



SW-650 In Wall
Architectural
Loudspeaker



SC-650 In Ceiling
Architectural
Loudspeaker

SOLATM

S E R I E S

**High Performance
Architectural Loudspeakers**

Installation and User's Guide

Optimized For
ZON[®]
Whole House
Digital Audio

SOLA Series Architectural Speakers

Installation and User's Guide

©2006 Oxmoor Corporation, LLC.

Oxmoor, ZON, SOLA and Virtual Pointer are the trademarks and/or registered trademarks of Oxmoor Corporation, LLC. All other trademarks appearing in this document are the trademarks and/or registered trademarks of their respective owners.

Specifications and designs are subject to change without notice.

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 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. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the 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.



13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. 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.

Oxmoor Corporation, LLC

Customer Service: 1-800-262-6898

Outside the United States: 1-205-982-8200

Internet Address: <http://www.zonaudio.com>

About Your New SOLA Series Loudspeakers

Your new SOLA series architectural loudspeakers are engineered to provide audiophile-quality sound while blending in with your home's decor. Additionally, if you are installing SOLA loudspeakers in conjunction with a ZON whole house audio system, your new speakers are optimized for use with all ZON Audio Controller/Amplifiers.

Round-shaped architectural loudspeakers are commonly called "in-ceiling" speakers. The SOLA SC-650 loudspeaker is designed to blend in with typical ceiling fixtures such as recessed lighting cans, fire protection devices, ceiling fans, etc. Your SOLA SC-650 has a coaxial design. The high frequency driver - tweeter - is placed in the middle of the woofer. This design allows the speaker to deliver uniform sound from above the listening area.

Rectangle-shaped architectural loudspeakers are commonly called "in-wall" speakers. The SOLA SW-650 loudspeaker is designed to blend in with other square-shaped in wall fixtures (HVAC registers, window frames, etc.). Your SOLA SW-650 has a tweeter and woofer that are separate from each other, so that the speaker can deliver uniform sound from the sides of the listening area.

Both SOLA in-ceiling and in-wall speakers have aimable tweeters so that the high frequency portion of the sound can be aimed toward your listening position. See page 6 for instructions.

■ **Where to Place Your Speakers**

Placement can make all the difference in how your SOLA speakers sound. When deciding where to place your speakers, think of how you intend to use the speakers, think of places that they can be installed, and also consider where speaker wires can be run.

When creating a critical-listening environment, speakers should be placed at an equal distance from the listener and along a common wall or plane. If you intend to use the speakers in a background listening environment, or where the speakers are to be installed with widely varying positions, placement can be wherever convenient, but stereo imaging may be lost in this case.

Minimum construction requirements for your SOLA speakers are drywall or other mounting surfaces that are at least 3/8 inches thick. You should avoid mounting your SOLA speakers in drop-in ceiling tiles and in other low-density materials. Over time, these materials may not be strong enough to carry the weight of the speaker and may vibrate audibly. Should you need to mount your speakers in a drop-in ceiling, replace the ceiling tile with at least 1/2" plywood or MDF.

SOLA series loudspeakers are not magnetically shielded. Do not locate these speakers closer than 1" from a television or video monitor.

When considering speaker wire, a minimum of 16 gauge wire should be used. Also, you should comply with all building codes in your area.

■ **Tools You will Need**

- #2 Phillips Screwdriver
- Level
- Saw (appropriate for the material(s) you will be cutting)
- Wire Stripper

Painting Your SOLA Series Loudspeakers

Your SOLA series loudspeakers can be painted to match your decor or other decorating needs. The materials used to construct the SOLA loudspeakers are coated with durable finishes that, when left unpainted, provide many years of quality appearance. However, if you desire to change the color of the speakers, these same finishes are “ready for paint”.

We recommend that you paint the speaker frames and grilles before installation. You can use most types of paint, but care should be taken to avoid excessive paint build-up in the grille perforations. To make your job easier, spray painting is highly recommended.

Your SOLA speaker grilles feature a fabric scrim cloth. The scrim cloths must be carefully removed from grilles before painting.

