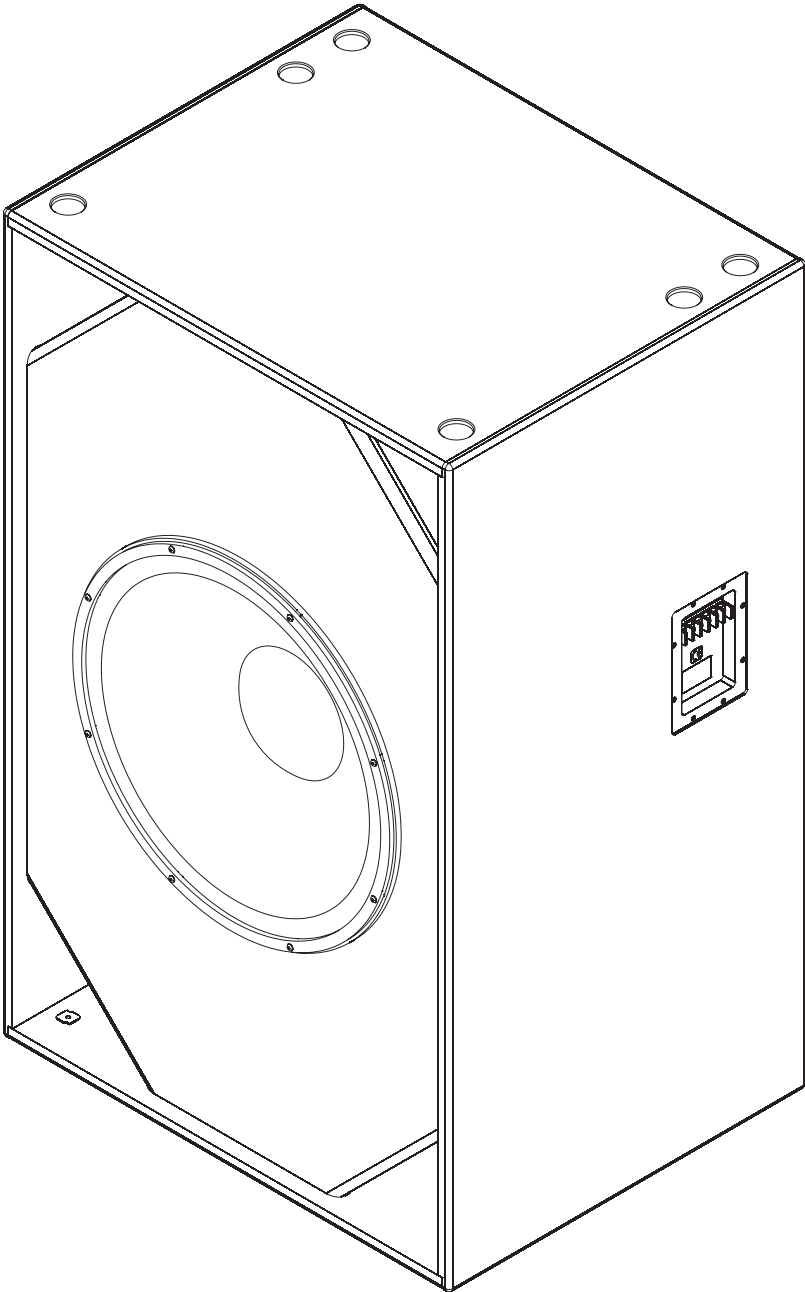


SB-15121

Cinema Loudspeaker User Manual



21" Subwoofer



TD-000294-00-A



IMPORTANT SAFETY PRECAUTIONS AND EXPLANATION OF SYMBOLS



Before placing, installing, rigging, or suspending any speaker product, inspect all hardware, suspension, cabinets, transducers, brackets and associated equipment for damage. Any missing, corroded, deformed or non-load rated component could significantly reduce the strength of the installation, placement, or array. Any such condition severely reduces the safety of the installation and should be immediately corrected. Use only hardware which is rated for the loading conditions of the installation and any possible short-term unexpected overloading. Never exceed the rating of the hardware or equipment. Consult a licensed, professional engineer when any doubt or questions arise regarding a physical equipment installation.



