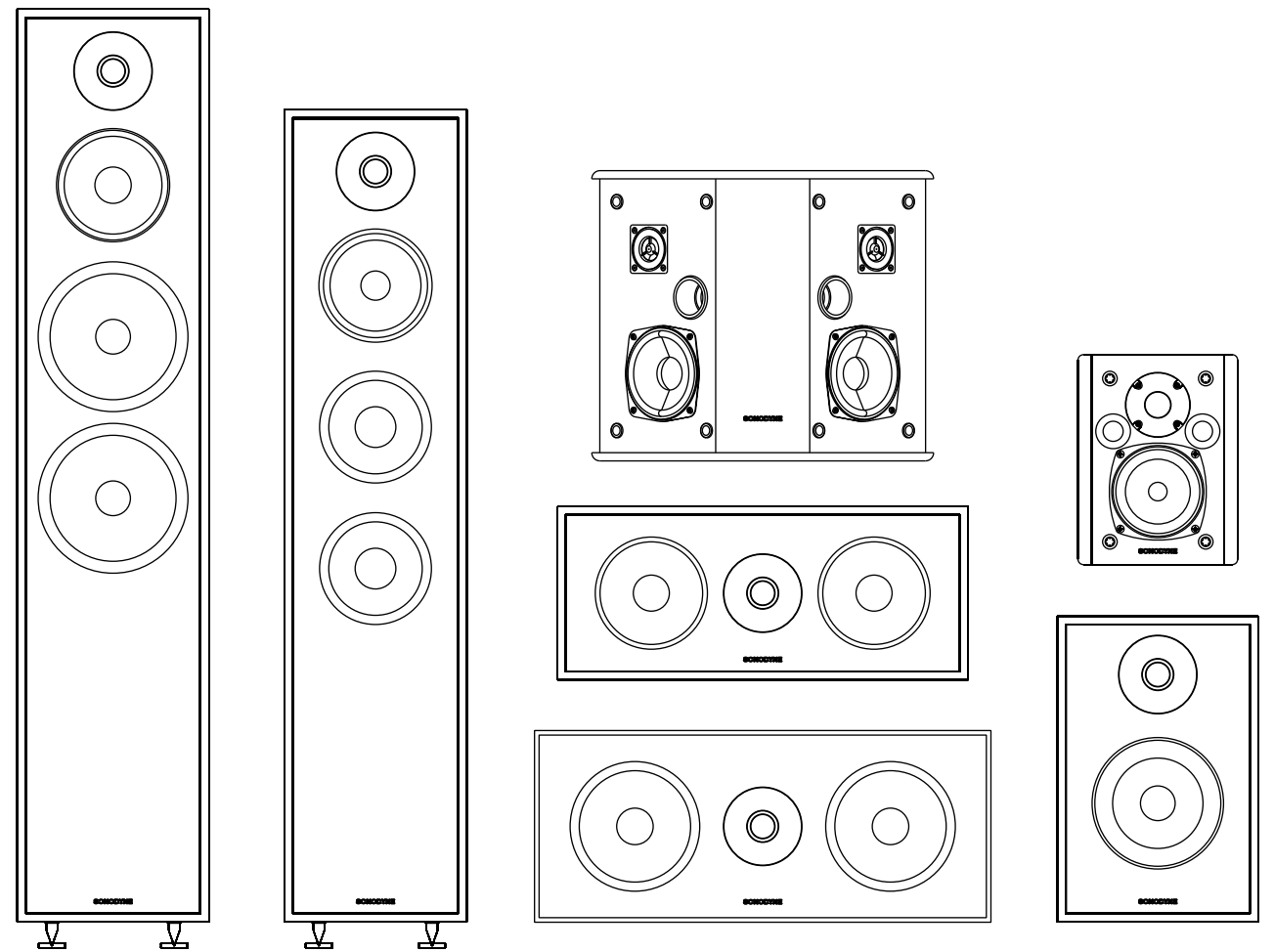


SONUS 3000

Passive speakers | owners manual



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1. Introduction	Page 1
2. Unpacking	Page 1
3. Amplifier Selection	Page 1
4. Wire connections	
4 a. Bi-wiring The Sonus 3155 and 3165	Page 1
4 b. Bi-wiring The Sonus 3260,3360, 3350, 3440, 3540	Page 2
5. Line Drawings	
SONUS 3165	Page 2
SONUS 3155	Page 2
SONUS 3350	Page 2
SONUS 3360	Page 2
SONUS 3260	Page 3
SONUS 3440	Page 3
SONUS 3540	Page 3
6. Connection Diagrams	
6 a. Connecting Sonus 3165, 3155	Page 4
6 b. Connecting Sonus 3260	Page 4
6 c. Connecting Sonus 3350, 3360	Page 6
6 d. Connecting Sonus 3440, 3540	Page 6
7. Speaker Placements	
7a. Placing Sonus 3155, 3165	Page 6
7 b, Placing Sonus 3260	Page 7
7 c. Placing Sonus 3350, 3360	Page 9
7 d. Placing Sonus 3440	Page 9
7 e. Placing Sonus 3540	Page 10
8. Acoustics Of The Listening Room	Page 11
9. Care And Maintenance	Page 12
10. Specifications	Page 12

• Specifications 3260 / 3440 / 3540 •

	SONUS 3260	SONUS 3440
DESIGN	2 way, vented, bookshelf speaker	2 way, vented, dipole surround
ENCLOSURE	MDF	MDF
TRANSDUCER COMPLEMENTS	1 x 6" woofer, 1" dome tweeter	2 x 4" woofer, 2 x 1/2" dome tweeter
RECOMMENDED AMPLIFIER POWER	60 ~ 100 W	60 ~ 125 W
NOMINAL IMPEDANCE	8 Ω	8 Ω
SENSITIVITY, 1 w/ 1 m	89 dB	88 dB
FREQUENCY RESPONSE (-3 dB), on axis	55 Hz ~ 20 kHz	75 Hz ~ 20 kHz
FREQUENCY EXTENSION (-10dB)	45 Hz ~ 22 kHz	60 Hz ~ 22 kHz
CROSSOVER FREQUENCY	3.2 kHz	3.5 kHz
INPUTS	Gold plated binding post	Gold plated binding post
DIMENSIONS (H x W x D) mm	335 x 220 x 273	318 x 375 x 165
NET WEIGHT	7 kg	8.9 kg
FINISH	Front: Ash; Outer skin: Option of Black ash or Rosewood	Front: Ash; Outer skin: Option of Black ash or Rosewood

	SONUS 3540
DESIGN	2 way, vented, height surround
ENCLOSURE	MDF
TRANSDUCER COMPLEMENTS	4" woofer, 1" dome tweeter
RECOMMENDED AMPLIFIER POWER	60 ~ 100 W
NOMINAL IMPEDANCE	8 Ω
SENSITIVITY, 1 w/ 1 m	85 dB
FREQUENCY RESPONSE (-3 dB), on axis	80 Hz ~ 20 kHz
FREQUENCY EXTENSION (-10dB)	65 Hz ~ 22 kHz
CROSSOVER FREQUENCY	3.2 kHz
INPUTS	Gold plated binding post
DIMENSIONS (H x W x D) mm	216 x 175 x 160
NET WEIGHT	3.2 kg
FINISH	Matte black painted

Due to continuous improvements, all specifications are subject to change

9. CARE AND MAINTENANCE

All Sonodyne loudspeakers of the Sonus range are manufactured with modern and thoroughly tested materials, which normally do not require any maintenance other than once in a while opening the front grille and vacuuming the cloth. If the loudspeaker cabinet become greasy you may clean it by moistening a soft cloth with water and a mild soap to remove the dirt. Then, use a dry cloth to wipe and restore the original finish.

