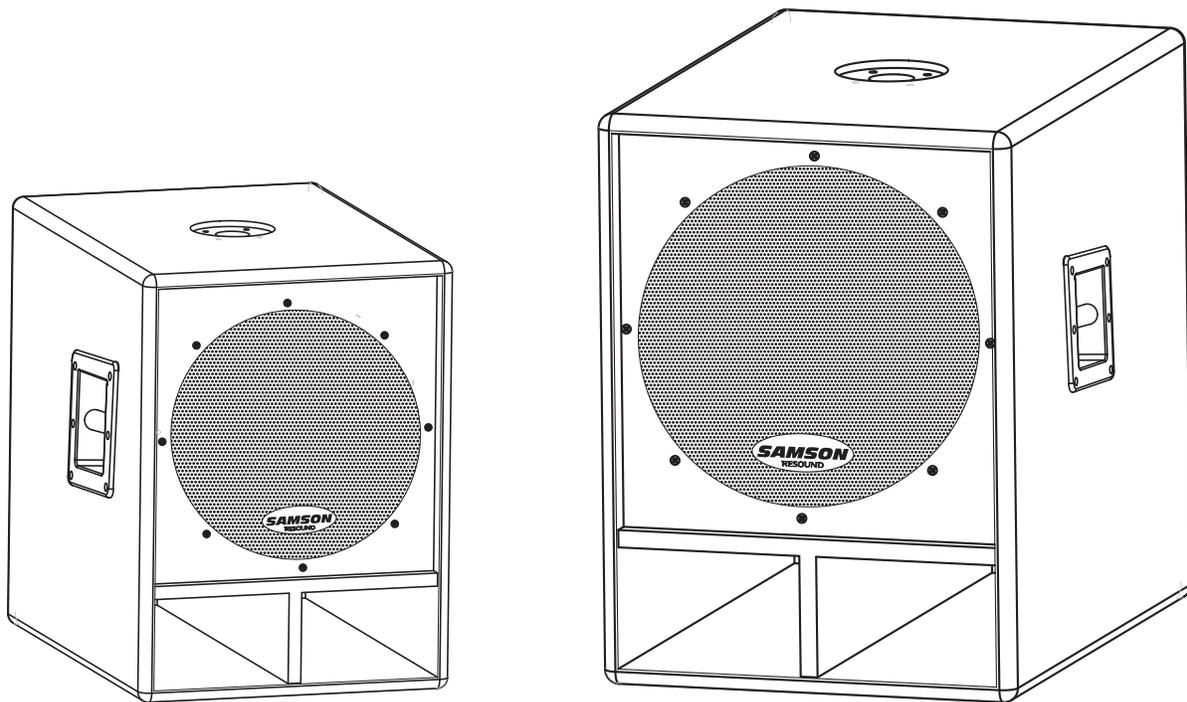


# RESOUND

**RS 15S**  
**RS 18S**



**SUB WOOFERS**

**Owners Manual**

**SAMSON**  
A U D I O

**SOUND REINFORCEMENT**

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# Introduction

Congratulations on purchasing the Samson Resound Series Subwoofer! The Resound RS15S and RS18S subwoofers provide a perfect solution for adding low frequency extension to just about any PA system. By combining high power handling, satellite input filtering, along with quality speaker and cabinet components, the Resound RS15S and RS18S provide serious bottom-end for any kind of live application. The low frequency drive units are constructed with heavy-duty steel and aluminum cast-frame baskets and feature large voice coils, massive magnets, impregnated cones and butyl surrounds. The RS15S and RS18S enclosures have been carefully voiced for punchy and articulate low-frequency performance by employing a precision tuned shelf-port design. The result, the Resound RS15S and RS18S offer slamming low-end that's deep and controlled. To make your connections simple, each Resound model provides both 1/4-inch and NEUTRIK SPEAKON® Input and Extension output connectors. The Extension Output is a full range output that can be used to connect a satellite speaker, or another Resound subwoofer. Each subwoofer cabinet has its own 12dB per octave, 180 Hz, Low Pass crossover to the low frequency driver. With the Resound, setup and break down is quick and easy. The compact cabinets include a 1 3/8" (35mm) pole mount receptacle for mounting satellite speakers and are easy to transport thanks to the heavy-duty steel handles. Durable black carpet covering and heavy-gauge steel grills offer excellent protection against wear and tear. As fixed sound reinforcement or as a durable, great-sounding road PA, the Resound RS15S and RS18S subwoofers are ideal for sound professionals and performers looking for serious low frequency output and studio monitor sound quality from a PA speaker system.

In these pages, you'll find a detailed description of the features of the Resound PA system, as well as a description of its front and rear panels, step-by-step instructions for its setup and use, and full specifications. You'll also find a warranty card enclosed—please don't forget to fill it out and mail it in so that you can receive online technical support and so we can send you updated information about these and other Samson products in the future.

