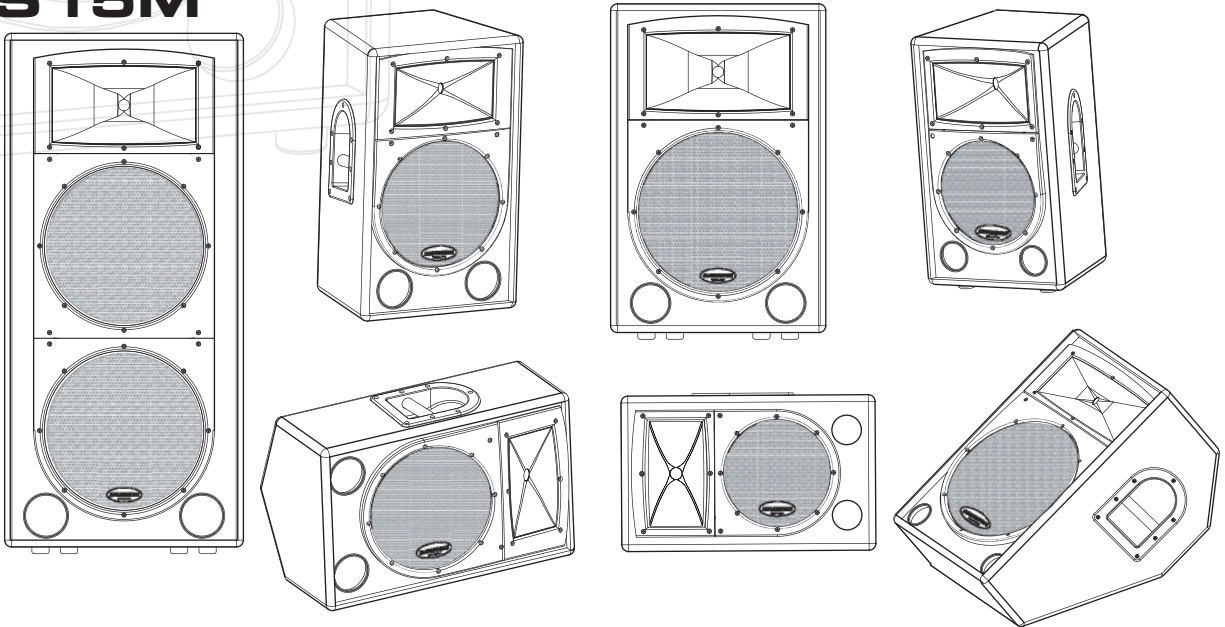


RESOUND

RS 10
RS 12
RS 15
RS 215
RS 10M
RS 12M
RS 15M



2-way Loudspeaker Speaker Systems

Owners Manual

SAMSON
A U D I O

SOUND REINFORCEMENT

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Introduction

Congratulations on purchasing the Samson Resound Series loudspeaker system! The Resound speaker systems by Samson takes the concept of PA systems to a new level. Whether you are using the RS10, RS12, RS15 or RS215 front-firing PA speakers for main “front of house” PA, or the RS10M, RS12M or RS15M for wedge floor monitors, the Resound series will provide clear sound with a lot of output. By combining high power handling, advanced crossover design, along with quality speaker and cabinet components, the Resound series provides premium audio for any kind of live application. For deep low end that stays tight and punchy, each of the Resound loudspeakers features heavy-duty, custom designed low frequency drivers. A ten-inch woofer in the Resound RS10 and RS10M , a 12-inch for the Resound RS12 and RS12M and 15-inch woofers for the RS15, RS15M and RS215M. To handle the high frequency content, the Resound series employs a 1.75-inch (44 millimeter) mylar diaphragm high frequency driver on a 1" throat, wide dispersion horn. The result, the Resound series speaker systems offer crystal-clear audio and an ultra-wide sound field. To make your connections simple, each Resound model provides both 1/4-inch and NEUTRIK SPEAKON® Input and Extension output connectors. Heavy-grade steel grills and durable carpet covering offer excellent protection against wear and tear. The compact cabinets can be placed on the floor or stand mounted using the integral 1 3/8" pole mount receptacle. With the Resound, setup and break down is quick and easy. As fixed sound reinforcement or as a durable, great-sounding road PA, the Resound monitor is ideal for sound professionals and performers looking for serious 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.

