



PN.33-1762 10.99

INSTALLATION INSTRUCTIONS

SONANCE SYMPHONY™ SERIES 6.5" IN-CEILING SPEAKER

INTRODUCTION

Thank you for purchasing Sonance Symphony™ in-ceiling speakers. When properly installed, this product will provide you with years of entertainment pleasure. To obtain the full potential of your new speakers, please read all instructions before starting the installation. If you do not have the necessary skills to install the speakers yourself, contact your Authorized Sonance Dealer for installation options.

PARTS LIST

Each Sonance Symphony speaker includes the following items:

- (2) Sonance Symphony speakers
- (2) Paintable grilles
- (2) Paint plugs (protects speakers during painting)
- (1) Mounting cutout template (in packaging)

CUSTOM INSTALLATION

Your Sonance Symphony™ speaker system will provide maximum performance and entertainment value when custom installed by skilled professionals with specialized tools and experience to design and install audio/video and related systems. These professionals can assist you in the selection of complementary components engineered to meet your needs and optimize performance while satisfying the physical and aesthetic demands of the space you have chosen for your home theater.

Custom installed systems can be configured to accommodate music reproduction throughout your home, security, telephone, and other home systems. Professional installers coordinate their efforts with architects, interior designers, and electricians to ensure that these systems blend into your home both functionally and aesthetically.

The increasingly sophisticated audio and video components now available demand expert system design and installation to deliver full value. More than ever, consumers rely on custom installers to help them explore the myriad of home entertainment options now available, to explain the features and functions of each and to assure compatibility of related components.

Custom installation caters to the homeowner who eschews the complexity and unsightliness of traditional audio and video systems, yet wants to enjoy music throughout the home. In the capable hands of a custom installer, special devices like those supplied by Sonance® can make the most sophisticated audio/video systems easy to use and practically invisible.

The growing popularity of home theaters speaks to a change in the way you look at audio and video components. You probably see them as an integral part of an investment in your home and lifestyle. The professional installer can assure that this investment meets your expectations.

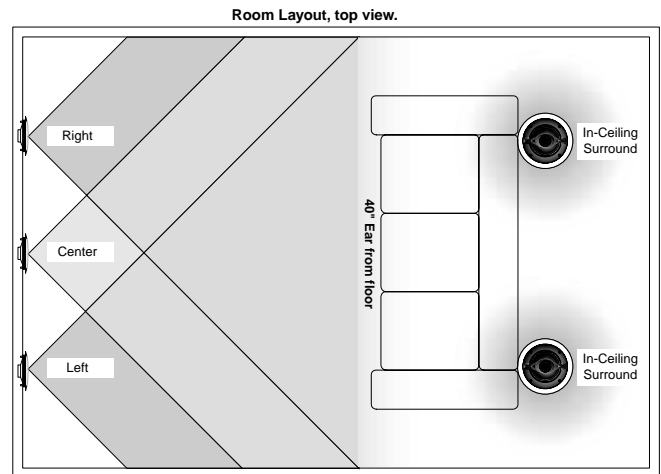
SPEAKER PLACEMENT

Note: All Sonance Symphony in-wall/in-ceiling speakers fit into a standard 2" x 4" wall. The location of the speakers should be determined by considering your primary listening location and aesthetic values. For best results, contact your Authorized Sonance Dealer for advice.

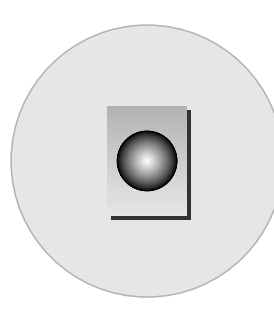
Distributed Audio Placement

Round speakers are able to perform in any orientation (horizontally or vertically) without effect to the sound presence of the source signal. The hemispherical dispersion pattern allows the installer and user to configure the speaker in any position without penalty to performance. Locate the speakers above the primary listening area and angle the tweeter plate (except the 621_{TR}) toward the listening area. If there are "hot spots" in the room, consider adding additional speakers for more uniform sound dispersion.

