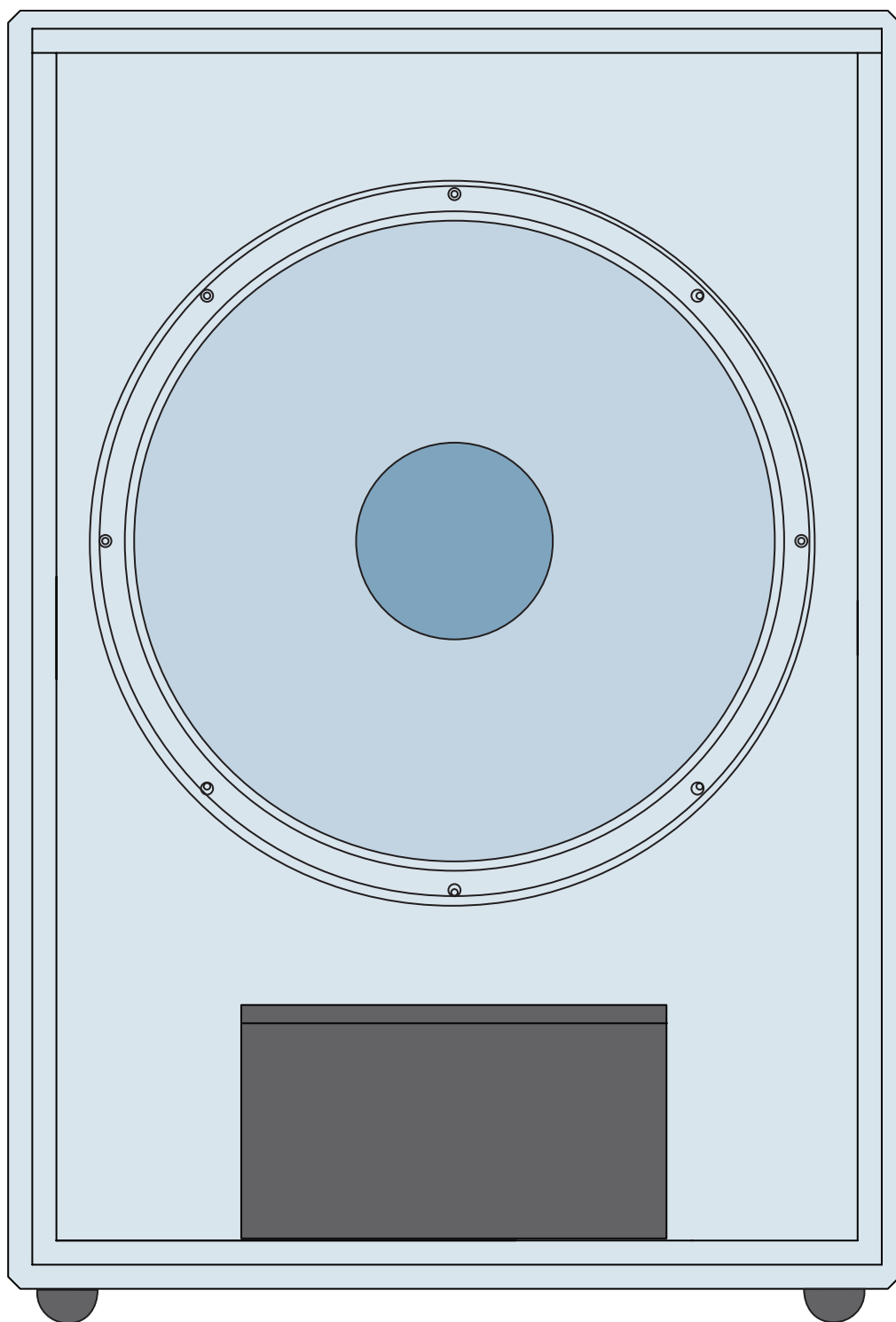


**MACKE®**

# **S218s PASSIVE SUBWOOFER USER'S 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. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Only use attachments/accessories specified by the manufacturer.
10. Use only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.

11. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
12. Exposure to extremely high noise levels may cause permanent hearing loss. Individuals vary considerably in susceptibility to noise-induced hearing loss, but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a period of time. The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the permissible noise level exposures shown in the following chart.

According to OSHA, any exposure in excess of these permissible limits could result in some hearing loss. To ensure against potentially dangerous exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of producing high sound pressure levels use hearing protectors while the equipment is in operation. Ear plugs or protectors in the ear canals or over the ears must be worn when operating the equipment in order to prevent permanent hearing loss if exposure is in excess of the limits set forth here.

## PORTABLE CART WARNING



Carts and stands - The Component should be used only with a cart or stand that is recommended by the manufacturer. A Component and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the Component and cart combination to overturn.