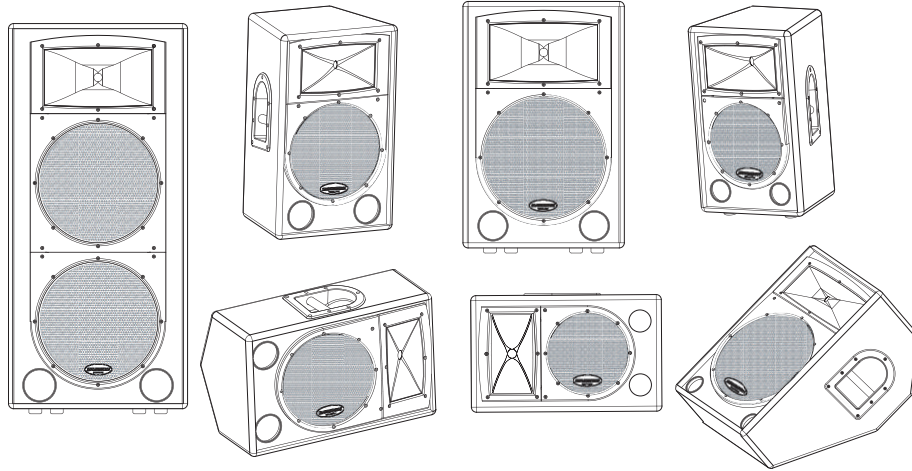
With proper care your Resound will operate trouble free for many years. We recommend you record your serial number in the space provided below for future reference.

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 Features



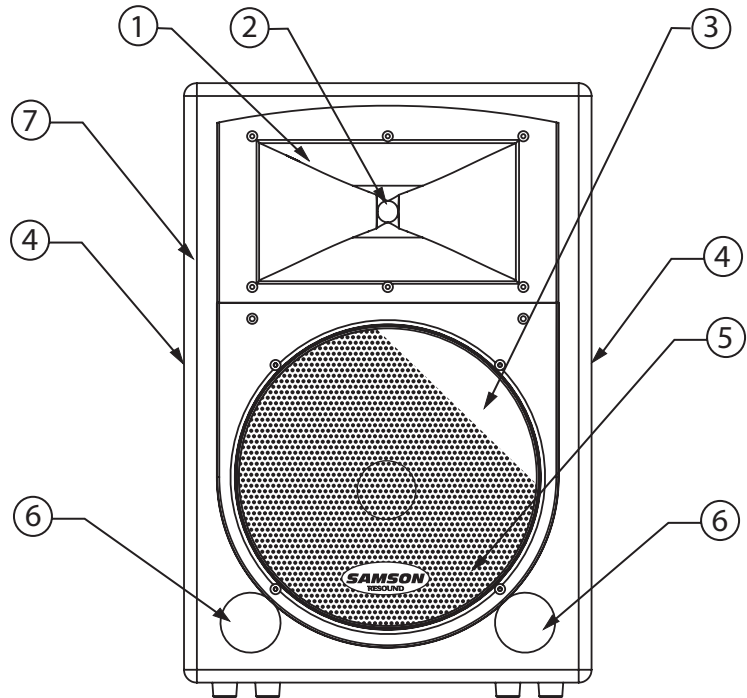
The Samson Resound series two-way loudspeaker systems offer several models to manage a variety of live sound applications. With their high quality components, convenient sized trapezoidal and monitor wedge enclosures, ergonomic carry handles and stand mounts, the Resound series system will provide great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