Diagram 1



Coaxial Type Dispersion Pattern



Even, round
"hemispherical"
dispersion pattern

NOTE: This is the only driver configuration whose sound does not change with vertical or horizontal speaker placement.



Surround Placement

Your Sonance Symphony series speakers can be used as surround speakers in your home theater. Surround speakers can be located in the ceiling of your home theater. The proper placement of surround speakers is very room dependent. If you are unsure about where to locate your surround speakers for best performance, contact your Sonance Dealer for advice.

When mounting your surround speakers in the ceiling, locate the speakers 2 to 6 feet behind your listening position. The speakers should be separated anywhere from 6 to 10 feet apart center to center (Diagrams 1 and 2).

Diagram 2

Surround Sound



Once your speaker system is installed, we highly recommend the use of an inexpensive SPL meter (Radio Shack® part number 33-2050). Place the SPL meter at the listening position at seated ear level. Turn on your surround receiver or processor and engage the calibration signal. The signal from the receiver or processor will cycle through the left, center, right and surround speakers. Adjust the level controls on your receiver or processor so that all the speakers produce the same SPL reading. This will calibrate your system so it accurately reproduces the movie you are viewing. Your receiver or processor manual will contain more detailed instructions on calibrating your system, and the use of your electronics.

WIRE GAUGE AND QUALITY

Use the appropriate cable for the right applications

The following chart shows the corresponding gauge and distances based on an 8Ω speaker. From the general rule below, you should never run cable longer than 10% of the speaker impedance; therefore, the highlighted resistance figures correspond to the maximum distance the cable length should

Wire Resistance in Ohms vs. Length of Cable Run							
Distance in Feet		50'	100'	150'	200'	250'	300'
AWG	Str & AWG						
24	7 @ 32	2.33	4.66	6.99	9.32	11.65	13.98
22	19 @ 34	1.37	2.75	4.12	5.49	6.87	8.24
20	19 @ 32	0.86	1.73	2.59	3.45	4.32	5.18
18	16 @ 30	0.65	1.30	1.94	2.59	3.24	3.89
16	19 @ 29	0.43	0.85	1.28	1.71	2.14	2.56
14	19 @ 27	0.27	0.54	0.81	1.08	1.35	1.62
12	19 @ 25	0.17	0.34	0.51	0.68	0.85	1.02
10	37 @ 26	0.11	0.22	0.33	0.44	0.56	0.67

be. For example, for 18 gauge wire the maximum recommended length is 50 feet (8Ω speaker). The following impedances (typical in Sonance® MediaLinQ® Bronze cable) are in two conductor and are given in 50 foot increments.

General Rule:

The total wire resistance should be less than 10% of the speaker impedance. If using an 8Ω speaker, your total wire resistance should be no more than 0.8Ω.

Example:

Using 200 feet of 18 gauge cable on a speaker will add approximately 2.59Ω (from the chart) to the impedance of the speaker being used. If that happens to be an 8Ω speaker, the total impedance in that part of the system is approximately 10.6Ω (8+2.59). While that may be acceptable to some people, the resulting sound will be less dynamic than if better, larger cable (smaller gauge numbers) is used.

MOUNT THE SPEAKERS

Insulate the Cavity

If the speaker is installed in a ceiling, it is best to lay a sheet of unfaced fiberglass insulation over the speaker. If it is installed in a wall, use the following insulation instructions:

After the wallboard, or sheetrock, is installed, and before installing the speakers, line the inside back of the wall cavity by pushing unfaced fiberglass insulation through the cutout hole. Use enough to adequately fill the cavity, even a couple of square feet of insulation is better than none. If the insulation is paper or foil faced, position the paper or foil away from the speaker.

Brace the Cavity

If possible, get the drywaller to use extra screws and to glue the drywall to the studs around the cavity into which the speaker is being installed. An additional bead of glue along the interior junction where the drywall meets the studs will help reinforce the enclosure. The idea is to make the enclosure as rigid as possible. If you are doing the work yourself and are retrofitting, reach inside the hole cut for the speaker and put a bead of glue everywhere the drywall meets the studs. Wood glue works well for this.