Duration Per Day In Hours	Sound Level dBA, Slow Response	Typical Example
8	90	Duo in small club
6	92	
4	95	Subway Train
3	97	
2	100	Very loud classical music
1.5	102	
1	105	Tami screaming at Adrian about deadlines
0.5	110	
0.25 or less	115	Loudest parts at a rock concert

**WARNING** — To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.

# INTRODUCTION

Thank you for choosing the Mackie S218s sound reinforcement subwoofer.

The S218s is a professional passive subwoofer, designed to complement our professional line of passive and active loudspeakers, powered mixers, and power amplifiers. It is capable of extremely high sound-pressure levels, and designed to give you the best performance of any subwoofer in its class and price range.

The S218s features an 18-inch high-power low-frequency woofer in a bass-reflex designed cabinet. The woofer incorporates technology used in large-format touring systems and is virtually indestructible.

Connecting and setting up the S218s is a breeze. It accepts a speaker-level signal via either a Neutrik Speakon® connector or female 1/4-inch TS (Tip/Sleeve) connector. The built-in low-pass filter allows you to connect a full-range signal directly to the input of the subwoofer.

The cabinet is constructed using 15 mm multi-layer birch plywood. A carrying handle is integrated into each side for easy loading and transport.

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Don't forget to visit our website at [www.mackie.com](http://www.mackie.com)  
for more information about this and other Mackie products.