- Two-way passive loudspeaker systems featuring high quality components and providing clean, articulate sound reinforcement for vocal and/or music reproduction.
- For deep bass response, the Resound series utilizes custom designed, heavy-duty, low-frequency drive units. The RS10 and RS10M feature a 10-inch woofer, while the RS12 and RS12M employ a 12-inch woofer, and 15-inch low frequency drivers are used in the RS15, RS215 and RS15M .
- For sweet highs that can cut through the back-line instruments, the Resound series systems incorporate a high-frequency compression driver with a 1.75-inch (44mm) mylar diaphragm fitted to a 1-inch (25mm) throat, 60 x 90 degree hi-frequency horn.
- The Resound series speakers carry high power ratings with the RS10 and RS10M capable of 125 watts continuous power handling, the RS12 and RS12M handling 175watts, the RS15 and RS15M reaching 225 watt continuous power and an enormous 700 watts continuous power handling for the RS215
- Neutrik Speakon[®] plus 1/4-inch Input connectors interface easily with most any power amp or powered mixer.
- Neutrik Speakon[®] plus 1/4-inch Extension output connectors also allow you to “daisy-chain” multiple Resound models together to create larger sound reinforcement systems.
- Internal 18 dB/octave crossover with high frequency lamp protection.
- RS10M, and RS12M floor monitors offer two projection angles to adjust the sound coverage for different size stages.
- The RS10, RS12 and RS15 be stand mounted via their standard 1 3/8-inch speaker stand receptacles.
- 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.

Resound Components

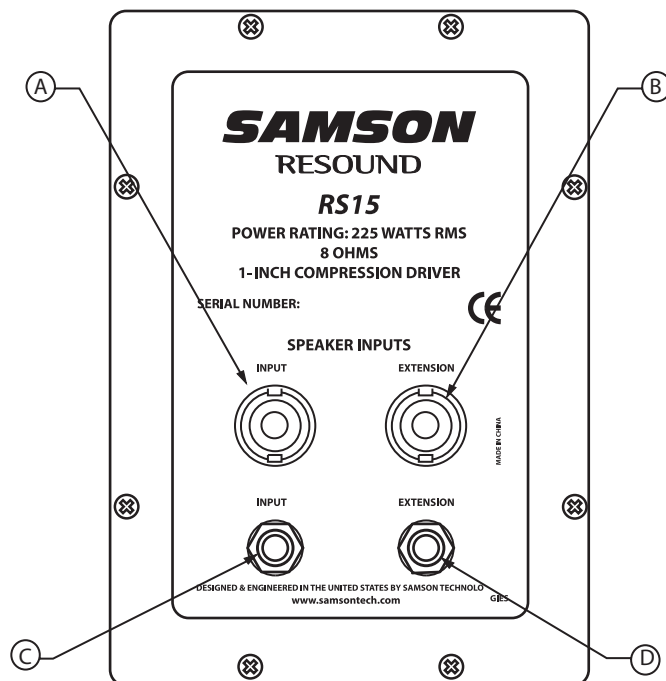
Resound FRONT VIEW

- 1 **Wide Dispersion Horn** – 1 inch throat, 60 x 90 degree wide dispersion horn provides extensive coverage and linear, off axis response.
- 2 **Mylar Compression Driver** – 1.75 inch (44mm), mylar diaphragm with 1 inch opening.
- 3 **15 Inch Driver** – Custom designed, heavy-duty, 15" low frequency driver provides deep bass.
- 4 **Handle** – One of two, ultra over-sized carry handles.
- 5 **Steel Grill** – Durable steel grill provides protection for, and easy access to, LF driver.
- 6 **Port Tube** – Two precision tuned, low frequency port tubes extend the bass response.
- 7 **Enclosure** – Rugged wooden enclosure 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 Resound's.
- 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 Resound's.



Note: For a detailed wiring diagram, see page 36 of this manual.