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 Audio Product's instructions and a licensed, professional engineer. Only use attachments, mounts, accessories, or brackets specified by QSC Audio Products, LLC. Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way.

Warranty (USA only; other countries, see your dealer or distributor)

Disclaimer

QSC Audio Products, LLC is not liable for any damage to amplifiers or any other equipment that is caused by negligence or improper installation and/or use of this loudspeaker product.

QSC Audio Products 3-Year Limited Warranty

QSC Audio Products, LLC ("QSC") guarantees its products to be free from defective material and/or workmanship and will replace defective parts and repair malfunctioning products under this warranty when the defect occurs under normal installation and use-provided the unit is returned to our factory, one of our authorized service stations or an authorized QSC International Distributor via pre-paid transportation with a copy of proof of purchase (i.e., sales receipt). This warranty provides that the examination of the return product must indicate, in our judgment, a manufacturing defect. This warranty does not extend to any product which has been subjected to misuse, neglect, accident, improper installation, or where the date code has been removed or defaced. QSC shall not be liable for incidental and/or consequential damages. This warranty gives you specific legal rights. This limited warranty is freely transferable during the term of the warranty period. The warranty on QSC products is NOT VALID if the products have been purchased from an unauthorized dealer/online e-tailer, or if the original factory serial number has been removed, defaced, or replaced in any way. Damage to, or loss of any software or data residing on the product is not covered. When providing repair or replacement service, QSC will use reasonable efforts to reinstall the product's original software configuration and subsequent update releases, but will not provide any recovery or transfer of software or data contained on the serviced unit not originally included in the product.

Customers may have additional rights, which vary from state to state or from country to country. In the event that a provision of this limited warranty is void, prohibited or superseded by local laws, the remaining provisions shall remain in effect.

Periodically, this warranty is updated. To obtain the most recent version of QSC's warranty statement, please visit www.qscaudio.com.

Contact us at 800-854-4079 or visit our website at www.qscaudio.com.

The QSC limited warranty is valid for a period of three (3) years from date of purchase in the United States and many (but not all) other countries.

For QSC warranty information in countries other than the United States, contact your authorized QSC international distributor. A list of QSC International distributors is available at www.qscaudio.com.

To register your QSC product online, go to www.qscaudio.com and select "Product Registration". Other questions regarding this warranty can be answered by calling, e-mailing or contacting your authorized QSC distributor.

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Introduction

Part of the DCS Digital Cinema Speaker Series, QSC's SB-15121 subwoofer offers the highest performance available for cinema subwoofer applications. It is designed for use in premiere cinemas and post-production applications where the ultimate in performance is required.