UNFINISHED WALLS (NEW CONSTRUCTION)

Your new Sonance Symphony round speakers feature an integral Roto-Lock™ mounting system for mounting into ceilings and walls. A Staple Template or FlexBracket (STS1 PN. 90-0651 or 90-1193; optional, not supplied) will serve as a guide for the drywaller when cutting holes for in-wall speakers in new construction installations. Since Sonance Symphony round speakers feature the Roto-Lock™ system, a separate bracket is not necessary. The Staple Template provides a hole pattern for the speaker in the drywall. It is stapled to studs or joists so that the hole opening is in the desired speaker location after the drywall is installed.

FINISHED WALLS (RETROFIT)

With the Roto-Lock system, the speaker can be installed directly into existing walls or ceilings. Once the hole is cut and the cable strung, the speakers can be installed and secured in a matter of seconds. Once you have determined that the area is free of obstructions such as pipes, conduit, or heating and air returns, find the studs/joists nearest your speaker location. Although measuring in increments of 16" on-center from doorways, electrical boxes, or other room borders and fixtures will provide an approximation, a good stud-finding tool is really essential.

CUT THE HOLE

IMPORTANT:

When using the Roto-Lock system for retrofit installations, the speaker requires a hole size of 8-5/32". There must also be enough clear space within the wall to house the speaker (See **SPEAKER SPECIFICATIONS** for mounting depth). And there must be enough drywall around the hole for the Roto-Lock feet to grab onto (1" is needed).

A punch out template for cutting the hole is provided with speaker packaging. Position the template where the speaker is to be located and pencil an outline on the wall or ceiling. In the center of the rectangle, make a small hole with a drywall saw. It is always best to start with a very small hole just to make sure there are no obstructions behind the wallboard. Cutting the wallboard, at first, at a 45-degree angle will allow you to make a fairly simple repair with drywall patch if your earlier obstruction survey was wrong (Diagram 3). This way, if repairs are necessary, the cutout piece of wallboard will not fall through the hole. Instead, it will be held flush with the wallboard by the 45-degree cut, and repair can be made easily. After checking for obstructions, carefully cut the retrofit hole into the wall/ceiling at the location where the speaker is to be mounted, cutting at a 90-degree angle to the wall surface.

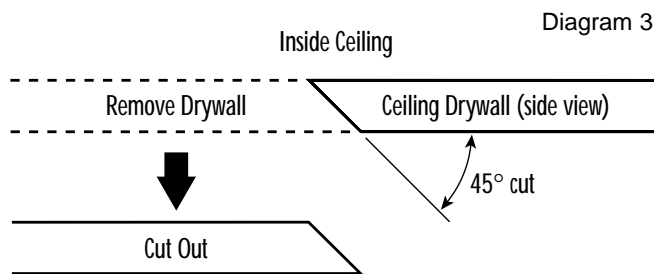


Diagram 3

INSTALL THE SPEAKERS

Remove the grille by pushing one of the Roto-Lock clamps toward the front of the speaker. They should lay in the full clockwise position so that all clamps are tucked within the cutout border (See Diagram 4). Observing the proper polarity with your amplifier, (+) to (+) and (-) to (-) attach the speaker wire. Make sure the left channel of the amplifier is connected to the left speaker, and the right channel is connected to the right speaker (See Diagram 5).