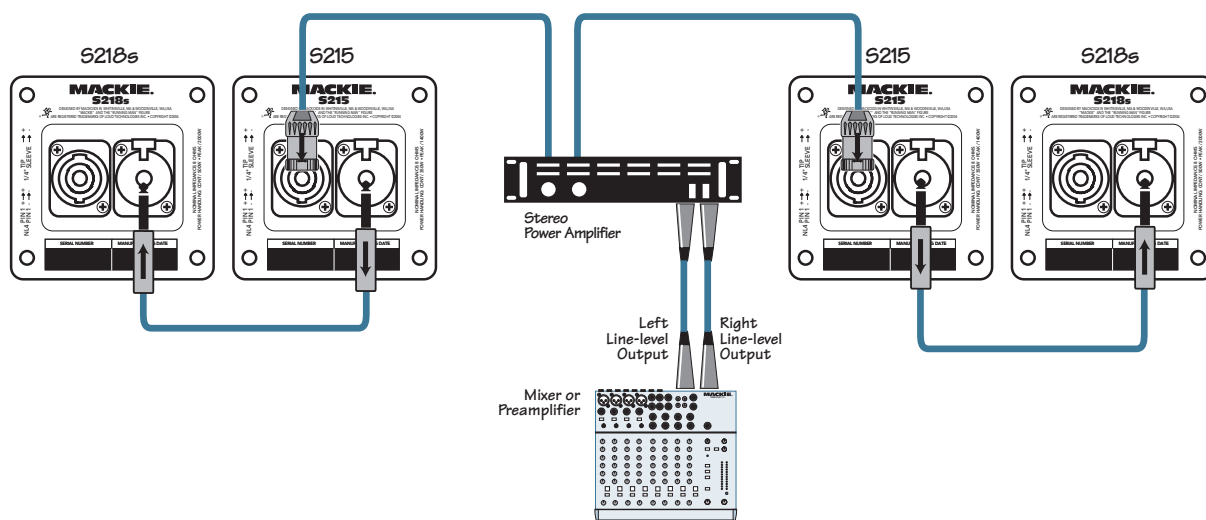
# HOOKUP DIAGRAMS

## Quick-Start

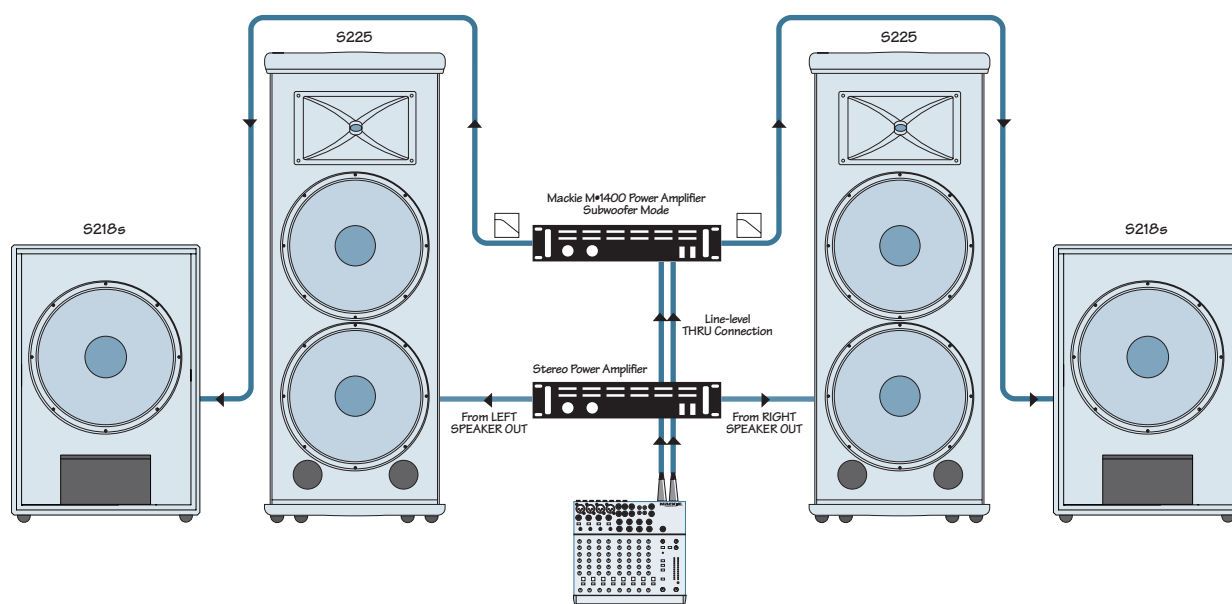


Make all initial connections with the power switches OFF on all equipment. Make sure all master volume, level, or gain controls are all the way down.

1. Connect the line-level outputs from your mixing console (or other signal source) to the inputs of your power amplifier.
2. Connect the "Speaker Output" from your power amplifier (or powered mixer) to one of the in-
3. Turn on your mixing console (or other signal source).
4. Turn on the amplifier. Turn up its volume or gain control(s) as recommended by the manufacturer.
5. Start the signal source, whether it be speaking into a microphone or starting a CD player. Adjust the volume controls on the mixer (or other signal source) for normal operation.