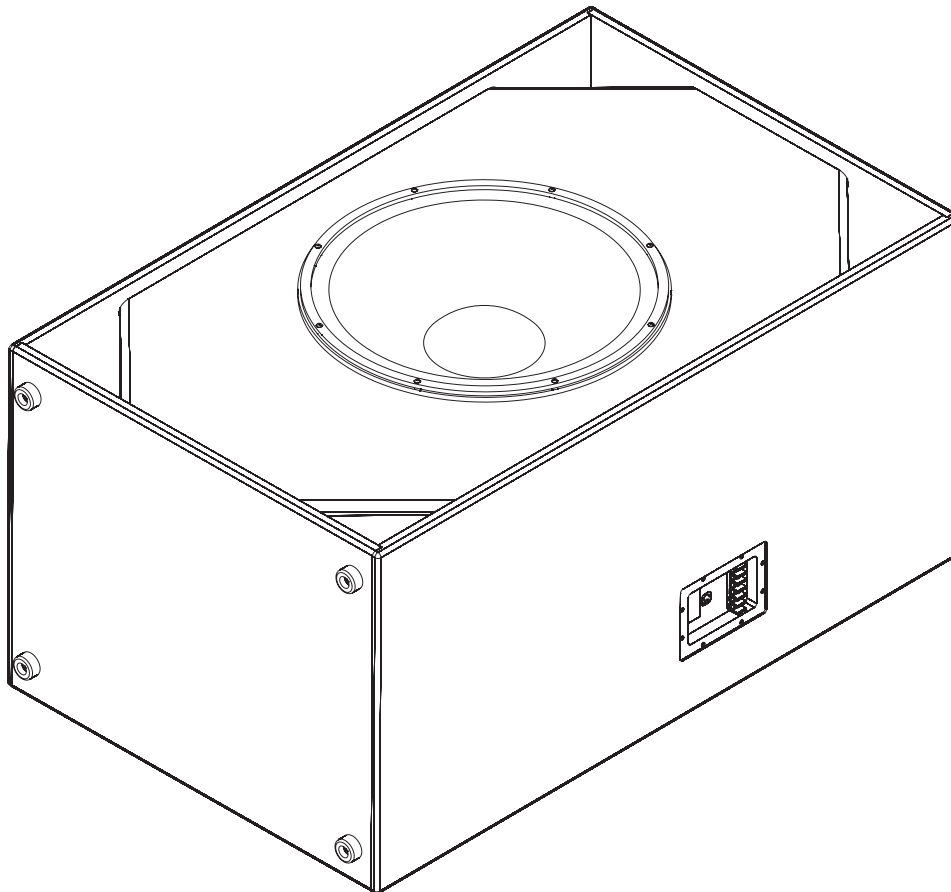
The massive 21" low-frequency transducer features a 6" diameter voice coil in a vented, neodymium magnet structure that is designed to dissipate extreme amounts of heat and allow for excursion that is double that of typical 18" transducers. Ensuring cool operation, even at high power levels, increases driver lifespan and decreases power compression at high drive levels.

The large, ported enclosure ensures response to the lowest audible frequency for bass that you can not only hear but also feel. The enclosure is constructed of high quality, heavily braced MDF Panels. Large, fully radiused ports ensure smooth airflow, especially at higher drive levels. This prevents potentially audible port turbulence noise. Both internal and external port openings are flared.

With symmetrical port loading, the bass ports are evenly spaced around the transducer, making internal pressure more uniform across the back surface of the woofer. 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.

Features

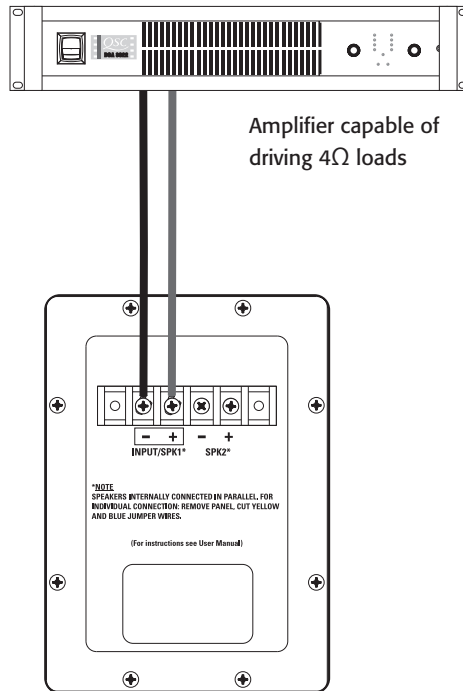
1. SB-15121 features a 1500 W, 21" transducer
2. Frequency range extends to below 25 Hz without the need for B6 EQ filters
3. DCP, DCM and SF-3 signal processors optionally available



Connections

Normal Connection

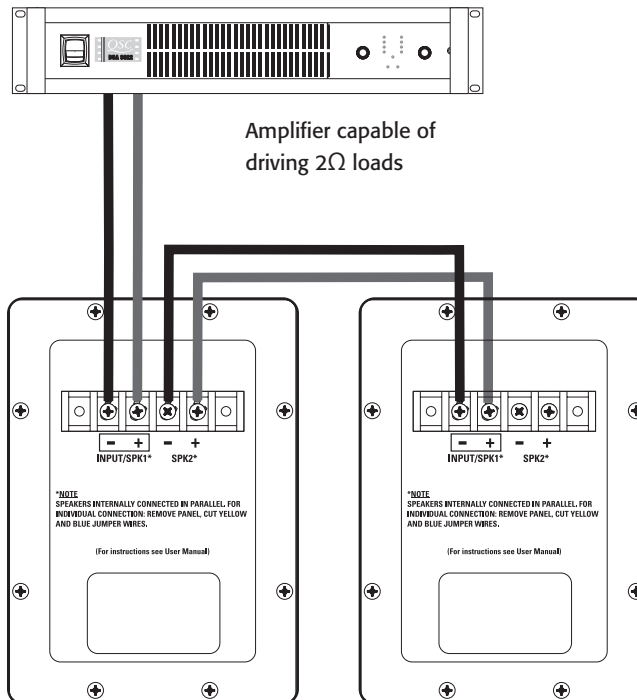
The SB-15121 has barrier strip screw terminals for connection. The terminals accept up to #10 AWG stranded loudspeaker wiring. Use the largest wire size and shortest wire length possible for a given installation. Observe the polarity markings and keep polarity consistent throughout the system for best performance.