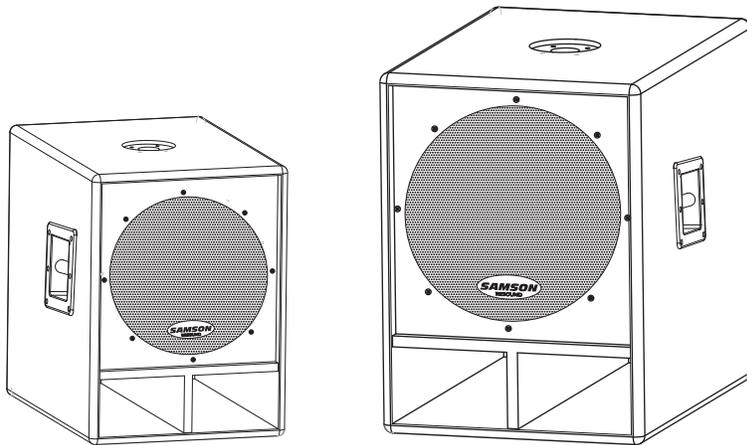
With proper care your Resound will operate trouble free for many years. We recommend you record your serial number in the space provided below for future reference.

Serial number: \_\_\_\_\_

Date of purchase: \_\_\_\_\_

Should your unit ever require servicing, a Return Authorization number (RA) must be obtained before shipping your unit to Samson. Without this number, the unit will not be accepted. Please call Samson at 1-800-3SAMSON (1-800-372-6766) for a Return Authorization number prior to shipping your unit. Please retain the original packing materials and if possible, return the unit in the original carton and packing materials.

## Resound RS15S and RS18S Features



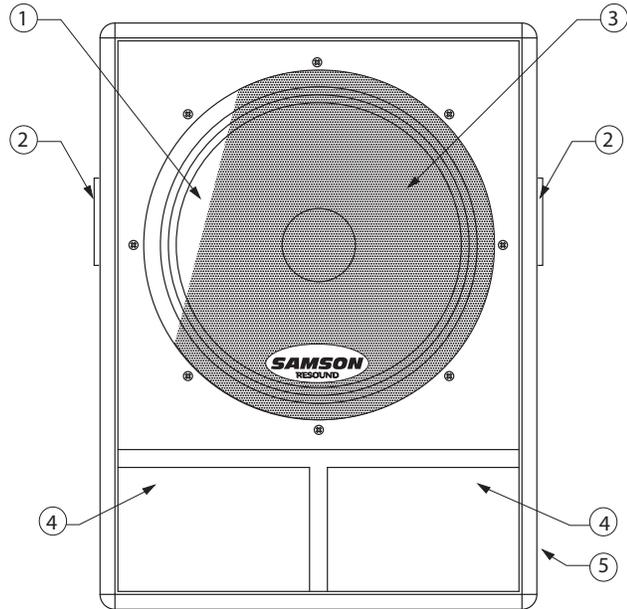
The Samson Resound series sub-woofers offer two models to manage a variety of live sound applications. With their high quality components, convenient sized enclosures, ergonomic carry handles and stand mounts, the Resound series sub-woofer will provide great sound with reliability. Here are some of their main features:

- Low Frequency Extension cabinet featuring high quality components and providing clean, articulate bass for any sound reinforcement system.
- For extended bass response, the Resound sub-woofers utilize custom designed, heavy-duty, low-frequency drive units. The RS15S employ a 15-inch woofer, and an 18-inch low frequency driver is used in the RS18S.
- The Resound series speakers carry high power ratings with an enormous 400 watts continuous power handling.
- Neutrik Speakon<sup>®</sup> plus 1/4-inch Input connectors interface easily with most any power amp or powered mixer.
- Neutrik Speakon<sup>®</sup> plus 1/4-inch Extension output connectors also allow you to “daisy-chain” multiple Resound models together to create larger sound reinforcement systems.
- Internal 12dB per octave, 180 Hz, Low Pass crossover to the low frequency driver.
- Standard 1 3/8-inch speaker stand receptacles for mounting mid-high satellite speakers.
- Rugged, road-worthy carpet covered enclosures with steel speaker grills for high reliability.
- Quality build and rugged construction ensure reliable performance from night-to-night and venue-to-venue.
- Three-year extended warranty.