Please DO NOT use scouring powder, petrol, or any sort of alcohol or solvents to clean the loudspeaker. It will damage the finish permanently.

10. SPECIFICATIONS

	SONUS 3165	SONUS 3155
DESIGN	3 way vented, floor-standing speaker	3 way vented, floor-standing speaker
ENCLOSURE	MDF	MDF
TRANSDUCER COMPLEMENTS	2 x 6" woofer, 1 x 5" midrange, 1 x 1" dome tweeter	2 x 5" woofer, 1 x 5" midrange, 1 x 1" dome tweeter
RECOMMENDED AMPLIFIER POWER	60 ~ 150 W	60 ~ 125 W
NOMINAL IMPEDANCE	8 Ω	8 Ω
SENSITIVITY, 1 w/ 1 m	92 dB	90 dB
FREQUENCY RESPONSE (-3 dB), on axis	50 Hz ~ 20 kHz	60 Hz ~ 20 kHz
FREQUENCY EXTENSION (-10dB)	38 Hz ~ 22 kHz	42 Hz ~ 22 kHz
CROSSOVER FREQUENCY	900 Hz, 3.5 kHz	930 Hz, 3.5 kHz
INPUTS	Gold plated binding post	Gold plated binding post
DIMENSIONS (H x W x D) mm	1000 x 210 x 293	890 x 200 x 250
NET WEIGHT	19.2 kg	15 kg
FINISH	Front: Ash; Outer skin: Option of Black ash or Rosewood	Front: Ash; Outer skin: Option of Black ash or Rosewood

	SONUS 3360	SONUS 3350
DESIGN	2 way , MTM, vented, center speaker	2 way , MTM, vented, center speaker
ENCLOSURE	MDF	MDF
TRANSDUCER COMPLEMENTS	2 x 6" woofer, 1" dome tweeter	2 x 5" woofer, 1" dome tweeter
RECOMMENDED AMPLIFIER POWER	60 ~ 150 W	60 ~ 125 W
NOMINAL IMPEDANCE	8 Ω	8 Ω
SENSITIVITY, 1 w/ 1 m	90 dB	90 dB
FREQUENCY RESPONSE (-3 dB), on axis	55 Hz ~ 20 kHz	65 Hz ~ 20 kHz
FREQUENCY EXTENSION (-10dB)	50 Hz ~ 22 kHz	58 Hz ~ 22 kHz
CROSSOVER FREQUENCY	3.2 kHz	2.6 kHz
INPUTS	Gold plated binding post	Gold plated binding post
DIMENSIONS (H x W x D) mm	210 x 500 x 253	190 x 450 x 263
NET WEIGHT	9.8 kg	7.9 kg
FINISH	Front: Ash; Outer skin: Option of Black ash or Rosewood	Front: Ash; Outer skin: Option of Black ash or Rosewood

1. INTRODUCTION

Congratulations on your purchase of your Sonus 3000 series loudspeaker. A worthy successor to the award winning 2000 series, this range surpasses its predecessor in build quality, design, frequency and dynamic bandwidth, and detailing. Be it for stereo or multichannel audio, you will find a suitable solution from this range. So go ahead and enjoy your favourite music and movies on the new Sonus 3000 series.

2. UNPACKING

Your carton contains:

- 1 x loudspeaker
- 2.0 Sq mm speaker cable 3m long
- For 3165, 3155: 4 sets of mounting accessories, each set comprising a spike and a disc for the spike

Please retain all packing materials in case you need to transport the loudspeaker

We suggest that the loudspeaker be "broken in", i.e., played for some time, so that it can quickly start performing at its best! If you do not want to do this when you are at home set your source unit, i.e., CD player on "repeat entire disc" mode. Then, allow the loudspeaker to play at moderate volume level for 6 - 8 hrs.

3. AMPLIFIER SELECTION

We recommend using amplifiers whose continuous (rms) power per channel is greater than or equal to that the speaker handles. The recommended amplifier is given under specifications. Please refer to page 12 & 13. In the event that the power is greater, care must be taken to avoid playing music at excessively loud levels and thus damage the speaker. Also, while using an amplifier with rms power lower than the rated power handling of the speaker, please ensure that the amplifier volume is set such that there is no audible distortion. Lower powered amplifiers, operating at close to maximum volume, often produce distorted signals at high levels. This can lead to damage of the high frequency driver, the tweeter.

4. WIRE CONNECTIONS

Please proceed with the connection in the following fashion:

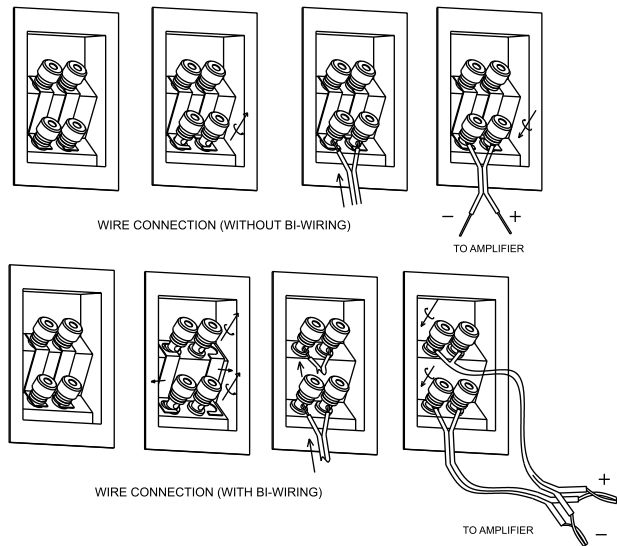
1. Turn off the amplifier.
2. Gently pull off the insulation on the cable ends (which has been pre-cut at the factory) and twist the strands on the wire.
3. Insert them into the holes on the gold plated binding posts and turn them to tighten. Please note the following
 - A. Verify that the wires from the positive terminal and negative terminal do not touch each other, as a short-circuit could damage the amplifier.
 - B. Verify that the loudspeaker is in proper phase: The + (red) terminal on the loudspeaker is connected to the + (red) terminal on the amplifier. The - (black) terminal on the loudspeaker is connected to the - (black) terminal on the amplifier.

4 a. Biwiring the Sonus 3155 and 3165

The Sonus 3165 and Sonus 3155 are equipped with (bi-wirable) gold-plated binding post terminals, where red indicates positive and black, negative. This allows discrete signals to the woofers, and the midrange + tweeter. This minimises crosstalk and distortion. Please proceed as follows.

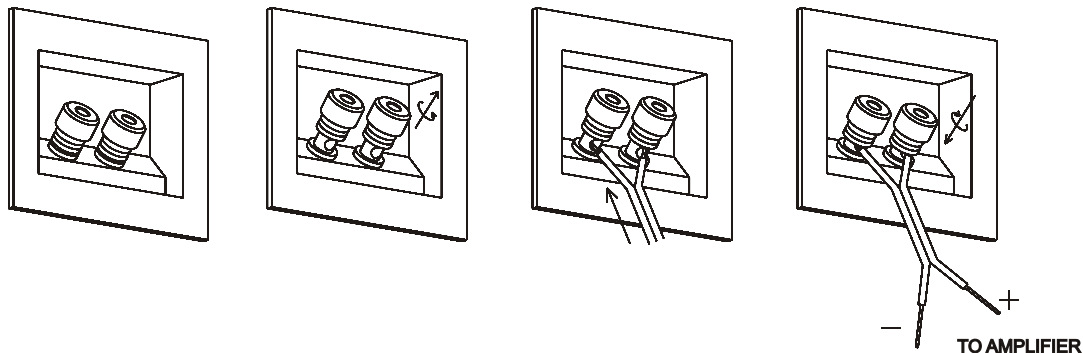
Single wiring: In this mode of connection, the bridges between the terminals should stay connected, and either pair of connectors (top or bottom pair) may be used

Bi-wiring : Please remove the bridges between the terminals and proceed for connection. Separate cables, one for woofer, and one for midrange + tweeter have to be used, as shown in the connection diagram below.