■ **Preparing to Paint**

1. Locate and use the paint masks that were included in the loudspeaker packaging.
2. Carefully remove the speaker grilles. Hooking the grille with the end of a small paperclip, then pulling gently away from the frame is an easy method of removing the grille. Also, you can push the self-mounting clamp screws forward to push the grille off the speaker from the inside.
3. Install the paint masks. If you don't have the paint masks, use paper and masking tape to completely protect the front of the speaker.
4. When painting the frame, apply paint to the exposed (unmasked) parts. Use two or more thin coats. Again, spray painting is ideal for creating a professional look and obtaining uniform coverage.
5. When painting the grilles, remove any fabric scrim materials from the inside of the grille. Carefully peel the material away from the grille, and place the fabric on a clean, flat surface, making sure that the fabric does not get soiled or wrinkled.
6. Take care not to fill the grille perforations with paint. You should use two or more thin coats. Spray painting is highly recommended for painting grilles, as this will help to minimize clogged perforations, and will give your speakers a professional appearance.

When the parts are completely dry, you should be ready for installation. Replace all fabric scrim material used on the grilles. Also, remove the paint masks. It's recommended that you retain the paint masks and have them handy for future use.

Here are some common mistakes that you should avoid:

- Using too much paint, especially on grilles (where grille perforations become clogged)
- Failure to remove the fabric scrim before painting grilles
- Forgetting to re-install the fabric scrim on the grilles before installation
- Failure to remove the paint shield before installing grilles

Installation

If you intend to install your SOLA series loudspeakers yourself, we recommend that you have a working knowledge and skills in the proper use of hand and power tools. Additionally, you should have a thorough understanding of local building and fire codes, as well as be well versed with the area behind the ceiling or wall into which you plan to install your speakers.

It is highly recommended that you install the speaker wires before installing the loudspeakers. The wire that you use must meet all appropriate building and fire codes. If you are in doubt as to what type of wire to use, or how to properly install the speaker wiring according to the appropriate building and fire codes, we recommend that you consult a local professional for assistance.

■ Steps for Installation in New Construction

If you are installing SOLA series loudspeakers during new construction, it is recommended that you purchase and install the SOLA Pre-Construction Brackets. These brackets allow you to “locate” the speaker’s installation point, provide a handy place to protect your wiring during wall construction, and will provide a suitable mud-ring during the wall finishing.

The pre-construction brackets consist of three parts: a main mounting ring and two mounting wings. Mounting wings connect to the main ring (or rectangle), and will allow you to locate the main ring between studs, joists or other framework. The pre-construction bracket is attached with screws or nails directly to studs, joists or other framework.

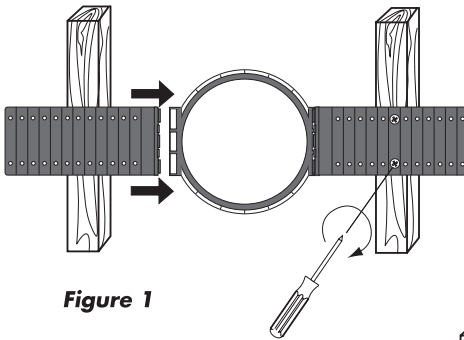


Figure 1

Figure 1 illustrates the use of the round, or in-ceiling pre-construction bracket. Figure 2 shows the use of the rectangle, or in-wall pre-construction bracket.

In each case, the bracket wings are snapped to the main bracket, and then the whole assembly is permanently installed to studs, joists or other framework. The use of screws is highly recommended for installing the bracket to the framework.

When installing brackets vertically (e.g., between wall studs) make sure that your brackets are level.

After installing the brackets, secure your speaker wiring so that it will not be damaged during wall construction, and so that you can access the wiring during loudspeaker installation.

The speakers are installed after the walls have been constructed and finished. See page 5 for speaker installation.