# RS15S and RS18S Components

## Resound FRONT VIEW

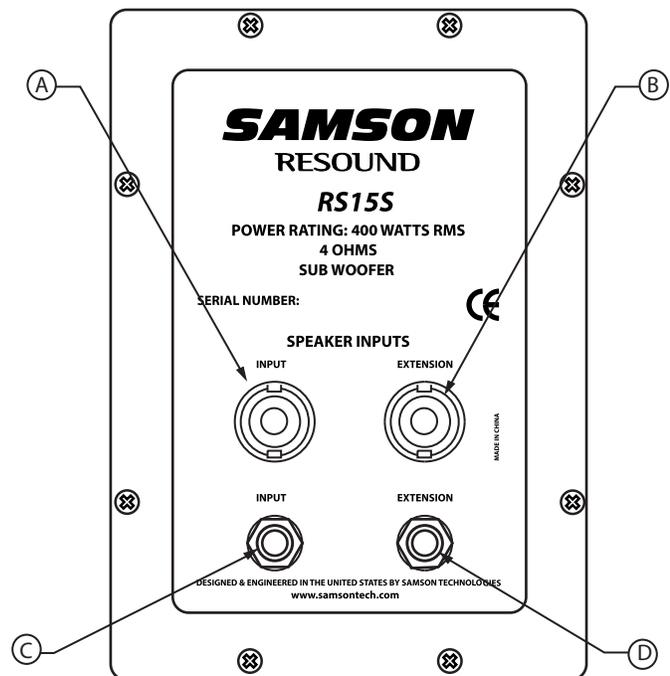
- 1 Low Frequency Driver** – Custom designed, heavy-duty, 15" and 18" low frequency driver provides deep bass.
- 2 Handle** – One of two, ultra over-sized carry handles.
- 3 Steel Grill** – Durable steel grill provides protection for, and easy access to, LF driver.
- 4 Shelf Port** – Two precision tuned, low frequency port sections extend the bass response.
- 5 Enclosure** – Rugged wooden enclosure with durable carpet covering.



## Resound REAR PANEL

- A INPUT** – Neutrik Speakon® input connector for connecting to the output of a power amplifier or powered mixer.
- B EXTENSION** – Neutrik Speakon® parallel output connector for connecting additional Resounds.
- C INPUT** – 1/4-inch phone input connector for connecting to the output of a power amplifier or powered mixer.
- D EXTENSION** – 1/4-inch parallel output for connecting additional Resounds.

*Note: For a detailed wiring diagram, see page 42 of this manual.*

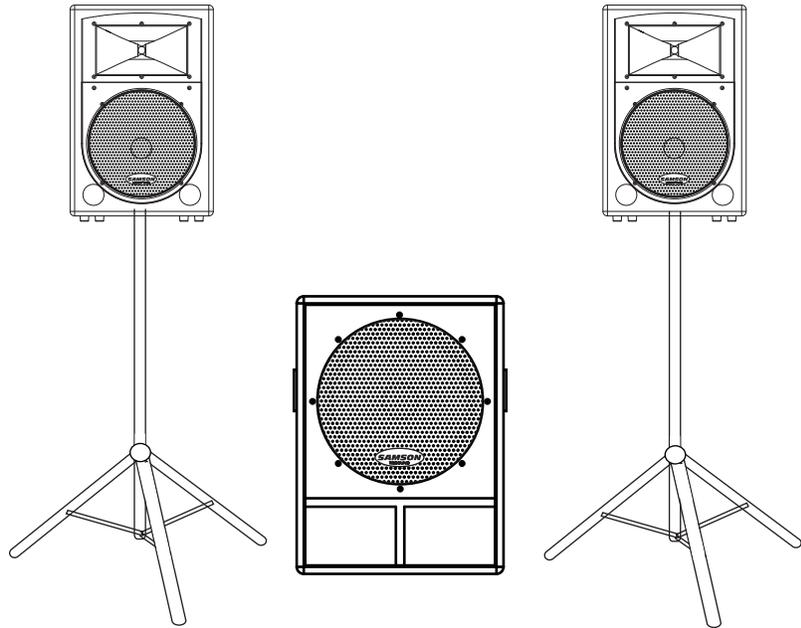


# Configuring Your Speaker System

Before you start plugging in cables, you should take a minute to decide how you want to interface your new subwoofer. There are several ways you can interface the RS15S and RS18S, however most systems set-ups fall into two categories, Stereo or Mono (Common) sub operation.