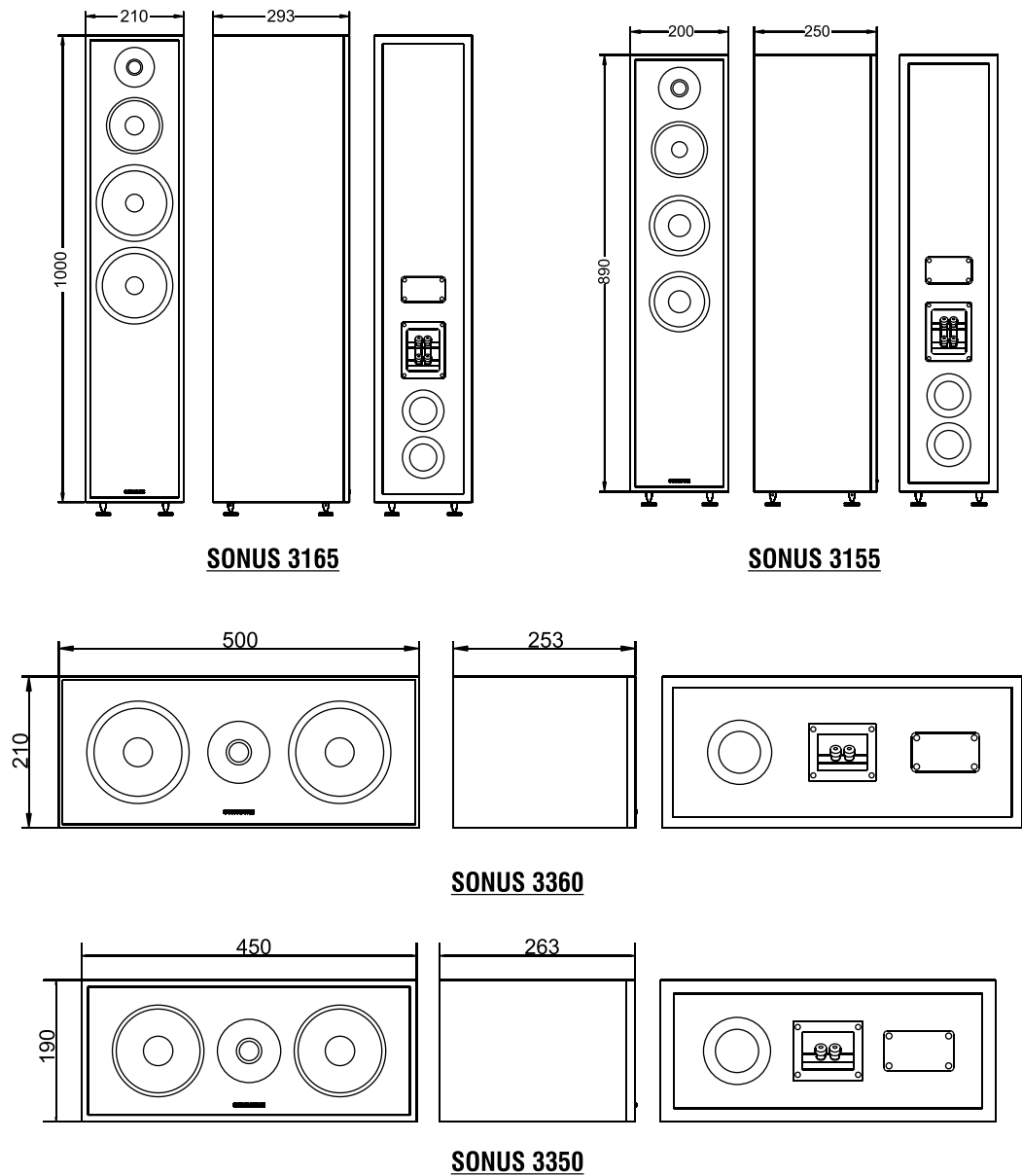


4 b. Bi-wiring The Sonus 3260,3360, 3350, 3440, 3540

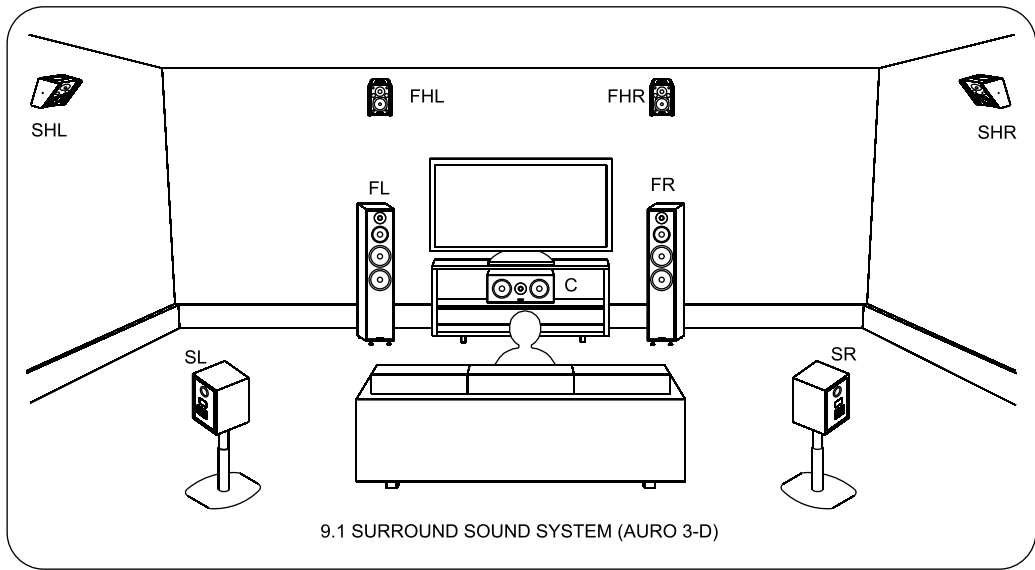
These models have only one pair of terminal. Please proceed as per connection diagram below