Amplifier capable of driving 4Ω loads

Parallel Connection of Second SB-15121

The terminals marked SPK2 may be used to connect another SB-15121 in parallel. Connect the wires as shown in the illustration below.



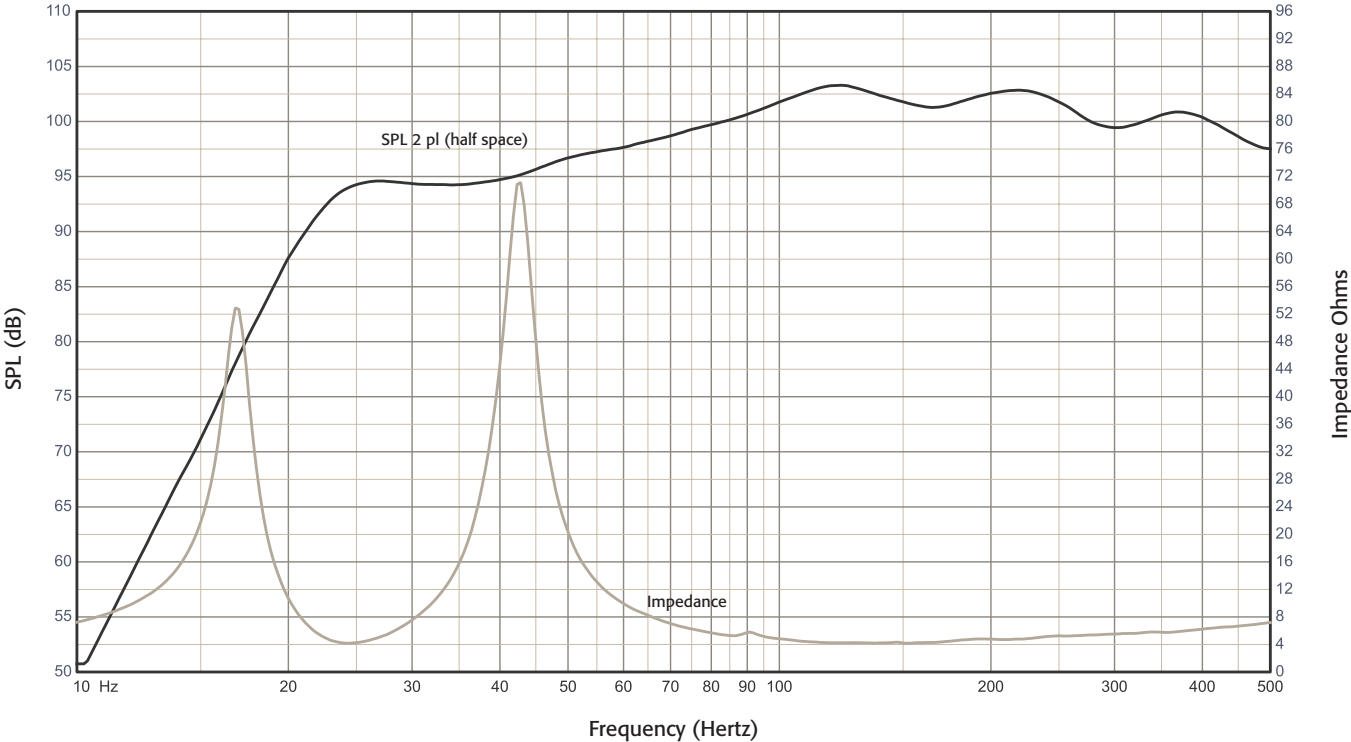
Amplifier capable of driving 2Ω loads

Specifications

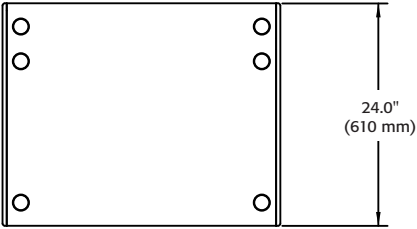
SB-15121

Frequency Range	
-6 dB half space	23.8 Hz – 250 Hz
-10 dB half space	21.5 Hz – 250 Hz
Maximum Output	
Calculated Peak at Rated Power	137 dB SPL 1 meter, half space, at rated rms power with 6 dB crest factor pink noise input, 40 Hz – 100 Hz
Calculated Maximum Continuous	131 dB SPL 1 meter, half space, at rated rms power with 6 dB crest factor pink noise input, 40 Hz – 100 Hz
Impedance	4Ω nominal
Maximum Input Power	
100 hours of 6 dB crest factor pink noise, 25 Hz – 250 Hz	1500 watts
2 hours of 6 dB crest factor pink noise, 25 Hz – 250 Hz AES method	2500 watts
Recommended Amp Power	3400 watts rms maximum, 1200 watts rms minimum
Sensitivity (half space / watt / 1 meter)	99 dB 40 Hz – 100 Hz