Connecting the Resound Speaker System

Choosing the Correct cables

The Resound series speakers 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 and 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 36 of this manual.*

Here's a tip: It's fairly easy to identify a monitor that is out of phase just by listening, especially on a pop record. Listen for the parts of the music that you would expect to be in the center of the mix like kick drum and vocals. If you do not hear them directly in the center (for instance they sound like they are two signals panned hard right and left) then you are more than likely listening to an out-of-phase monitor system. (This test won't work on early Beatles records where Ringo's drum kit is panned all the to the right side. Try a Madonna record.)

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 interna cabinet wiring only), the total impedance is the sum of the speakers individual impedance.

Each of the Resound models, EXCEPT the 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

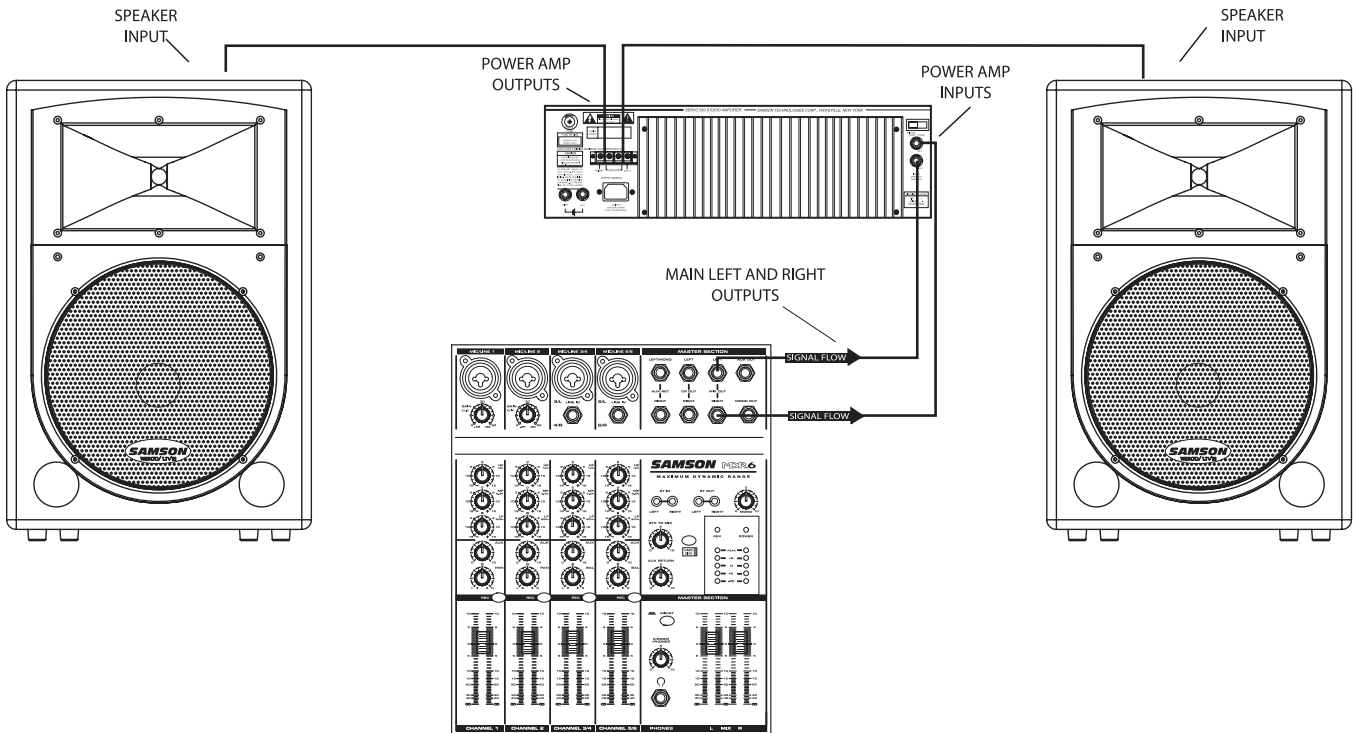
The Resound models provide a convenient Extension Output for connecting additional speaker cabinets in parallel. Be sure to read the section above on impedance to insure a proper hook up with your amplifier. To connect two Resounds using the Extension output, connect your amplifier output to the Input 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 10 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 explanation of 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 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.