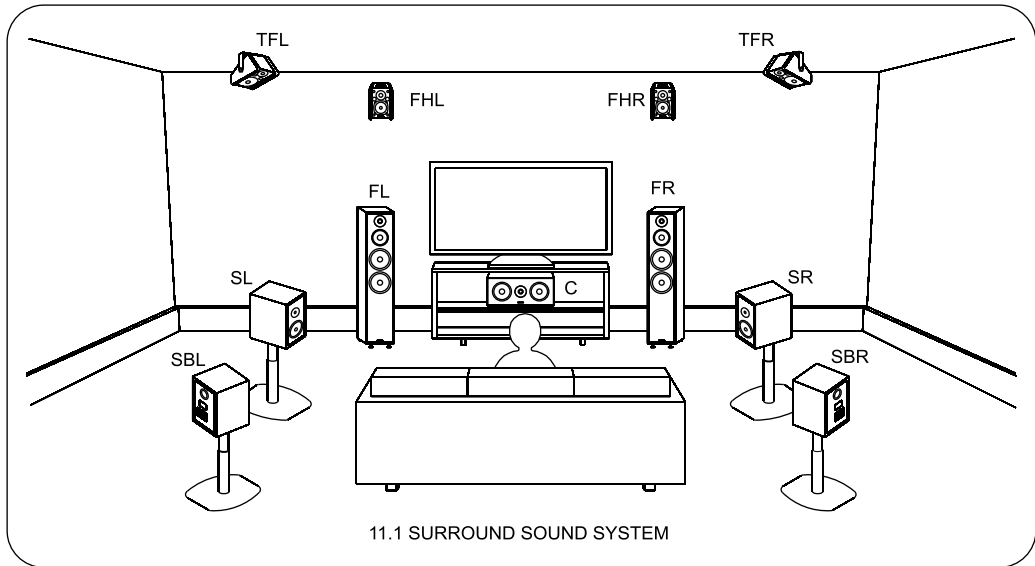
5. LINE DRAWINGS



For Auro 3-D 9.1 surround sound system the side surround speakers are replaced by a left height and a right height surround speaker, thus requiring a total of 4 height surround speakers for all of which the Sonus 3540s can be used. This is shown in the figure below.



In 11.1 channel system, there are 2 additional ceiling mount speakers as shown in the figure below.

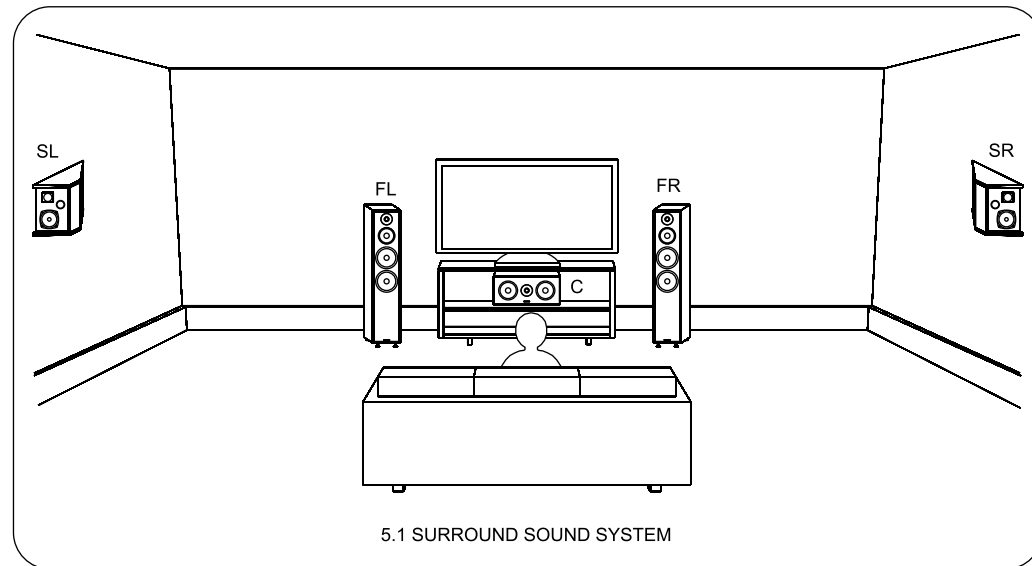


8. ACOUSTICS OF THE LISTENING ROOM

The acoustical makeup of your listening room is key in determining how good (bad) is the sound that reaches your ear. The contents of a room (carpets, curtains, furniture etc.), its shape, and the material of which the boundaries are made, make or break your sound. The idea is to have a listening area where the absorptions and reflections are calibrated to attain, as far as possible, a neutral environment. While there are no 'quick fix' formulae to convert a 'room' to an 'ideal listening room,' here are some things that you might try to attain optimal performance.

In your listening room, clap your hands, snap your fingers, and jingle a ring of keys.

If the resulting sound is unintelligible (muffled), and resonating, your room is inclined toward being reflective. In this event, you might want to: Hang up curtains/ Lay a carpet or rug/ Introduce book cases/ other racks. In the event that the resulting sound is too damped your room is inclined toward being absorptive. You might want to remove some of the absorptive material (like those given above)



The Sonus3440 has a pair of key-hole brackets on the rear to hang them on the wall. Drill holes on the wall at a center distance of 203mm (8 inch) and drive mounting screws into the wall. Hang the speaker on these two screws. Ensure that the holes are on the same horizontal line or the speakers would be tilted when hung. You may also, of course, set them atop a customised rack or shelf.

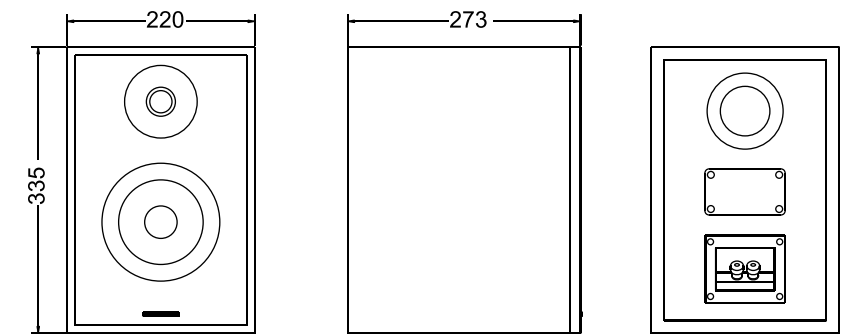
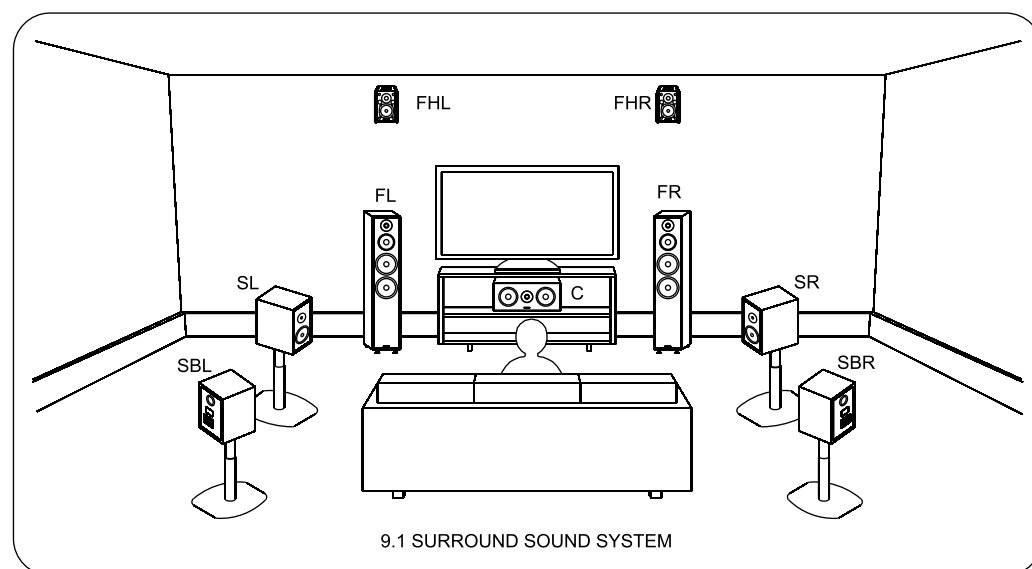
7 e. Placing Sonus 3540