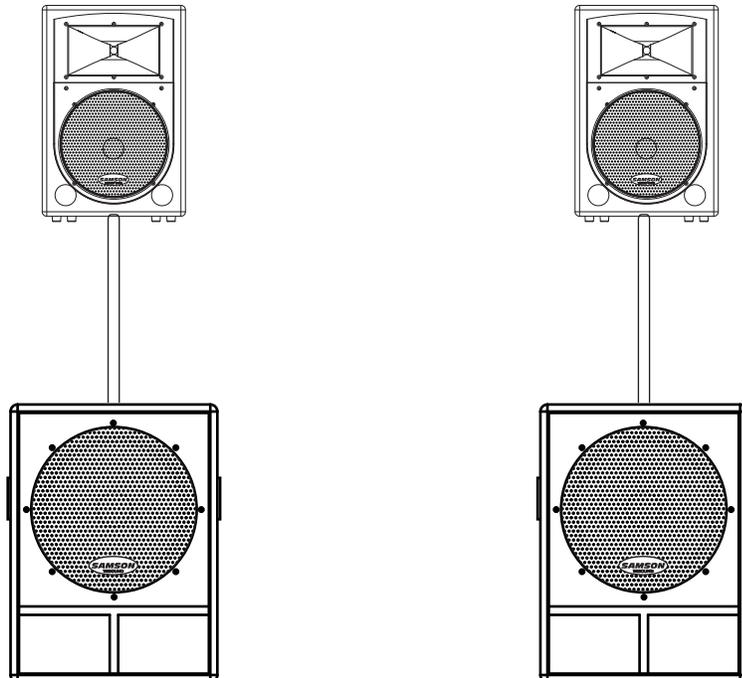
## Common Sub Operation

In most cases a common sub, with mono system operation is desired. This is true for several reasons, but mostly because low frequencies produced by a subwoofer tend to be non-directional. Since low frequency waves take so much space to actually develop, you can't tell if the sub bass is coming from the left or right side, unless of course you're in a very large room. Because of this phenomena, just about all sub bass material is mixed in mono.



## Stereo Sub Operation

In larger rooms, as well as in theatres and theme park installations (for low frequency special audio effects), two RS15S and RS18S's can be used in stereo.



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# Connecting the Resound Sub woofer

## Choosing the Correct cables

The Resound series speaker connections are made via the rear panel 1/4-inch and/or Neutrik Speakon® connectors. Standard unshielded speaker wire, available at your local pro audio or music store, with either 1/4-inch phone or Speakon connectors (wire gauge of 12-14 is recommended).

If your amplifier uses binding posts, you can use speaker cables with banana plugs, but be sure to pay attention to the plus and minus polarity when making the connections. It is important that your PA system is connected in phase, otherwise you will not have the proper low-end response and stereo image.

In order to ensure that your PA system is in phase, be careful to pay close attention to the positive and negative marking on the amplifier and wires. Make sure that the + terminal of the speaker, or banana connector, is connected to the + terminal of the power amplifier and that the - terminal of the speaker, or banana connector, is connected to the - terminal of the power amplifier. *For a detailed wiring diagram, see page 42 of this manual.*

## About Impedance

Before you hook up your speaker cabinet, be sure that you understand a little about impedance. Impedance is the electronic load that the speaker puts on the power amplifier and is measured in Ohms.

Here is the tricky, yet simple rule of impedance: When two speakers, of equal impedance are wired in "Parallel", like when you use the Extension Output, the total impedance is cut in half and when two speakers are wire in "Series", (usually for internal cabinet wiring only), the total impedance is the sum of the speakers individual impedance.

Each of the Resound models, EXCEPT the RS15S, RS18S and RS215 is 8 Ohms. So, when two Resound models, EXCEPT the RS215, are connected together in parallel, the total impedance is 4 Ohms. The RS215 impedance is 4 Ohms. So, when two RS215's are connected together in parallel, the total impedance is 2 Ohms. The impedance of your speaker also has an effect on your amplifier. In general, the lower the impedance, the more power your amplifier will put out.

**IMPORTANT NOTE:** There is minimum safe impedance for running power amplifiers so be sure to check the manufacturer's recommended impedance for your amplifier to avoid any damage to your amplifier or voiding your warranty.

## Using the EXTENSION Output

The Resound models provide a convenient Extension Output for connecting additional speaker cabinets in parallel. Be sure to read the section above on impedance to insure a proper hook up with your amplifier. To connect two Resounds using the Extension output, connect your amplifier output to the Input of the first Resound and then, connect the Extension Output to the Input of the second Resound.