1. Before connecting your Resound's, 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.
2. Connect the cables to your microphones and instruments, or a CD player, to your mixer.
3. Switch on the power of the mixer, instruments and/or CD player, and then switch on your power amplifier.
4. 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.
5. Now, slowly raise your power amp controls until you reach the desired listening level.

Positioning the Resound

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.

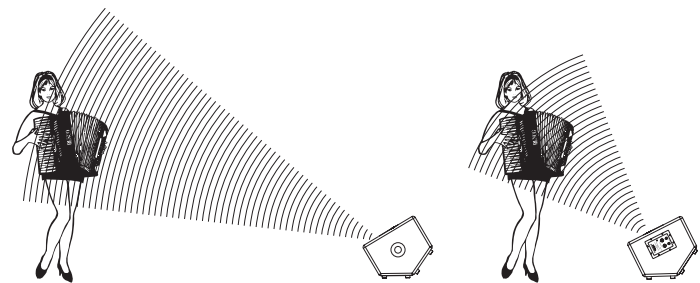
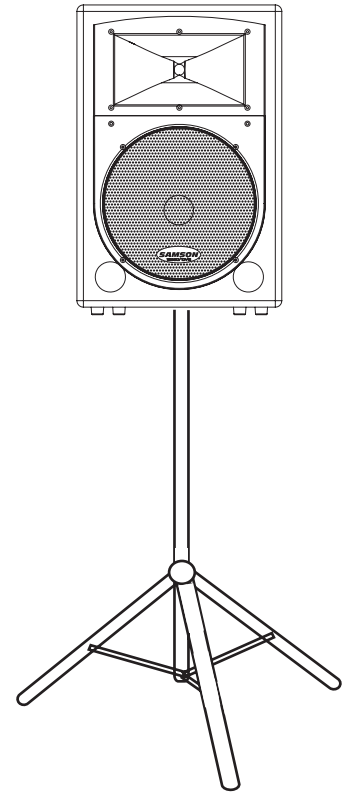
Speaker Placement

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

Using the Resound as a Floor Monitor

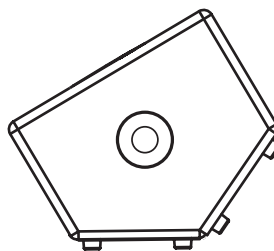
The Resound RS10M, RS12M and RS15M are ideal solutions for stage monitoring and thanks to the unique design of the RS10M and RS12M, two wedge monitor positions are possible. When placed on its side with the high frequency horn facing to the left of the enclosure, the RS10M and RS12M are tilted at a 25 degree angle optimizing performance when used on a small stage. When the monitors are placed on their side with the high frequency horn facing to the right of the enclosure, they are tilted at a 30 degree angle optimizing performance when used on larger stages. The RS15M features a wide dispersion pattern and is configured with a 30 degree angle making them ideal for electronic drum and keyboard monitors. In a large stage monitor system, several Resound's can be daisy-chained together using the EXTENSION SPEAKER output.

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.