The Sonus 3540 can be used as

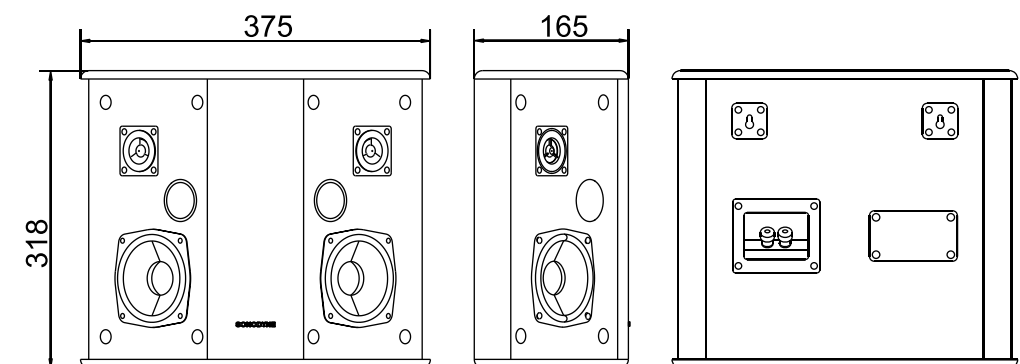
- front height speakers (left and right) in a 9.1 system such as Audyssey DSX, DTS Neo:X, Dolby ProLogicIIz
- both as front height and side height speakers in Auro 9.1 3-D system
- additionally as height speakers for ceiling in 11.1 channel system.

For wall-mounting the Sonus 3540, a key hole bracket is provided on the rear to mount directly on the wall. For ceiling mount, a U bracket is provided which is fixed to the sides, allowing the speaker to be tilted to make it down-firing.

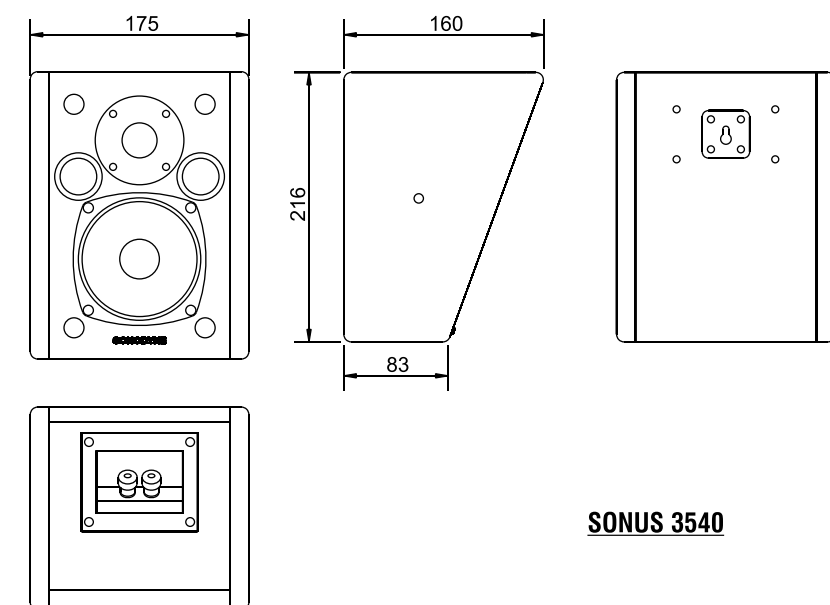
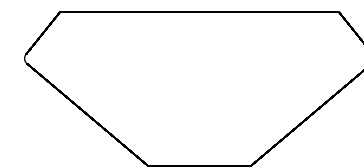
When used as front height speakers in a 9.1 system they are generally mounted at a height of about 2- 3 meter and angled to fire at the listener as shown below.



SONUS 3260



SONUS 3440

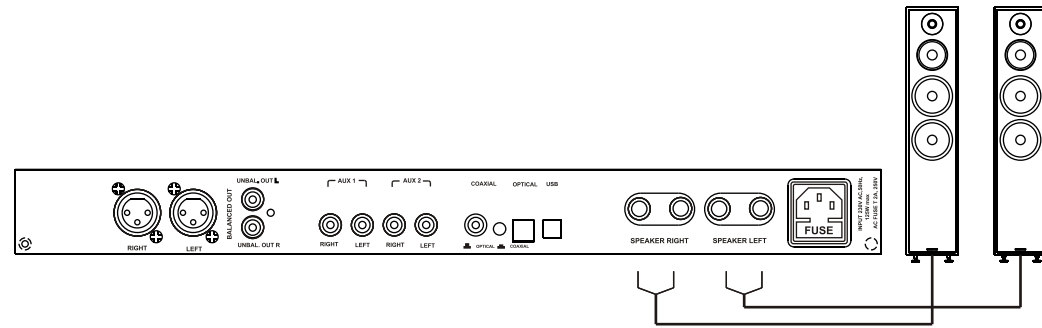


SONUS 3540

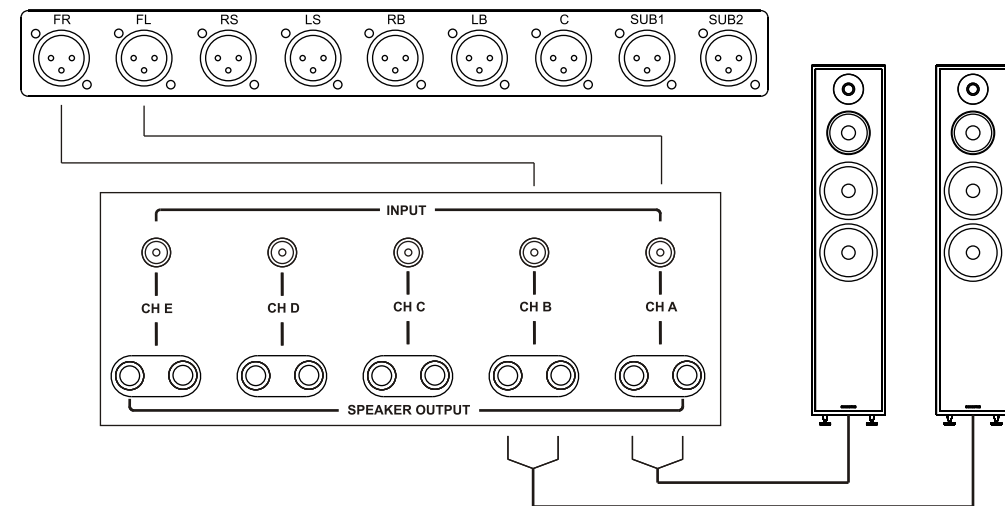
6. CONNECTION DIAGRAMS

6 a. Connecting Sonus 3165, 3155

The following figure shows the Sonus 3165,3155 connected to a stereo setup.