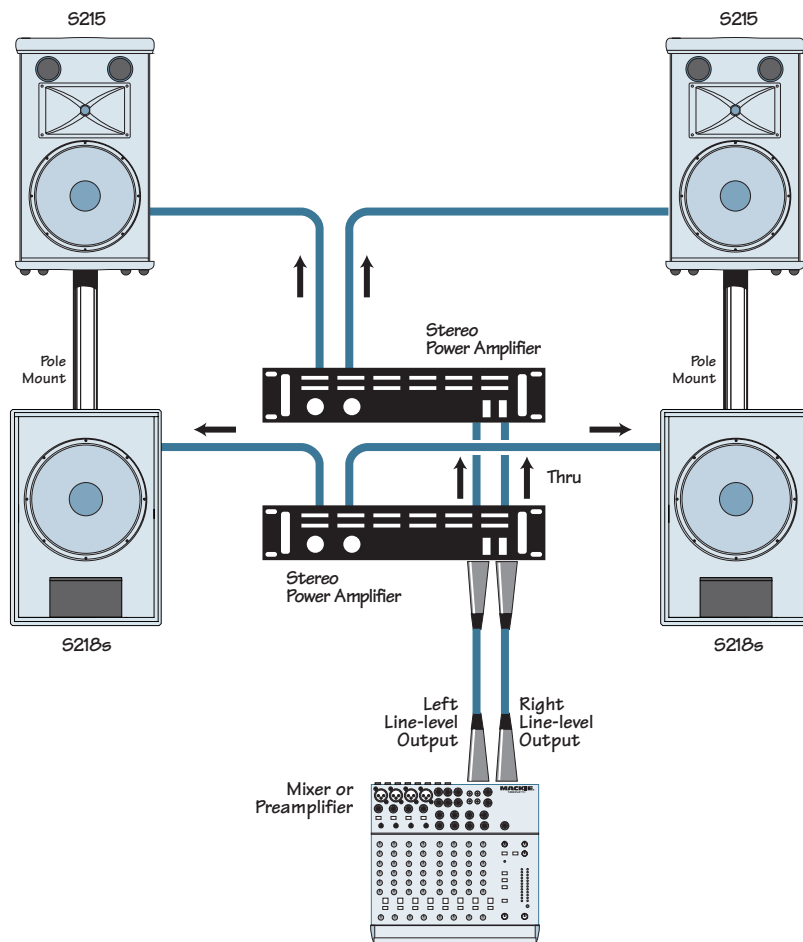


## S218s AND S215: WITH A MIXER AND POWER AMPLIFIER, USING THE 1/4" THRU JACKS

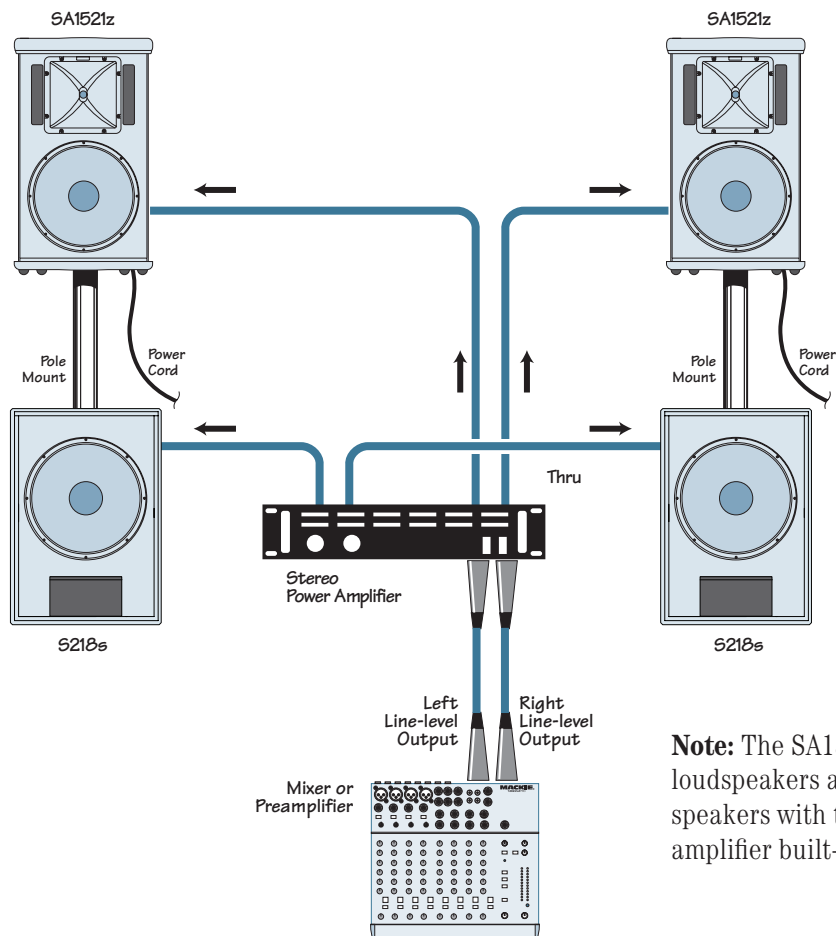


**Note:** The FR Series M•1400 power amplifiers have a built-in subwoofer crossover. If you are not using a Mackie M•1400 amplifier, you can use an active crossover between the first and second amplifiers with the crossover set between 125 Hz to 180 Hz. This allows more amplifier power for the low frequencies rather than being wasted as heat in the S218s' internal built-in crossover.

## S218s AND S225: WITH A MIXER AND TWO POWER AMPLIFIERS



### S218s AND S215: WITH A MIXER AND TWO POWER AMPLIFIERS



**Note:** The SA1521z loudspeakers are active speakers with the power amplifier built-in.

### S218s AND SA1521z: WITH A MIXER AND POWER AMPLIFIER

## CONNECTIONS

The S218s has two connectors. One is a Neutrik Speakon™ connector and the other is a female 1/4" TS connector. These connectors are wired in parallel, and can be used either as an input from a power amplifier, or as a "thru" connection for connecting the full-range input signal to another speaker's input.



**NEVER** connect more than one output from a power amplifier to the S218s inputs.

Keep in mind, when connecting two or more speakers in parallel using the "thru" connections, that you want to be sure not to go below the minimum impedance requirements for your power amplifier.



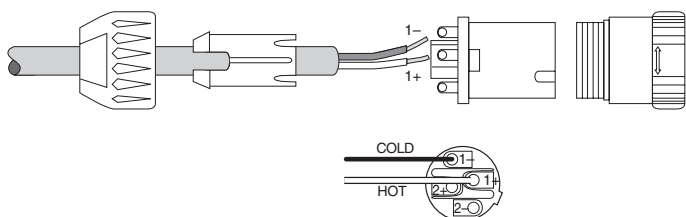
The S218s has a nominal impedance of 8 ohms.  
Two 8 ohm cabinets in parallel equals 4 ohms.  
Three 8 ohm cabinets in parallel equals 2.7 ohms.  
Four 8 ohm cabinets in parallel equals 2 ohms.

Use high-quality speaker cable as recommended by the power amplifier manufacturer.



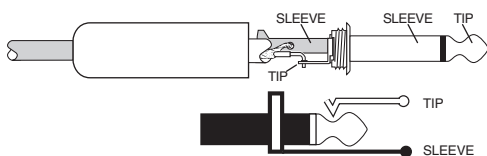
**DO NOT** use coaxial shielded cable like a guitar cord to make speaker connections. They are not designed to handle the high currents required to drive a loudspeaker.

