sup>	100 dB
Maximum continuous SPL <sup>4</sup>	130.4 dB
Maximum peak SPL <sup>4</sup>	136.4 dB
Impedance	4 Ω
Recommended Amplifier Power	2200 W
Transducer	Two 18 in. (457 mm) woofers, 4 in. voice coils
Enclosure Details	
Input Connector	4-position barrier strip
Enclosure Material	MDF, 19 mm
Grille	None
Dimensions (HxWxD)	33.15 x 42.5 x 16.5 inches (842 x 1080 x 420 mm)
Net Weight	187 lb (89 kg)

- 1 Half-space (2 pi), unprocessed, -10 dB from on-axis sensitivity
- 2 AES2-1984 noise signal for 2 hours
- 3 On-Axis, free-field sensitivity, 2.83 V, 1 m
- 4 Calculated from rated noise voltage and sensitivity



**NOTE:** Specifications subject to change without notice.



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