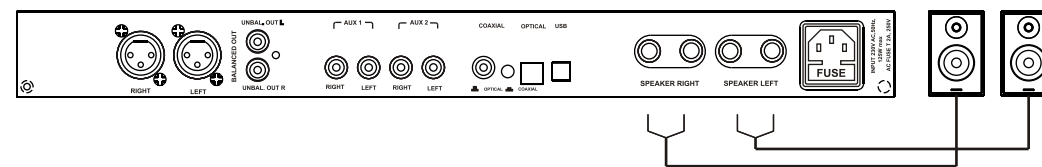


The following figure shows the Sonus 3165,3155 connected as the front left and front right speakers in a 5.1 system

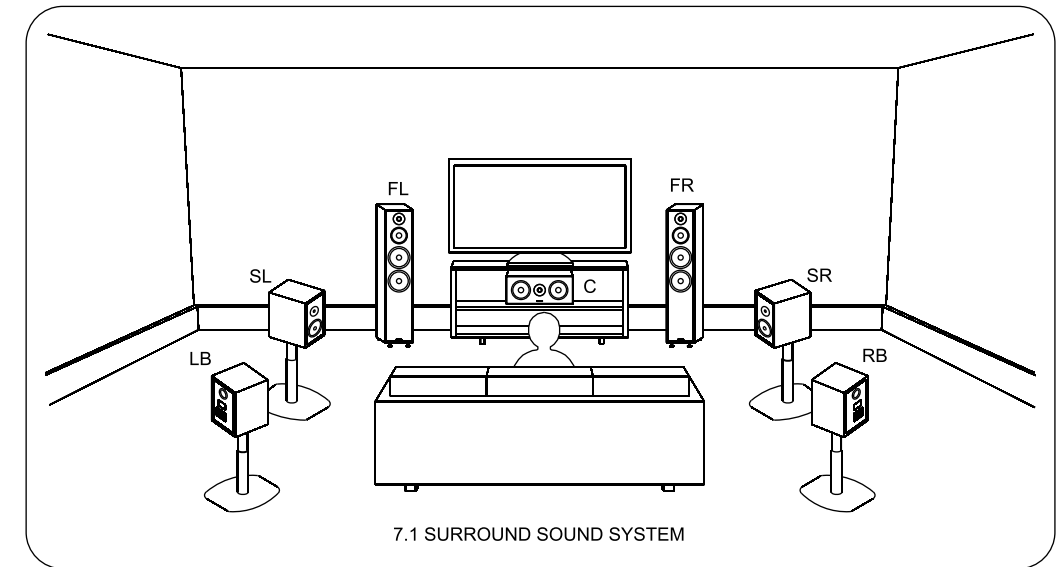


6 b. Connecting Sonus 3260

The following figure shows the Sonus 3260 connected to a stereo setup.

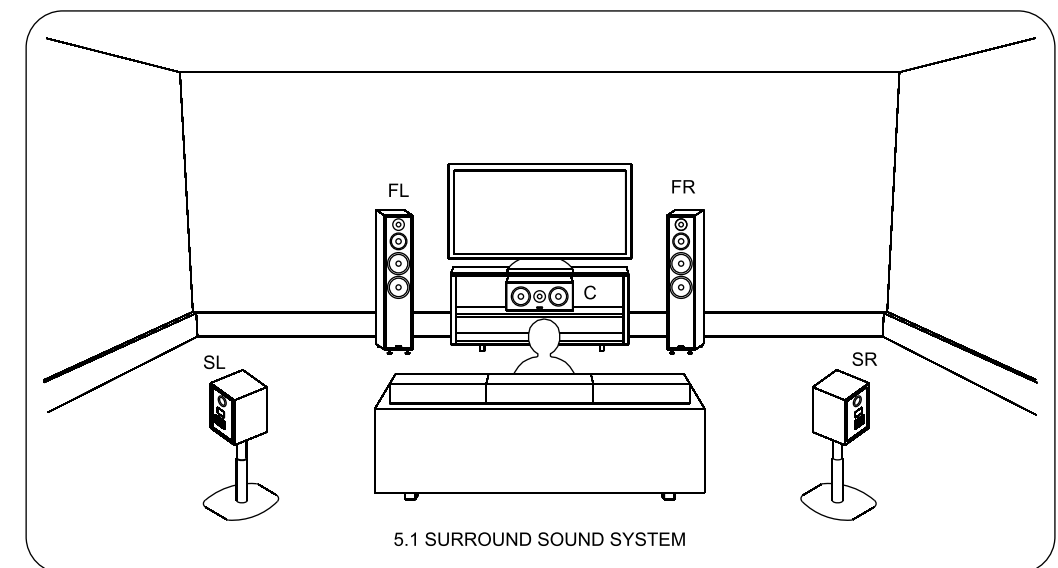


The following figure shows the 3260s used as surround speaker in a 7.1 system



7 c. Placing Sonus 3350, 3360

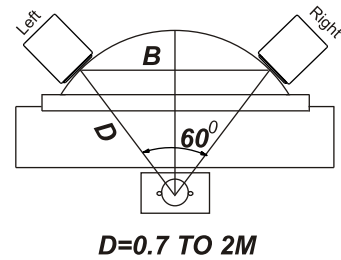
Sonus 3360,3350 should be placed immediately above or below the TV set. This position ensures perfect integration between picture and sound, thus the optimum and most realistic experience, as illustrated in the figure below



7 d. Placing Sonus 3440

- The Sonus 3440 is intended to be used as the left and right surround speakers in a 5.1 system. The objective of the Sonus 3440 is to create a diffused surround sound field; one in which you should be immersed. To do so, the Sonus 3440 must be mounted ideally to the left and right wall of where the listener is seated. The key is to produce a null sound field directly in front. The sound from the speakers do not reach the listener directly, instead the reflections from adjoining surfaces reach the listener.

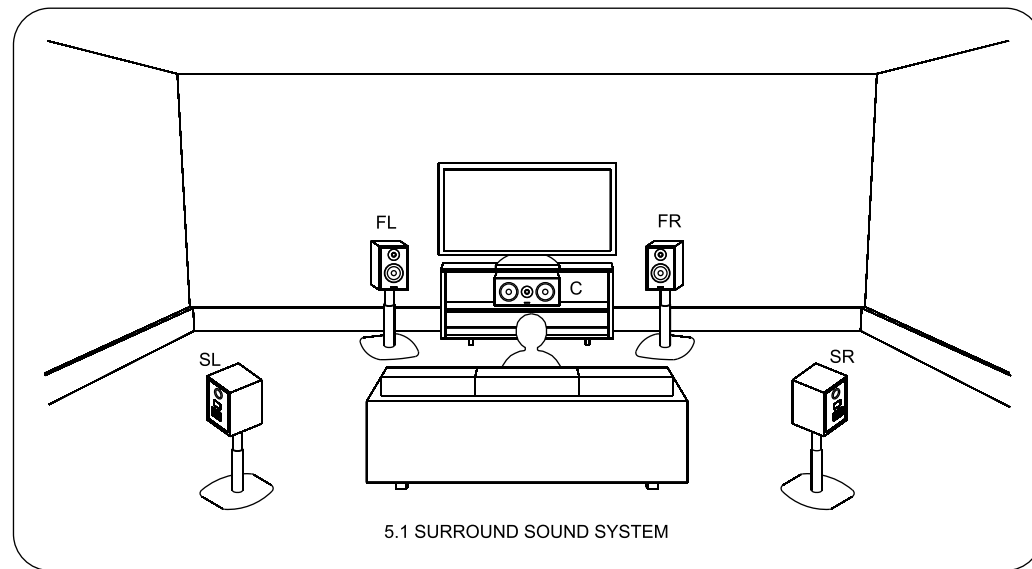
• speaker placements 3350 3360 3440 •



The Sonus3260s should be placed on either a solid bookshelf or a floor-stand to raise the centre point of the loudspeaker's front baffle position (mid position between the woofer's center and the tweeter's center) to the actual ear level, which for an average person is about 1 m from the floor.