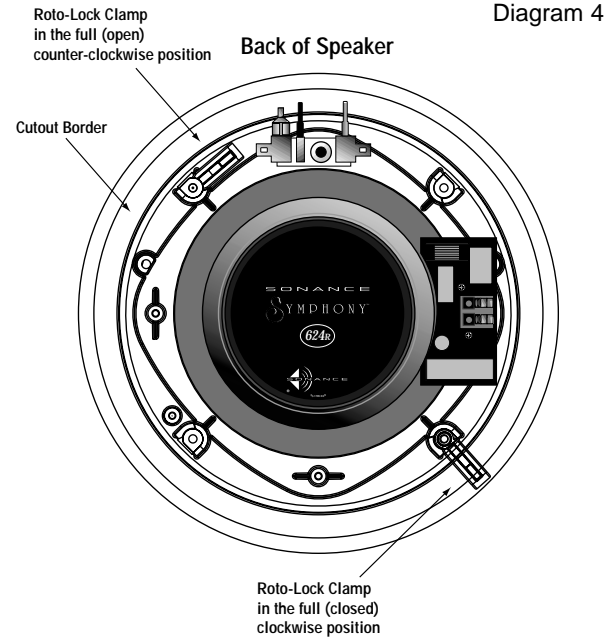


Diagram 4

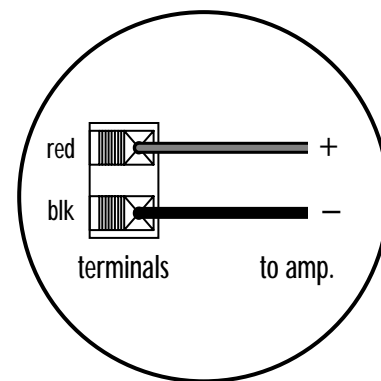


Diagram 5

ROTO-LOCK INSTALLATION

Install the speaker by bringing the outer edge flush with the wall. You will notice the four screw heads in four corners on the front of the Sonance Symphony speaker. Use a screwdriver to tighten these screws evenly. This will automatically rotate your Roto-Lock clamps over the drywall surface and securely clamp your speaker flange to the wall (See Diagram 6). When you notice resistance in the tightening of all four screws the speaker has been successfully sandwiched between the drywall and the speaker flange. The Roto-Lock clamps, provide a tight fit and prevent unwanted vibration. The flange is designed to flex and conform to any small imperfections in the wall surface. The screws should not be tightened so far that the flange bows out. If this occurs, back off the tension on the screws a little. Finally, if painting is not required, reinsert the grille into the speaker baffle.

Please Note: The Roto-Lock will clamp a maximum drywall thickness 1-1/4" (32mm).

Installed Sonance Symphony™ Speaker

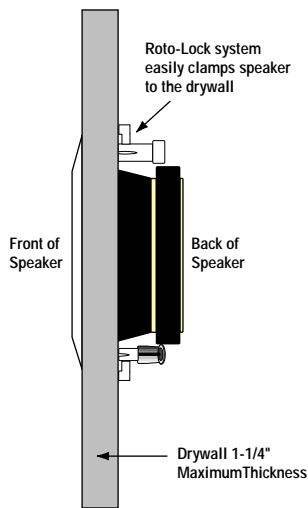
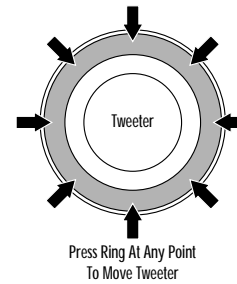


Diagram 6

Diagram 7



ADJUST LEVEL CONTROLS (624_{TR}, 623_{TR})

Before the speaker is installed, adjustments are available on some models by manipulating jumper switches located on the crossover assembly on the back of the speaker (Diagram 8). Independent settings make it possible to fine tune the sound to the room's particular nuances, the system's demands, or your own listening tastes. The jumper wire allow two levels of attenuation (+3dB) or (-3dB). Each adjustment corresponds to tweeter output level characteristics. Your Sonance Symphony loudspeakers leave the factory set for the "flat" (0dB) position. We believe you will find this setting to work well in a majority of listening situations with no additional adjustments being necessary.

PAINT THE SPEAKERS

Speakers and grilles can be painted before installation, which will eliminate the "paint scar" if the speaker needs to be removed for service. Speakers may also be painted after the speaker is mounted into the wall, but before the grilles have been attached. All speakers come from the factory fitted with a plastic "paint plug". These must be used to protect the drivers while the flange is being painted with the wall. Simply replace the grilles with the paint plugs prior to painting.

PAINT THE GRILLES

The grilles may be lightly sprayed with thin paint (5 parts thinning agent to 1 part paint), but be careful not to plug the holes. Too much paint will adversely affect the sound of the speaker. Sonance suggests all grilles be painted separately from the speakers.