The Speakon connector is wired as follows:  
Pin 1+ = Signal ("+" or hot)  
Pin 1- = Ground ("-" or cold)



**Speakon Connectors**

The 1/4" TS jack is wired as follows:  
Tip = Signal ("+" or hot)  
Sleeve = Ground ("-" or cold)



**1/4" TS Connectors**

## PLACEMENT

The S218s subwoofer is designed to sit on the floor or stage. A socket is provided on the top of the cabinet for mounting another speaker on top of the S218s, like the Mackie S215, SA1521z, SR1521z, SRM350, or SRM450 speakers. Use the optional Mackie speaker mounting pole (SPM100) to mount them on the S218s (see Hookup Diagrams on page 5).



**WARNING:** The cabinet has no rigging points and is not suitable for rigging. **NEVER** attempt to suspend the S218s by its handles.



As with any powered components, protect them from moisture. If you are setting them up outdoors, make sure they are under cover if you expect rain.

## Room Acoustics

The S218s subwoofers are designed to sound as neutral as possible; that is, to reproduce the input signal as accurately as possible.

Room acoustics play a crucial role in the overall performance of a sound system. Here are some additional placement tips to help overcome some typical room problems that might arise:

- Avoid placing loudspeakers in the corners of a room. This increases the low frequency output and can cause the sound to be muddy and indistinct.
- Avoid placing loudspeakers against a wall. This, too, increases the low frequency output, though not as much as corner placement. However, if you do need to reinforce the low frequencies, this is a good way to do it.
- Avoid placing the speakers directly on a hollow stage floor. A hollow stage can resonate at certain frequencies, causing peaks and dips in the frequency response of the room. It's better to place the loudspeakers on a sturdy table or stand designed to handle the weight of the cabinet(s).

- Position the loudspeakers so the high-frequency drivers are 2 to 4 feet above ear level for the audience (make allowances for a standing/dancing in the aisles audience). High frequencies are highly directional and tend to be absorbed much easier than lower frequencies. By providing direct line-of-sight from the loudspeakers to the audience, you increase the overall brightness and intelligibility of the sound system.
- Highly reverberant rooms, like many gymnasiums and auditoriums, are a nightmare for sound system intelligibility. Multiple reflections off the hard walls, ceiling, and floor play havoc with the sound. Depending on the situation, you may be able to take some steps to minimize the reflections, such as putting carpeting on the floors, closing draperies to cover large glass windows, or hanging tapestries or other materials on the walls to absorb some of the sound.

However, in most cases, these remedies are not possible or practical. So what do you do? Making the sound system louder generally doesn't work because the reflections become louder, too. The best approach is to provide as much direct sound coverage to the audience as possible. The farther away you are from the speaker, the more prominent will be the reflected sound.

Use more speakers strategically placed so they are closer to the back of the audience. If the distance between the front and back speakers is more than about 100 feet, you should use a delay processor to time-align the sound. (Since sound travels about 1 foot per millisecond, it takes about 1/10 of a second to travel 100 feet.)

# SERVICE INFORMATION

If you think your Mackie product has a problem, please check out the following troubleshooting tips and do your best to confirm the problem. Visit the Support section of our website ([www.mackie.com/support](http://www.mackie.com/support)) where you will find lots of useful information such as FAQs, documentation, and user forums. You may find the answer to the problem without having to send your Mackie product away.

## Troubleshooting

### No sound

- Are the level controls on the mixer or amplifier turned all the way down? Follow the procedures in the “Quick-Start” section on page 4 to verify that all the volume controls in the system are properly adjusted.
- Is the signal source working (and making union scale)? Make sure the connecting cables are in good repair and securely connected at both ends.
- Make sure the mixer does not have a Mute on or a Processor loop engaged. If you find something like this, make sure the volume/gain is turned down before disengaging the offending switch.

### Poor bass performance

- Check the polarity of the connections between the mixer and all the loudspeakers and subwoofers. You may have your positive and negative connections reversed at one end of one cable, causing one loudspeaker to be out-of-phase.

### Poor sound

- Is it loud and distorted? Make sure that you're not overdriving a stage in the signal chain. Verify that all level controls are set properly.
- Is the input connector plugged completely into the jack? Make sure all connections are secure. It's a good idea to periodically clean all electrical connections with a non-lubricating electrical contact cleaner.

## Repair

For warranty repair or replacement, refer to the warranty information on page 11.

Non-warranty repair for Mackie products is available at a factory-authorized service center. To locate your nearest service center, visit [www.mackie.com](http://www.mackie.com), click “Support” and select “Locate a Service Center.” Service for Mackie products living outside the United States can be obtained through local dealers or distributors.