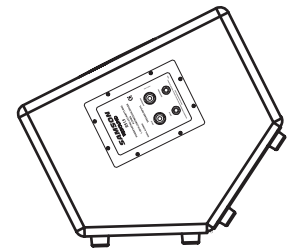


FAR FIELD

NEAR FIELD

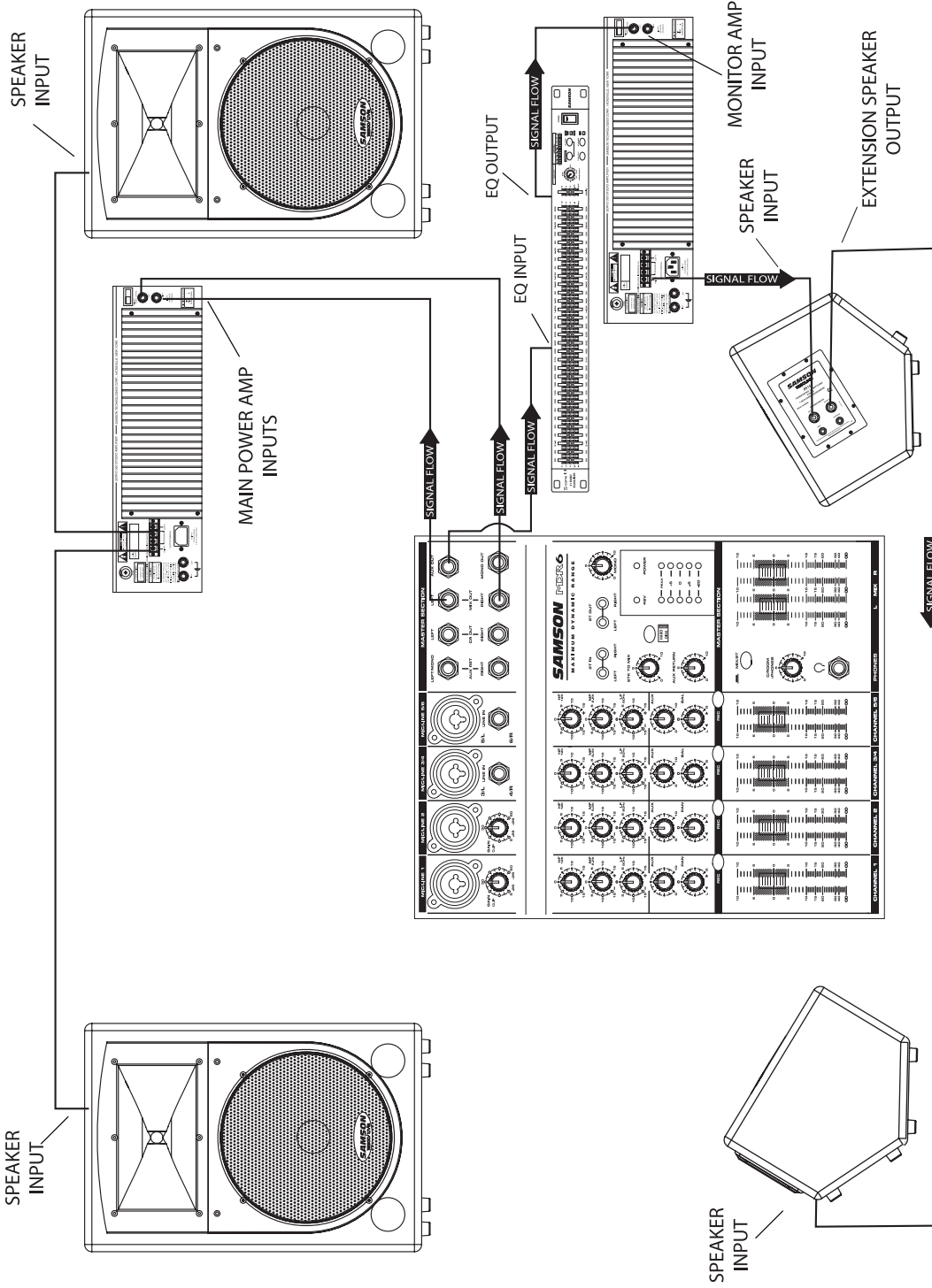


STAGE MONITOR POSITION
25 DEGREES



STAGE MONITOR POSITION
30 DEGREES

Setting Up Your Resound System

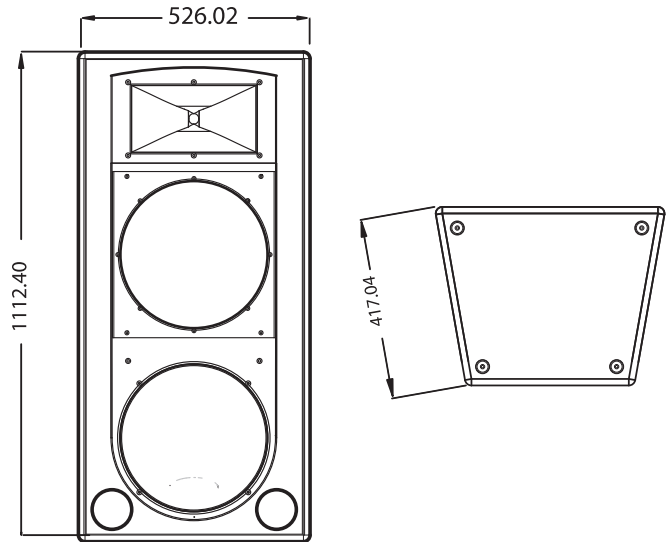


This example shows a typical PA system using a mixer with an external power amplifier and a pair of Resounds for the main left and right mix. A separate signal from the mixer's AUX/MONITOR bus is sent to two additional Resounds placed in the tilt-back, wedge positions for use as floor monitors. In order to increase the output of the monitor system, the use of an external graphic equalizer like one of the Samson "E" or "S curve" series is highly recommended.

Specifications/Caractéristiques techniques/Technische Daten/Especificaciones técnicas/Specifiche

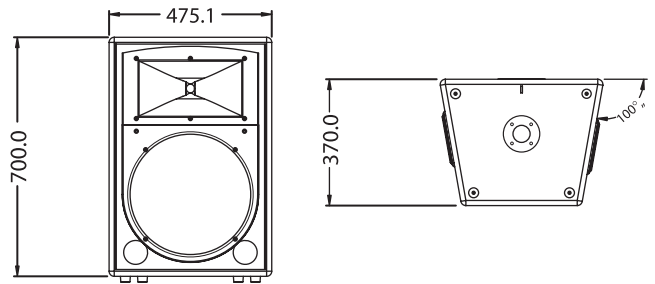