ADJUST THE SPEAKERS

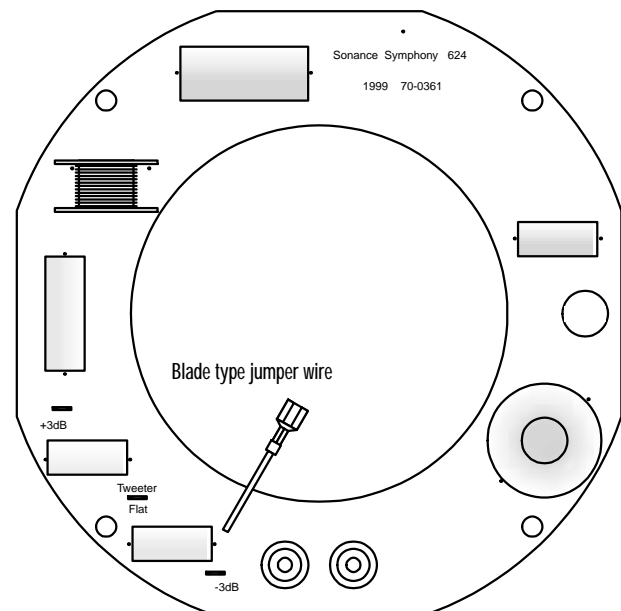
PIVOTING TWEETERS (624_{TR}, 623_{TR}, 622_{TR}, 621_{TR})

The unique pivoting tweeter directs sound toward or away from the listening area to achieve a desired effect. To direct sound toward a listening area, the pivoting tweeter may be angled by applying pressure on the tweeter plate which surrounds the dome tweeter (Diagram 7). If there is any question about how the tweeter should be adjusted, consult your Authorized Sonance Dealer. Here are some additional suggestions:

- Orient the tweeter toward the listening area if the speakers are widely separated and the music fails to blend into a central image when the system is operated in stereo.
- Orient the tweeter toward the listening area when additional brightness is desired.
- Orient the tweeter away from the listening area if the music or video soundstage seems too narrow or restricted.
- Orient the tweeter away from the listening area if it sounds too bright.

Symphony-Series Round Speaker Crossover (back view)

Diagram 8





ACCESSORIES

Optional Accessories for your Sonance Symphony speakers:

- 91664 Sonance Symphony weather resistant aluminum grille.
- 91665 Sonance Symphony weather resistant cloth over plastic grille.
- 90-1049 Staple Template - Plastic template for new construction can be stapled to studs.
- 90-1315 FlexBracket – Plastic template for new construction can be stapled to studs.
- 14-0255 Bracket extra long wing 18-1/2" - used for 24" on-center studs or ceiling joists.
- 90-0643 Coverplate - A white metal plate for covering holes until speakers are installed.
- 91345 OptiLinQ™ SMR1 infrared receiver - installed into the round "IR" knockout on the faceplate.
- 90-1308 Hole saw
- 90-0768 ARS1 adapter ring
- 90-1195 Back can (metal)
- 90-1319 Back box (wood)

SPEAKER SPECIFICATIONS

624_{TR}

Speaker Design:	In-wall/Infinite Baffle
Tweeter:	1"(25mm) Aluminum dome, pivoting tweeter
Woofer:	6-1/2"(165mm) Black aluminum cone with rubber surround
Frequency Response:	38 Hz to 20kHz ± 3dB
Impedance (Minimum):	6Ω (4Ω)
Power Handling:	5 to 125 watts
Efficiency:	90 dB @ 1W/m
Grilles:	Metal/Cloth
Dimensions (DxD):	9-3/4" x 4" (248mm x 102mm)
Cutout Dimensions (D):	8-5/32" (207mm)
Weight	6 lbs (2.7 Kg)

623_{TR}

Speaker Design:	In-wall/Infinite Baffle
Tweeter:	1"(25mm) Cloth dome, pivoting tweeter
Woofer:	6-1/2"(165mm) Black glass composite cone with rubber surround
Frequency Response:	40 Hz to 20kHz ± 3dB
Impedance (Minimum):	6Ω (4Ω)
Power Handling:	5 to 100 watts
Efficiency:	89 dB @ 1W/m
Grilles:	Metal/Cloth
Dimensions (DxD):	9-3/4" x 4" (248mm x 102mm)
Cutout Dimensions (D):	8-5/32" (207mm)
Weight	4 lbs (1.8 Kg)