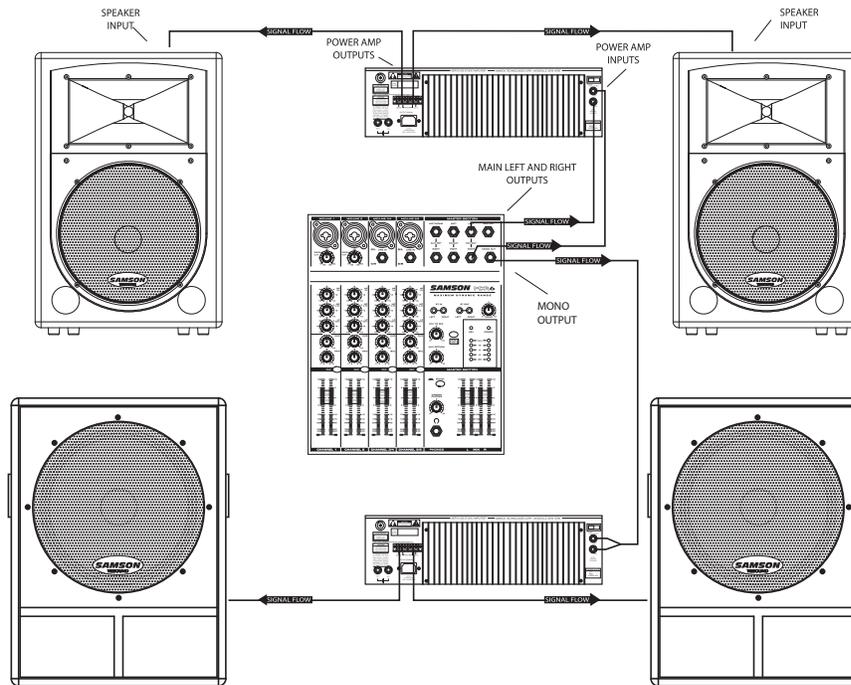
## Powering the Resound

Each of the Resound loudspeakers have a specific power rating, which is printed on the input jack-plate, and also, in the Specification section on page 12 of this manual. Be sure to check that your power amp has the correct power output for your Resound. Be careful to consider the total impedance if you are connecting more the one Resound to one side of a stereo power amplifier. Using a power amplifier with too low of a power rating can be dangerous since the output signal is often clipped in an effort to get the desired level. Over powering the Resound can result in catastrophic failure and therefore using any amplifier with a power rating over the recommend power rating may void your warranty.

# Quick Set-Up

In the following pages of this manual you will find a detailed diagrams of other system set-ups, but if you just want to get started quickly, you can follow the diagram and steps below to set up a basic stereo with mono PA system.

NOTE: Before plugging in and turning on, it is important to remember the Golden Rule of audio ... "LAST ON, FIRST OFF". Translated, this means that when turning on your system, you should always turn your power amplifiers or powered monitors on LAST, and when turning your system off, turn your power amps off FIRST. This helps avoid any loud pops caused by inrush current at power up, which can sometimes damage loudspeakers.



- Before connecting your Resounds, make sure that the power of all your systems components are turned off. Also, make sure that your power amplifier volume controls and the main left and right faders of your mixer are turned all the way down.
- Connect the cables to your microphones and instruments, or a CD player, to your mixer.
- Next, connect the mixers left and outputs to the INPUT of a power amplifier for your mid-high satellite speakers.
- Now, connect the mixers mono output to the INPUT of a low frequency power amplifier running in bridge mono mode. If your amplifier does not have a bridge mono mode, set your power amp's input mode switch to parallel, or use a "Y" cable to connect both amplifier channels
- Using a standard speaker cable with Speakon connectors, connect low frequency power amplifier output to the INPUT of the RS15S or RS18S.
- Using a standard speaker cable with Speakon connectors, connect the Mid-high power amp's output to the INPUT of the satellite speakers.

**IMPORTANT NOTE: Be sure to check the power amplifiers owners manual to confirm the amplifier can run safely at 4 Ohms**

- Switch on the power of the mixer, instruments and/or CD player, and then switch on your power amplifier.
- While speaking into the mic (or playing the instrument or CD), raise the mixers main Left and Right faders to the "0" position. Be sure that the mixer's output meters are not clipping. If they are, adjust the mixer volumes down until the signal cleans up.
- Now, slowly raise your mid-high power amp controls until you reach the desired listening level.
- Be sure that the mixers mono output is turned down and then raise the sub power amplifier all the way up.
- Finally, use the mixer's mono output to adjust the level of the sub woofers.

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# Positioning the RS15S and RS18S

## Microphone Positioning - How to Reduce Feedback

Feedback is the annoying howling and squealing that is heard when the microphone gets too close to the speaker and the volume is high. You get feedback when the microphone picks up the amplified signal from the speaker, and then amplifies through the speaker again, and then picks it up again, and so on and so on. In general, it is always recommended that any LIVE mic (a mic that's on) is positioned behind the speaker enclosures. This will give you the best level from your system before feedback. One possible exception is when you are adjusting the sounds of the microphones, since you want to listen in front of the speaker to hear properly. To do this, lower the MAIN VOLUME while setting the EQ and effect from in front of the speakers. Once you have the sound you like, move the microphones to behind the speakers and raise the Main volume.