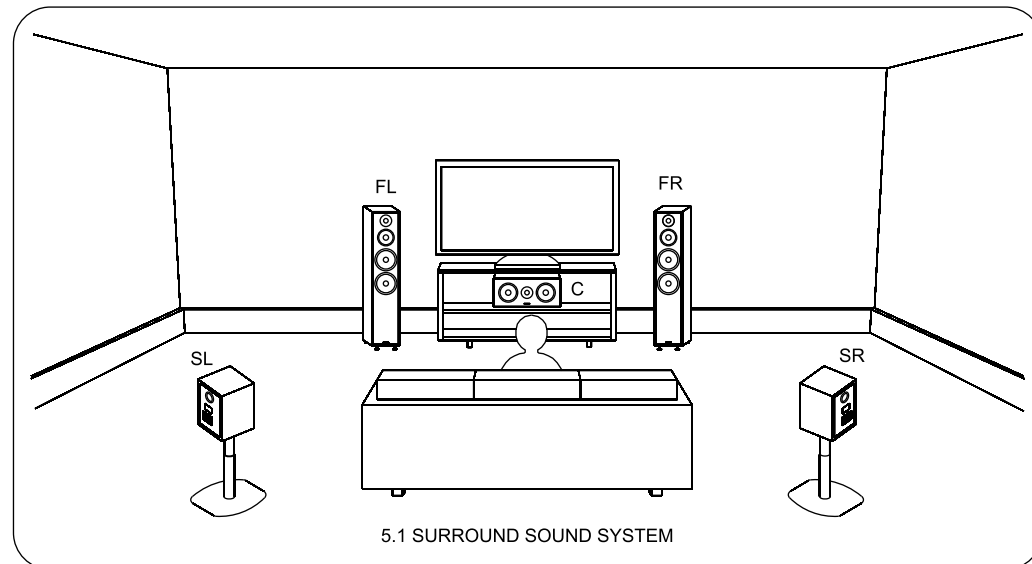
The Sonus 3260s may be placed on speaker stands or wall-mounted. To wall mount, the built-in inserts on the bottom may be utilised for making a L type shelf mounted to the wall.

The following figure shows the 3260s used as front left and right speakers as well in a 5.1 system

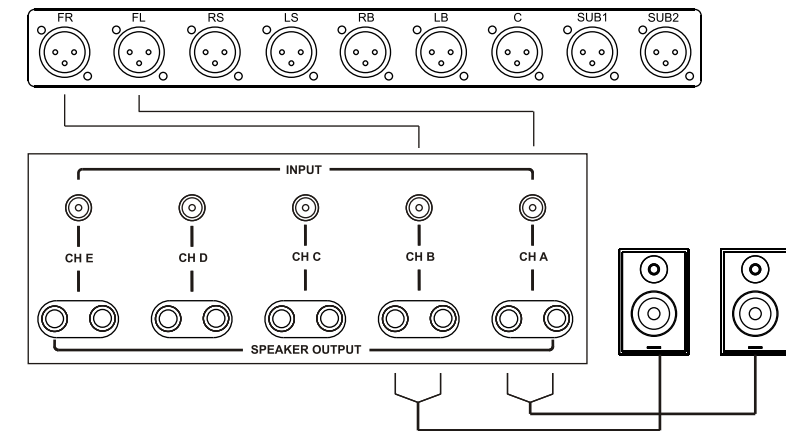


As surround speakers in your home theater system

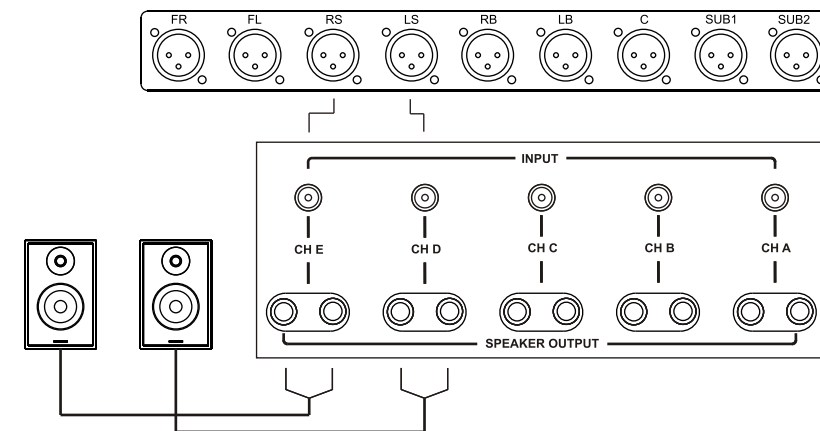
The following figure shows the 3260s used as surround speakers in a 5.1 system



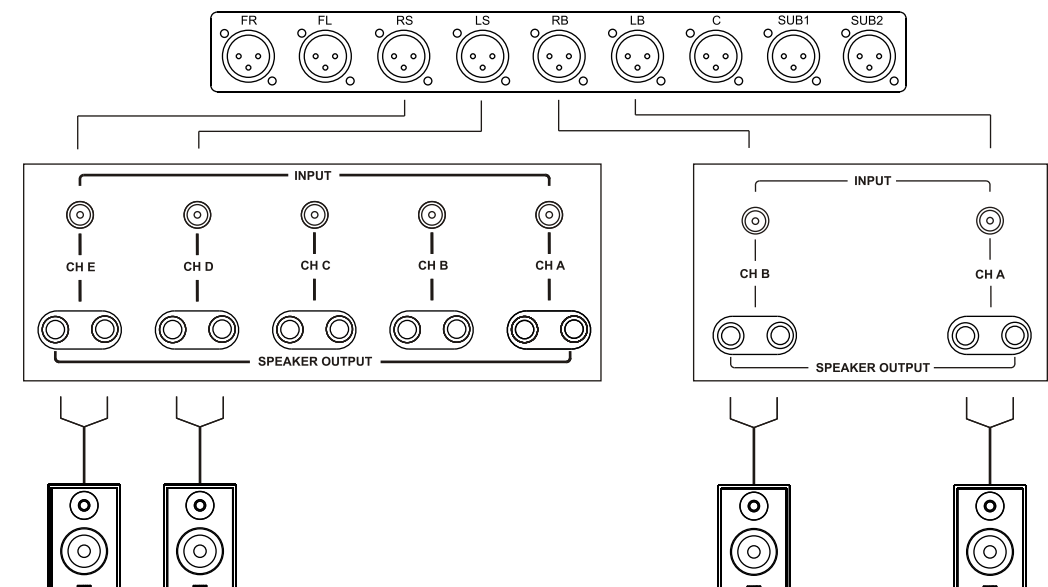
The following figure shows the Sonus 3260 connected as the front left and front right speakers in a 5.1 system



The 3260s may be also utilised as surround speakers, as shown in the attached connection diagram for a 5.1 system

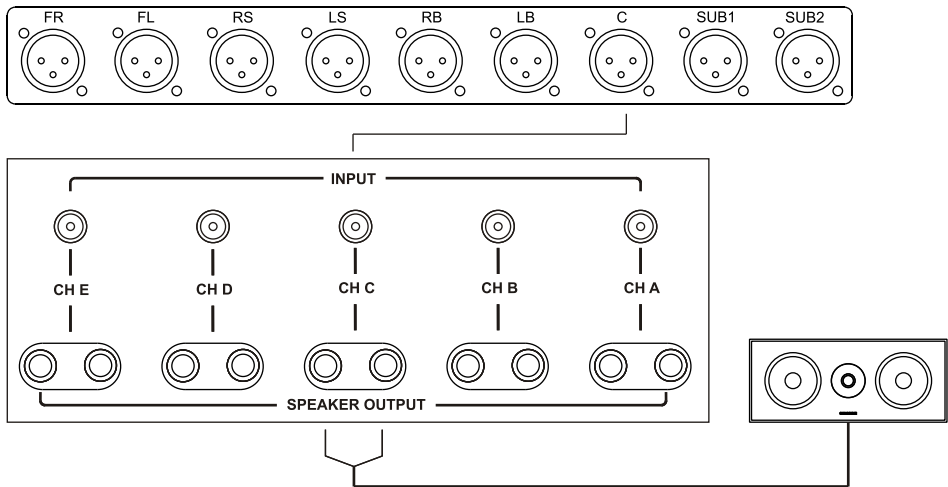


For a 7.1 system, 4 x 3260s can be connected as shown in the following connection diagram