If you do not have access to our website, you can call our Tech Support department at 1-800-898-3211, Monday-Friday, 7 am to 5 pm Pacific Time, to explain the problem. Tech Support will tell you where the nearest factory-authorized service center is located in your area.

## CARE AND MAINTENANCE

Your Mackie subwoofer will provide many years of reliable service if you follow these guidelines:



Avoid exposing the subwoofer to moisture. If your loudspeakers are set up outdoors, be sure they are under cover if you expect rain.

- Avoid exposure to extreme cold (below freezing temperatures). If you must operate the subwoofers in a cold environment, warm up the voice coil slowly by sending a low-level signal through it for about 15 minutes prior to high-power operation.
- Use a slightly damp cloth with a mild soap solution to clean the cabinets. Only do this when the power is turned off. Avoid getting moisture into any of the openings of the cabinet, particularly where the driver is located.



# S218s SPECIFICATIONS

## Acoustic Performance

<i>Frequency Range (-10 dB)</i>	38 Hz–360 Hz
<i>Sensitivity (1W/1m)</i>	99 dB SPL
<i>Max SPL long-term</i>	122 dB @ 1m
<i>Max SPL peak</i>	128 dB @ 1m
<i>Crossover Point</i>	180 Hz, 12 dB/octave
<i>Woofers Loading</i>	Bass reflex

## Input/Output

<i>Input/Output Type</i>	Neutrik Speakon™ and female 1/4-in. TS jack
<i>Input Impedance (nominal)</i>	8 ohms
<i>Input Impedance (minimum)</i>	3.9 ohms @ 110 Hz
<i>Recommended Lowpass Filter (if using external crossover)</i>	150 Hz, 24 dB/octave
<i>Recommended Amplifier Power</i>	500 watts rms continuous 2000 watts peak

## Low-Frequency Section

<i>Woofers Diameter</i>	18.0 in/457 mm
<i>Voice Coil Diameter</i>	3 in/76 mm
<i>Diaphragm Material</i>	Cellulose
<i>Magnet Material</i>	Ferrite

## Construction Features

<i>Basic Design</i>	Bass reflex
<i>Material</i>	15 mm multi-layered plywood
<i>Finish</i>	Black paint
<i>Handles</i>	One on each side
<i>Grille</i>	Perforated metal with weather-resistant coating

## Physical Properties

<i>Height</i>	30.0 in/76.2 cm
<i>Width</i>	21.0 in/53.3 cm
<i>Depth</i>	21.0 in/53.3 cm
<i>Weight</i>	81.5 lb/37.0 kg
<i>Mounting Methods</i>	<b>Floor mount only.</b> The S218s cabinet has no rigging points and is not suitable for flying. <i>Never attempt to suspend the cabinet by its handles.</i>

## Disclaimer

Since we are always striving to make our products better by incorporating new and improved materials, components, and manufacturing methods, we reserve the right to change these specifications at any time without notice.

“Mackie” and the “Running Man” figure are registered trademarks of LOUD Technologies Inc.

All other brand names mentioned are trademarks or registered trademarks of their respective holders, and are hereby acknowledged.

### Need Help?

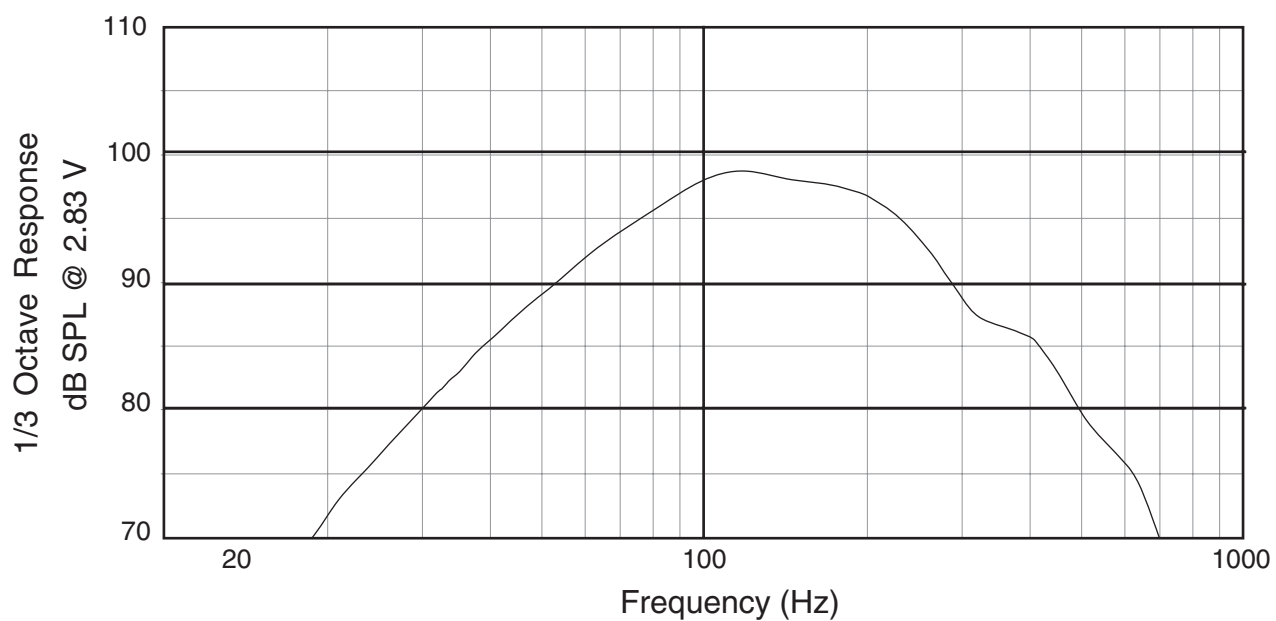
**You can reach a technical support representative  
Monday through Friday  
from 7 AM to 5 PM PST at:**