RS215

Power Rating (@ 8Ω): 350 Watts RMS, 600 Watts Program
 Nominal Impedance: 4 Ohms
 Frequency Response: 35 Hz – 20 kHz ± 3 dB
 Sensitivity: 101 dB SPL @ 1W/1m
 MAX SPL: 128dB
 LF Driver: 2 x 15-inch heavy-duty driver
 HF Driver: 1-inch exit, 44mm Mylar diaphragm compression driver
 Protection: Internal overload Lamp on HF driver
 Weight: 80 lbs. 36.32 kg



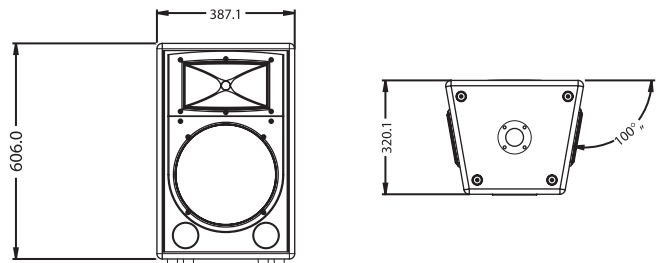
RS15

Power Rating (@ 8Ω): 225 Watts RMS, 400 Watts Program
 Nominal Impedance: 8 Ohms
 Frequency Response: 40 Hz – 20 kHz ± 3 dB
 Sensitivity: 98 dB SPL @ 1W/1m
 MAX SPL: 122dB
 LF Driver: 15-inch heavy-duty driver
 HF Driver: 1-inch exit, 44mm Mylar diaphragm compression driver
 Protection: Internal overload Lamp on HF driver
 Mounting: Integral 1 3/8-inch Pole Mount
 Receptacle
 Weight: 51 lbs. 23.14 kg