## Speaker Placement

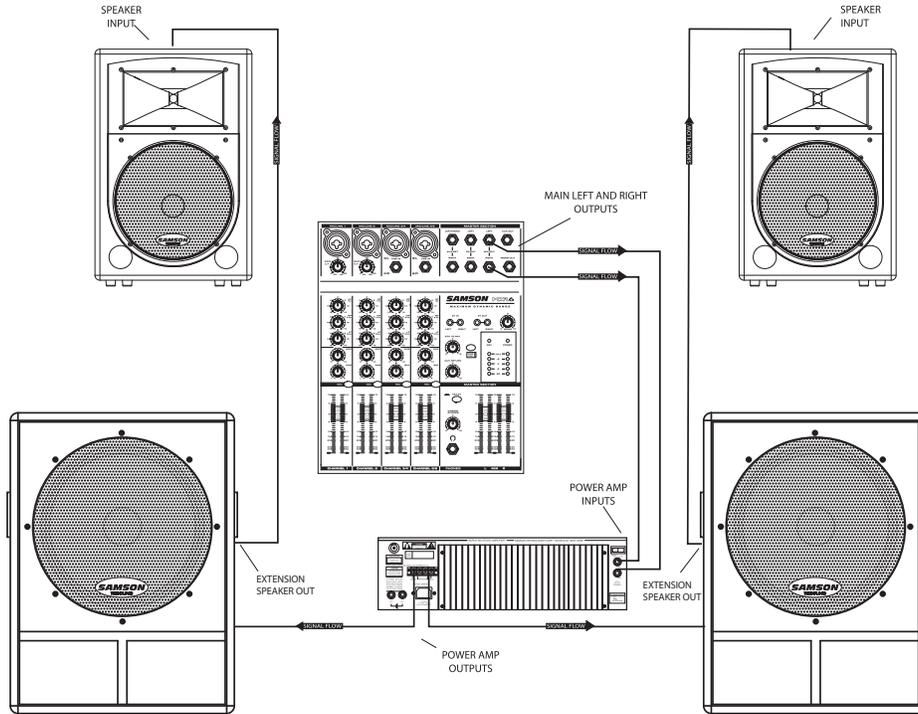
Whenever possible, it is a good idea to raise the speakers above the heads of the listening audience. The Resound enclosures feature a standard 1 3/8" pole mount receptacle, which is compatible with speaker stands from a variety of manufacturers.

Note: Be sure to check the manufacturers minimum recommended impedance for your power amplifier to avoid overload and possible damage to both the speaker and amplifier. In many instances when using the Resound as a monitor system, you may choose to use an external equalizer like the Samson S Curve 131 to increase the volume and reduce the chance of feedback.



# RS15S and RS18S System Set-ups

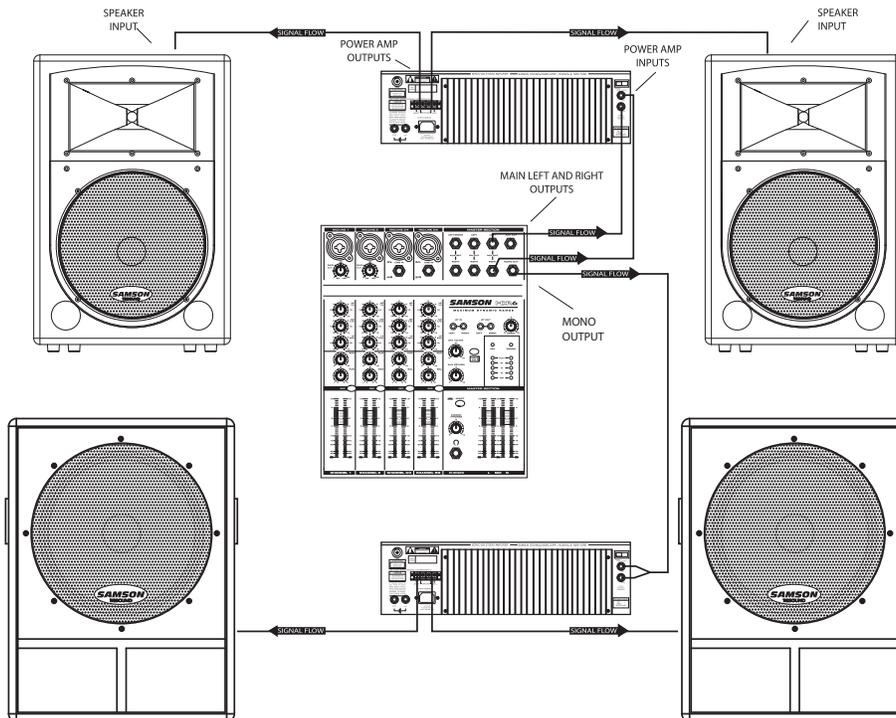
## RS15S and RS18S Stereo Sub with Passive Satellites



This example shows a system with a single power amplifier connecting the subs and satellites in stereo. The mixer's left and right outputs are connected to the inputs of the power amplifier using shielded cable. The outputs of the amplifier are connected to the RS15S or RS18S INPUT using un-shielded speaker cable. Next, run an un-shielded speaker cable from the RS15S's or RS18S's EXTENSION OUTPUT to the two satellite speakers. For details on wiring your speaker cables, see page 42 in this manual.