**1-800-898-3211**

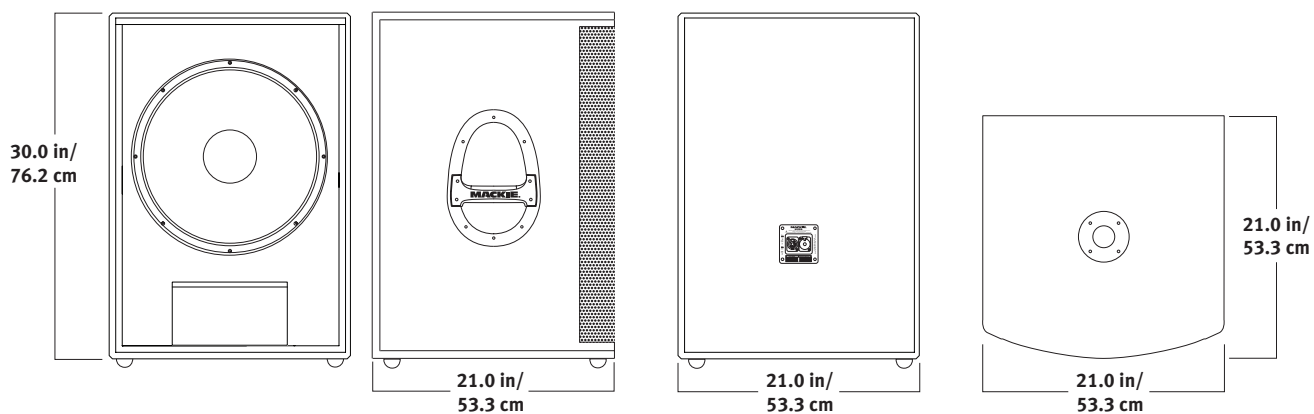
**After hours, visit [www.mackie.com](http://www.mackie.com) and click Support,  
or email us at: [techmail@mackie.com](mailto:techmail@mackie.com)**



## S218s Frequency Response On-Axis



## S218s Dimensions



# S218s Limited Warranty

**Please keep your sales receipt in a safe place.**

**A.** LOUD Technologies Inc. warrants all materials, workmanship and proper operation of this product for a period of **one year** from the original date of purchase. You may purchase an additional 24-month Extended Warranty (for a total of 36 months of coverage). Visit our website and follow the "Product Registration" links for details ([www.mackie.com](http://www.mackie.com)). If any defects are found in the materials or workmanship or if the product fails to function properly during the applicable warranty period, LOUD Technologies, at its option, will repair or replace the product. **This warranty applies only to equipment sold and delivered within the U.S. and Canada by LOUD Technologies Inc. or its authorized dealers.**

**B.** For faster processing (not to mention a free gift), register online or mail in the product registration card.

**C.** Unauthorized service, repairs, or modification of Mackie products will void this warranty. To obtain repairs or replacement under warranty, you must have a copy of your sales receipt from the authorized Mackie dealer where you purchased the product. It is necessary to establish purchase date and determine whether your Mackie product is within the warranty period.

**D.** To obtain warranty repair or replacement:

1. Call Mackie Technical Support at 800/898-3211, 7 AM to 5 PM Monday through Friday (Pacific Time) to get authorization for repair or replacement. Alternately, go to the Mackie website, click "Support" ([www.mackie.com/support](http://www.mackie.com/support)), and follow the instructions for reporting a warranty issue and submitting a request for an advance replacement.