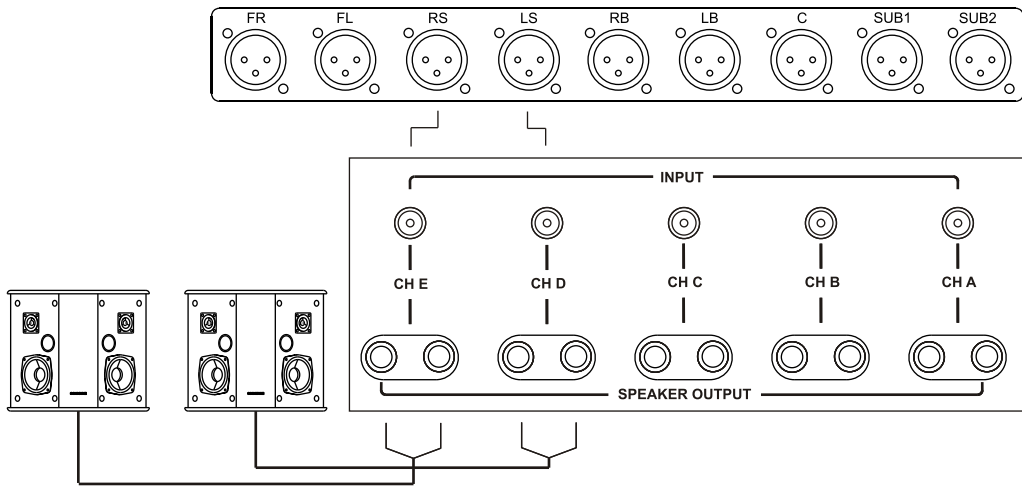
6 c. Connecting Sonus 3350, 3360

The following figure shows the Sonus 3360,3350 connected as the center speaker in a 5.1 (or larger multichannel) system



6 d. Connecting Sonus 3440, 3540

The following figure shows 2 xSonus 3440 / 3540 connected as the surround speakers in a 5.1 system



7. SPEAKER PLACEMENTS

7a. Placing Sonus 3155, 3165

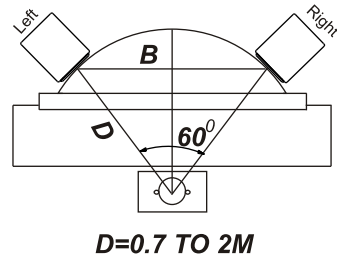
Finding the right position for the Sonus 3165,3155s are also very important. The following should aid in locating that optimal position:

Ensure that there are no objects between the speaker and the listener in general. Placing a loudspeaker near a rear and /or side wall will boost the low frequency level but at the same time create reflections in the midrange and treble area, which results in a deterioration of the stereo image. Therefore, it is not possible to recommend one single perfect placement in relation to the rear wall, as the optimum distance will depend very much on the acoustics of the listening room. As a guideline, the optimum placing will be about 30 ~ 60 cm from the rear wall. The distance to the side wall should be at least 50 ~ 80 cm.

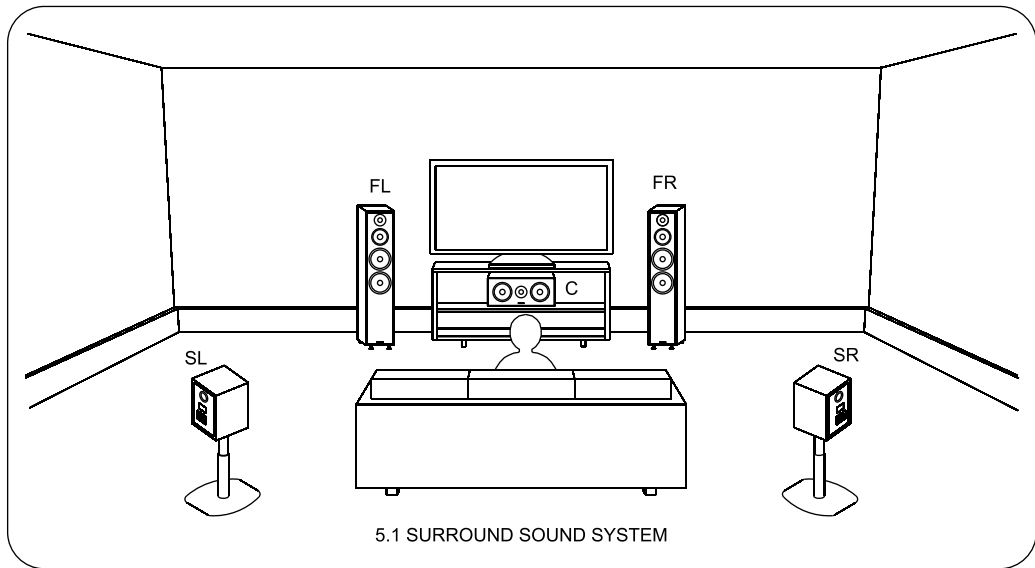
• speaker placements 3155 3165 3260 •

The distance between the Sonus 3165,3155s should be the same as the distance from either loudspeaker (left and right) to your preferred listening position (thus forming an equilateral triangle with the left, right speakers, and you as the three vertices.) If distances are not a premium, then the optimal position could be attained by playing a stereo recording, separating the Sonus 3165,3155s till an acoustical hole is formed in the middle. Then bring the two Sonus 316,3155s together to attain a uniform sound front.

The Sonus 3165,3155s should be angled slightly toward the listening position, to suit room acoustics and your taste. This will also ensure that the optimum listening position becomes less critical.This is illustrated below



The following figure shows a typical room placement with the Sonus 3165, 3155 connected as the front left and right speakers in a 5.1 system



7 b, Placing Sonus 3260

Finding the right position for the Sonus 3260s is very important. The following should aid in locating that optimal position:

As main speakers in your home theater system or in your stereo system

- Ensure that there are no objects between the speaker and the listener in general, placing a loudspeaker near a rear and /or side wall will boost the low frequency level but at the same time create reflections in the midrange and treble area, which results in a deterioration of the stereo perspective. Therefore, it is not possible to recommend one single perfect placement in relation to the rear wall, as the optimum distance will depend very much on the acoustics of the listening room. As a guideline, the optimum placing will be about 30 ~ 60 cm from the rear wall. The distance to the side wall should be at least 50 ~ 80 cm.
- The distance between the Sonus 3260s should be the same as the distance from either loudspeaker (left and right) to your preferred listening position (thus forming an equilateral triangle with the left, right speakers, and you as the three vertices.) If distances are not a premium, then the optimal position could be attained by playing a stereo recording, separating the Sonus 3260s till an acoustical hole is formed in the middle. Then bring the two Sonus 3260s together to attain a uniform sound front.

The Sonus 3260s should be angled slightly toward the listening position, to suit room acoustics and your taste. This will also ensure that the optimum listening position becomes less critical. This is illustrated below