Transducer	One 21" (533 mm) high efficiency subwoofer transducer featuring a vented 6" (153 mm) copper voice coils on a fiberglass former. High excursion/low distortion design, with extremely high power handling, and low thermal and port compression. Neodymium magnet to provide a very high force factor and linear excursion.
Recommended Processing	HPF at 20 Hz, minimum 12 dB / Octave slope.
Nominal Coverage	Omnidirectional (80 Hz)
Connectors	Barrier strip screw terminals accept up to #10 AWG standard wire. Four terminals: (two INPUT and two PARALLEL OUT).
Enclosure	Vented enclosure with symmetrical port design, tuned to 25 Hz, constructed of medium density fibre-board and heavily braced. Features vandal resistant woofer mounting bolts.
Dimensions (HWD)	48.8" x 30" x 24" (1238 mm x 762 mm x 610 mm) including feet
Weight Shipping	257 lb / 114 kg
Net Weight	231 lb / 105 kg

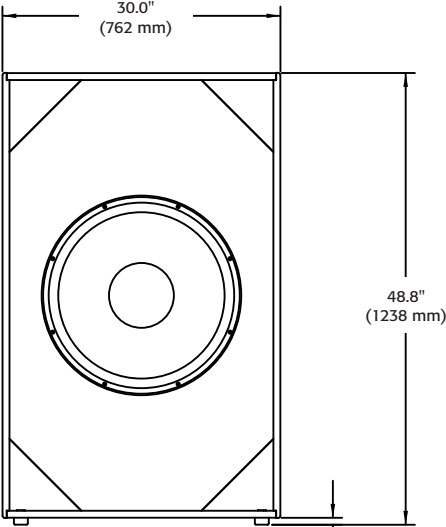
SPL and Impedance vs. Frequency



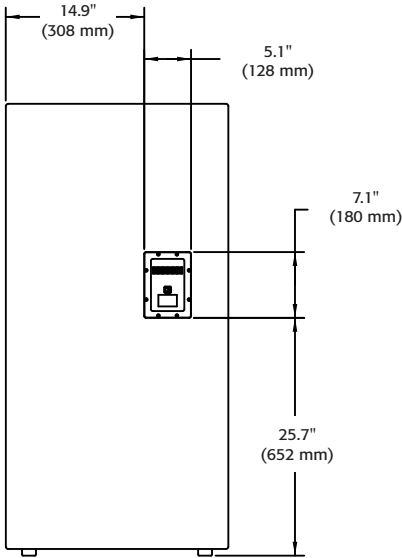
Dimensions



Top



Front



Right



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