**IMPORTANT NOTE:** To avoid any possible damage to your amp and speakers, be sure to check the manufacturer's owners manual to confirm your power amplifier is capable of operating at 2 ohms.

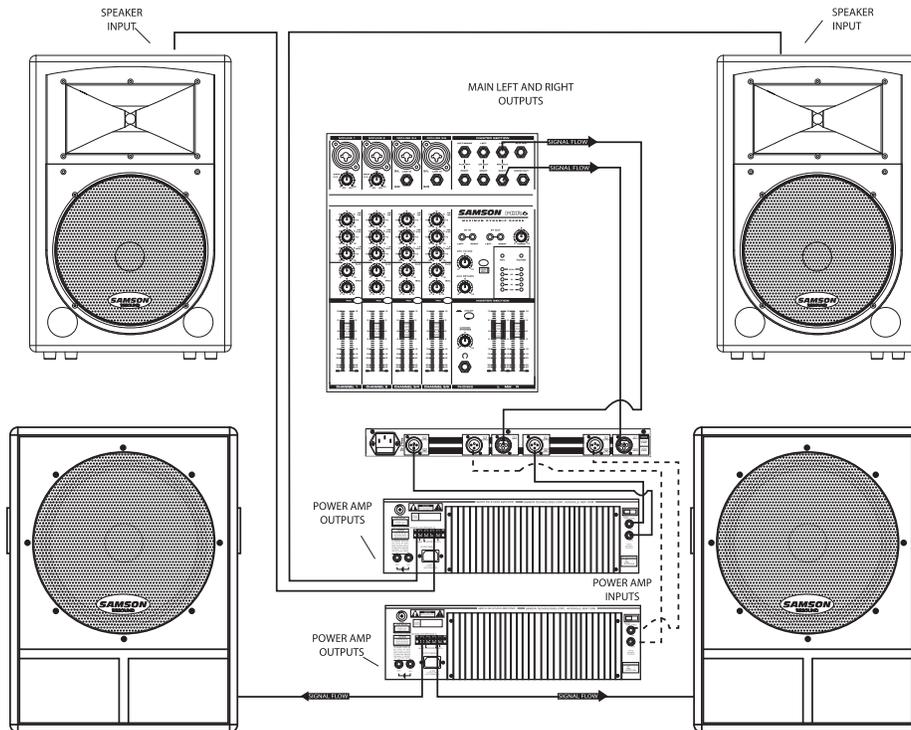
## RS15S and RS18S Mono Sub with Passive Satellites



This example shows a stereo system with mono sub powered by separate amplifiers for the mid-high satellites and subwoofers. The mixer's left and right outputs are connected to the inputs of the mid-high power amplifier using shielded cable. Next, run un-shielded speaker cables from that amplifier to the two satellite speakers. Now, connect the mixer's mono output to the inputs of the sub power amplifier using shielded cable. The outputs of the sub amplifier are connected to the RS15S or RS18S INPUT using un-shielded speaker cable. For details on wiring your speaker cables, see page 42 in this manual.