2. **Advance Replacement:** Mackie will ship a replacement unit to you along with an invoice for the suggested retail price of the replacement unit. You must return the defective unit immediately to cancel the invoice. If you do not return the defective unit within 30 days, you must pay the full amount stated in the invoice to satisfy your debt.

3. **Repair:** When you call Mackie Technical Support, explain the problem and obtain a Service Request Number. Have your Mackie product's serial number ready. ***You must have a Service Request Number before you can obtain factory-authorized service.***

- Pack the product in its original shipping carton. Also include a note explaining exactly how to duplicate the problem, a copy of the sales receipt with price and date showing, your daytime phone number and return street address (no P.O. boxes or route numbers, please!), and the Service Request Number. If we cannot duplicate the problem or establish the starting date of your Limited Warranty, we may, at our option, charge for service time and parts.

- Ship the product in its original shipping carton, **freight prepaid** to the authorized service center. Write the Service Request Number in **BIG PRINT** on top of the box. The address of your closest authorized service center will be given to you by Technical Support, or it may be obtained from our website. Once it's repaired, the authorized service center will ship it back by ground shipping, pre-paid (if it qualified as a warranty repair).

**Note:** Under the terms of the warranty, you must ship or drop-off the unit to an authorized service center. The return ground shipment is covered for those units deemed by us to be under warranty.

**Note:** You must have a sales receipt from an authorized Mackie dealer for your unit to be considered for warranty repair.

**IMPORTANT:** Make sure that the Service Request Number is plainly written on the shipping carton. No receipt, no warranty service.

**E.** LOUD Technologies reserves the right to inspect any products that may be the subject of any warranty claims before repair or replacement is carried out. LOUD Technologies may, at our option, require proof of the original date of purchase in the form of a dated copy of the original dealer's invoice or sales receipt. Final determination of warranty coverage lies solely with LOUD Technologies.

**F.** Any products returned to one of the LOUD Technologies factory-authorized service centers, and deemed eligible for repair or replacement under the terms of this warranty will be repaired or replaced. LOUD Technologies and its authorized service centers may use refurbished parts for repair or replacement of any product. Products returned to LOUD Technologies that do not meet the terms of this Warranty will not be repaired unless payment is received for labor, materials, return freight, and insurance. Products repaired under warranty will be returned freight prepaid by LOUD Technologies to any location within the boundaries of the USA or Canada.

**G.** LOUD Technologies warrants all repairs performed for 90 days or for the remainder of the warranty period. This warranty does not extend to damage resulting from improper installation, misuse, neglect or abuse, or to exterior appearance. This warranty is recognized only if the inspection seals and serial number on the unit have not been defaced or removed.

**H.** LOUD Technologies assumes no responsibility for the timeliness of repairs performed by an authorized service center.

**I.** This warranty is extended to the original purchaser. This warranty may be transferred to anyone who may subsequently purchase this product within the applicable warranty period for a nominal fee. A copy of the original sales receipt is required to obtain warranty repairs or replacement.

**J.** This is your sole warranty. LOUD Technologies does not authorize any third party, including any dealer or sales representative, to assume any liability on behalf of LOUD Technologies or to make any warranty for LOUD Technologies Inc.

**K.** THE WARRANTY GIVEN ON THIS PAGE IS THE SOLE WARRANTY GIVEN BY LOUD TECHNOLOGIES INC. AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS AND IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE WARRANTY GIVEN ON THIS PAGE SHALL BE STRICTLY LIMITED IN DURATION TO ONE YEAR FROM THE DATE OF ORIGINAL PURCHASE FROM AN AUTHORIZED MACKIE DEALER. UPON EXPIRATION OF THE APPLICABLE WARRANTY PERIOD, LOUD TECHNOLOGIES INC. SHALL HAVE NO FURTHER WARRANTY OBLIGATION OF ANY KIND. LOUD TECHNOLOGIES INC. SHALL NOT BE LIABLE FOR ANY INCIDENTAL, SPECIAL, OR CONSEQUENTIAL DAMAGES THAT MAY RESULT FROM ANY DEFECT IN THE MACKIE PRODUCT OR ANY WARRANTY CLAIM. Some states do not allow exclusion or limitation of incidental, special, or consequential damages or a limitation on how long warranties last, so some of the above limitations and exclusions may not apply to you. This warranty provides specific legal rights and you may have other rights which vary from state to state.

# **MACKIE®**

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**16220 Wood-Red Road NE • Woodinville, WA 98072 • USA**

**United States and Canada: 800.898.3211**

**Europe, Asia, Central and South America: 425.487.4333**

**Middle East and Africa: 31.20.654.4000**

**Fax: 425.487.4337 • [www.mackie.com](http://www.mackie.com)**

**E-mail: [sales@mackie.com](mailto:sales@mackie.com)**