RS12

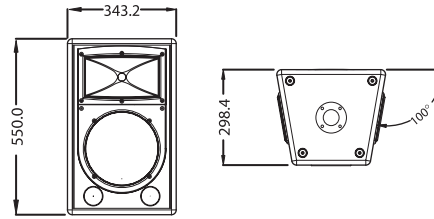
Power Rating (@ 8Ω): 175 Watts RMS, 300 Watts Program
 Nominal Impedance: 8 Ohms
 Frequency Response: 50 Hz – 20 kHz ± 3 dB
 Sensitivity: 97 dB SPL @ 1W/1m
 MAX SPL: 121dB
 LF Driver: 12-inch heavy-duty driver
 HF Driver: 1-inch exit, 44mm Mylar diaphragm compression driver
 Protection: Internal overload Lamp on HF driver
 Mounting: Integral 1 3/8-inch Pole Mount
 Receptacle
 Weight: 38.5 lbs. 17.5 kg



Specifications/Caractéristiques techniques/Technische Daten/Especificaciones técnicas/Specifiche

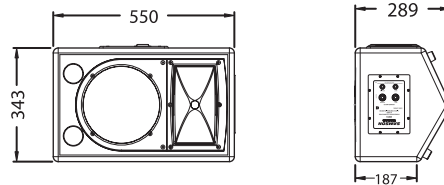
RS10

Power Rating (@ 8Ω):	125 Watts RMS, 220 Watts Program
Nominal Impedance:	8 Ohms
Frequency Response:	60 Hz – 20 kHz ± 3 dB
Sensitivity:	95 dB SPL @ 1W/1m
MAX SPL:	115dB
LF Driver:	10-inch heavy-duty driver
HF Driver:	1-inch exit, 44mm Mylar diaphragm compression driver
Protection:	Internal overload Lamp on HF driver
Mounting:	Integral 1 3/8-inch Pole Mount Receptacle
Weight:	33.25 lbs. 15.1 kg



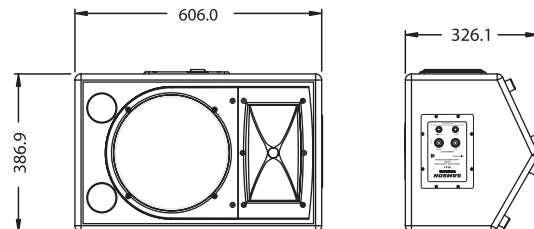
RS10M

Power Rating (@ 8Ω):	125 Watts RMS, 220 Watts Program
Nominal Impedance:	8 Ohms
Frequency Response:	60 Hz – 20 kHz ± 3 dB
Sensitivity:	95 dB SPL @ 1W/1m
MAX SPL:	115 dB
LF Driver:	10-inch heavy-duty driver
HF Driver:	1-inch exit, 44mm Mylar diaphragm compression driver
Protection:	Internal overload Lamp on HF driver
Mounting:	25° and 30° wedge monitor position
Weight:	31.5 lbs. 14.28 kg



RS12M

Power Rating (@ 8Ω):	175 Watts RMS, 300 Watts Program
Nominal Impedance:	8 Ohms
Frequency Response:	50 Hz – 20 kHz ± 3 dB
Sensitivity:	97 dB SPL @ 1W/1m
MAX SPL:	121dB
LF Driver:	12-inch heavy-duty driver
HF Driver:	1-inch exit, 44mm Mylar diaphragm compression driver
Protection:	Internal overload Lamp on HF driver
Mounting:	25° and 30° wedge monitor position
Weight:	37 lbs. 16.7 kg



RS15M

Power Rating (@ 8Ω):	225 Watts RMS, 400 Watts Program
Nominal Impedance:	8 Ohms
Frequency Response:	40 Hz – 20 kHz ± 3 dB
Sensitivity:	98 dB SPL @ 1W/1m
MAX SPL:	126dB
LF Driver:	15-inch heavy-duty driver
HF Driver:	1-inch exit, 44mm Mylar diaphragm compression driver
Protection:	Internal overload Lamp on HF driver
Mounting:	30° wedge monitor position
Weight:	49 lbs. 22.2 kg