622_{TR}

Speaker Design:	In-wall/Infinite Baffle
Tweeter:	3/4"(19mm) Cloth dome pivoting tweeter
Woofer:	6-1/2"(165mm) Black polypropylene cone with rubber surround
Frequency Response:	45 Hz to 20kHz ± 3dB
Impedance (Minimum):	8Ω (6Ω)
Power Handling:	5 to 75 watts
Efficiency:	89 dB @ 1W/m
Grilles:	Metal/Cloth
Dimensions (DxD):	9-3/4" x 4" (248mm x 102mm)
Cutout Dimensions (D):	8-5/32" (207mm)
Weight	4 lbs (1.8 Kg)

621_{TR}

Speaker Design:	In-wall/Infinite Baffle
Tweeter:	3/4"(19mm) Cloth dome tweeter
Woofer:	6-1/2"(165mm) Black polypropylene cone with rubber surround
Frequency Response:	55 Hz to 20kHz ± 3dB
Impedance (Minimum):	8Ω (6Ω)
Power Handling:	5 to 50 watts
Efficiency:	88 dB @ 1W/m
Grilles:	Metal/Cloth
Dimensions (DxD):	9-3/4" x 4" (248mm x 102mm)
Cutout Dimensions (D):	8-5/32" (207mm)
Weight	3 lbs (1.3 Kg)



TECHNICAL ASSISTANCE AND SERVICE

The Technical Assistance Department at Sonance is available at (800) 582-0772 or (949) 492-7777 to answer any questions concerning the operation and installation of your speakers. Between the hours of 9 AM and 5 PM Pacific Time, Monday through Friday, except holidays:

In the event that your unit should need repair or service you may return the unit to your authorized dealer or use the following guidelines:

- 1) Be prepared to state the model number and or serial number, date of purchase and dealers name and address when calling.
- 2) Contact Sonance directly at (800) 582-0772 or(949) 492-7777, or at www.sonance.com
- 3) If you are returning the product directly to Sonance call us to obtain a return authorization number before shipping. **YOU MUST HAVE PRIOR AUTHORIZATION TO RETURN YOUR UNIT!**
- 4) The original packaging must be used. If the original packaging is not available, replacements can be obtained from Sonance for a small fee.
- 5) Ship the product via United Parcel Service, Federal Express, or RPS. Please do not use the U.S. Mail service.
- 6) Write the return authorization number on the outside of the box.
- 7) Ship to: Attn: Technical Assistance Department
 Sonance
 212 Ave Fabricante
 San Clemente, CA 92672-7531
- 8) **FREIGHT COLLECT SHIPMENTS WILL BE REFUSED !**

WARRANTY COVERAGE (U.S. ONLY)

If, within five (5) years from the date shown on the bill of sale, the unit fails, due to a defect in workmanship or material, Sonance will, at its option and at no charge, repair or replace the components of such unit which prove to be defective. For this warranty to be effective, the bill of sale must show that the unit was purchased from an "Authorized Sonance Dealer" and must list the price paid. This warranty shall apply exclusively to the original purchaser and shall not apply to units purchased for industrial or commercial use.

Furthermore, this warranty shall not apply if:

- 1) Damage to the unit was caused by accident, abuse, or misuse;
- 2) The unit was opened, modified, or repaired by unauthorized personnel; or
- 3) The unit was not used as outlined in the operating instructions.

EXCLUSIONS AND LIMITATIONS

The warranty set forth above is in lieu of all other warranties, express or implied, of merchantability, fitness for a particular purpose, or otherwise. The warranty is limited to Sonance products registered herein and specifically excludes any damage to loudspeakers and other allied or associated equipment which may result for any reason from use with this product. Sonance shall, in no event, be liable for incidental or consequential damages arising from any breach of this warranty or otherwise. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

Declaration of Conformity



We, Sonance
212 Avenida Fabricante
San Clemente, CA 92672-7531
U.S.A.

declare in own responsibility, that the product described in this owner's manual is in compliance with technical standards:

EN 50082-1:1992
EN 55013:1993
EN 50020:1994

Chip Brown
Sonance
San Clemente, CA U.S.A.

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