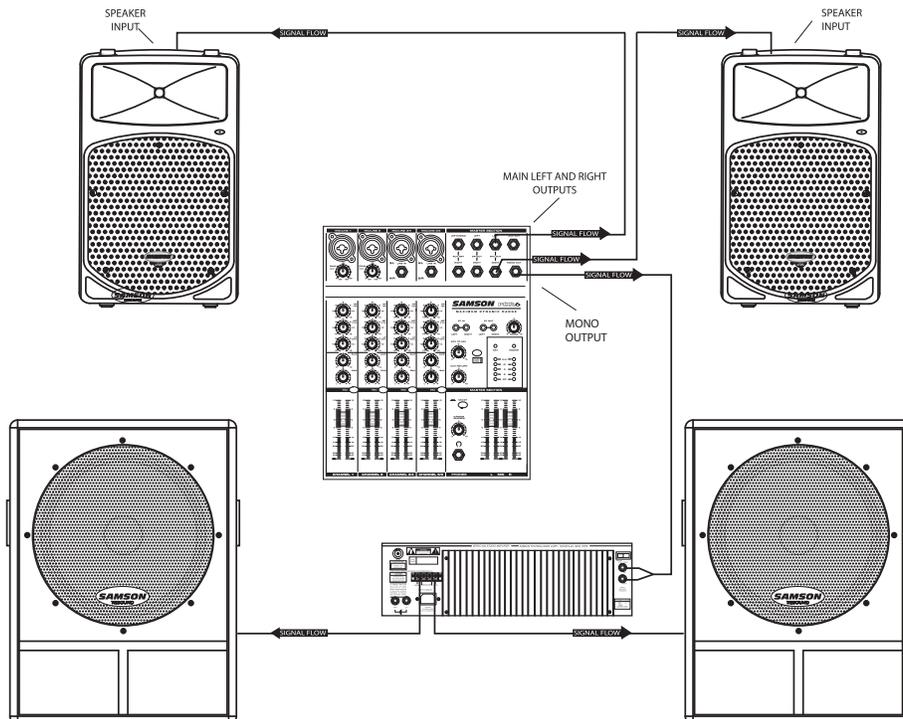
# Operating the RS15S and RS18S

## RS15S and RS18S Stereo Sub, Bi-amp System with Passive Satellites



This example shows a stereo, bi-amp system with an active crossover and separate amplifiers for the mid-high satellites and subwoofers. The mixer's left and right outputs are connected to the inputs of the stereo crossover using shielded cable. The crossover's High Frequency outputs are connected to the inputs of the mid-high power amplifier using shielded cable. Next, run un-shielded speaker cables from that amplifier to the two satellite speakers. Now, connect the crossover's Low Frequency outputs to the inputs of the subwoofer power amplifier using shielded cable. The outputs of the sub amplifier are connected to the RS15S or RS18S INPUT using un-shielded speaker cable. For details on wiring your speaker cables, see page 42 in this manual.

## RS15S and RS18S Mono Sub with Active Satellites



In this example, the mixer's left and right outputs are connected to the inputs of the active satellite speakers using shielded cable. Next, connect the mixer's mono output to the input(s) of the subwoofer power amplifier using shielded cable. Set your power amp's input mode to parallel or use a "Y" cable to connect both amplifier channels. Now, connected the outputs of the sub amplifier to the RS15S or RS18S INPUT using un-shielded speaker cable. For details on wiring your speaker cables, see page 42 in this manual.

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# Specifications/Caractéristiques techniques

## Specifications

### RS15S

Power Rating (@ 4Ω):	400 Watts RMS, 800 Watts Program
Nominal Impedance:	4 Ohms
Frequency Response:	55Hz – 150 Hz ± 3 dB
Sensitivity:	98 dB SPL @ 1W/1m
MAX SPL:	125dB
LF Driver:	15-inch heavy-duty driver
Mounting:	Integral 1 3/8-inch Pole Mount Receptacle for satellite mounting
Dimensions:	440mm x 610mm x 591mm 17.5" x 24" x 23.25"
Weight:	78 lbs. 35.45kg

### RS18S

Power Rating (@ 4Ω):	400 Watts RMS, 800 Watts Program
Nominal Impedance:	4 Ohms
Frequency Response:	40Hz – 150 Hz ± 3 dB
Sensitivity:	98 dB SPL @ 1W/1m
MAX SPL:	125dB
LF Driver:	18-inch heavy-duty driver
Mounting:	Integral 1 3/8-inch Pole Mount Receptacle for satellite mounting
Dimensions:	522mm x 610mm x 645mm 20.5" x 24" x 25.5"
Weight:	103 lbs. 46.82 kg

*Specifications subject to change.*

## Caractéristiques techniques

### RS15S

Puissance admissible (sous 4 Ohms) :	400 Watts efficace, 800 Watts programme
Impédance nominale :	4 Ohms
Bande passante :	55 Hz à 150 Hz ± 3 dB
Sensibilité (1 W / 1 m) :	98 dB NPA
NPA maximal :	125 dB
Moteur du Woofer :	Moteur haute puissance de 38 cm (15 pouces)
Montage :	Embase de pied intégrée de 35 mm pour les satellite
Dimensions :	440 mm (L) x 610 mm (l) x 591 mm (H)
Poids :	35,5 kg

### RS18S

Puissance admissible (sous 4 Ohms):	400 Watts efficace, 800 Watts programme
Impédance nominale :	4 Ohms
Bande passante :	40 Hz à 150 Hz ± 3 dB
Sensibilité (1 W / 1 m) :	98 dB NPA
NPA maximal :	125 dB
Moteur Woofer :	Moteur haute puissance de 46 cm (18 pouces)
Montage :	Embase pour pied intégrée de 35 mm pour les satellites
Dimensions :	522 mm (L) x 610 mm (l) x 645 mm (H)
Poids :	46,8 kg

*Caractéristiques techniques sujettes à modifications.*