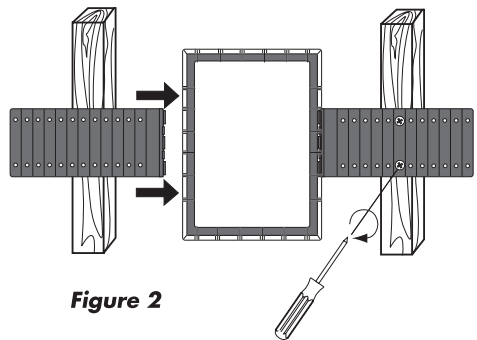


Figure 2

■ **Steps for Installation in Existing Construction**

If you are installing SOLA series loudspeakers in existing construction (or after wall materials have been installed), you will not need pre-construction brackets, just a rough opening and access to your speaker wires. To make your installation easier, follow these steps:

1. Make certain that the material into which you plan to install the speakers can support the weight of the speakers. Consult the specifications page for the weight of your model. Minimum requirements are drywall or other high-density material that is at least 3/8" thick.
2. Make sure that the locations you select do not conceal studs, plumbing, electrical wiring or other obstructions. Pay attention to clearances around adjacent fixtures, door/window frames, corners, beams, etc. You should allow at least 1 1/2" clearance around the cutout.
3. Using the appropriate template (provided in the speaker packaging), trace the installation location with a pencil. This is best done by holding the template in the preferred location and tracing around the outside edge. When using the rectangle mounting template on a wall surface, make certain that the template is level and plumb. The traced area of the templates provides the exact cutout size.
4. Carefully cut the hole with a material-appropriate cutting tool. You may find that using a drill to make a starter hole increases the ease of cutting. Follow your tracing carefully.

■ **Installing the Speaker**

Once you cut your hole, or if you have a finished hole after using a pre-construction bracket, fish your previously installed speaker wire out of the hold and connect to the speaker. Strip about 1/2" of the insulation from each of the two conductors to expose the bare metal. Make certain to follow the proper polarity (+ to + and - to -). Connect each of the two wires to the appropriate terminal on the speaker. Check that the wire is firmly in place, and will not fall out of the terminal.

To install the speaker, first remove the grille. Refer to the grille removal instructions on page 3 if needed. You should never use a knife or screwdriver to pry between the grille and speaker frame.

Loosen the rotating wall clamps by unscrewing them. Make certain that the rotating wall clamps are positioned inward so that the speaker fits into your rough opening with ease. If the rotating wall clamps are not positioned correctly, forcing the speaker into the rough opening can cause damage to your wall and/or ceiling (cracking or breaking the wall material) and may also damage your speaker. Carefully place the speaker into the rough opening and check that the speaker is straight, level, plumb and will sit flush against the wall or ceiling material.

If you plan to install your SOLA series loudspeaker where water may come in direct contact, it is advisable that you use a silicone sealant or caulk between the frame of the speaker and the wall/ceiling surface. This seal should prevent water from getting behind the loudspeaker and possibly damaging the wall surface. Do not position the speaker where water can pool on the surface of the woofer or tweeter dome, as this will greatly decrease the speaker's useful life.

Tighten the rotating clamp screws with a screwdriver. This will rotate the clamps outward then down to clamp the speaker to the wall/ceiling material. If you use a powered screwdriver, it is highly recommended that you use one with an adjustable torque setting, and have the torque setting modestly low at the start, then increase the torque setting gradually so that you don't over-drive the mounting screws. Over-tightening the mounting screws will damage your loudspeaker.

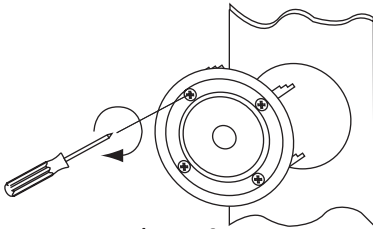


Figure 3

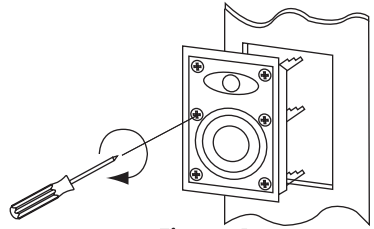


Figure 4

Refer to Figures 3 and 4 above for a simplified illustration of the speaker installation.

■ **Adjusting (Aiming) the Tweeter**

Aiming the tweeter toward your targeted listening area greatly improves imaging and detail.

When using the SOLA series architectural loudspeaker with a ZON Audio Controller/Amplifier, or as front/main speakers in a home theater speaker system, aim the tweeter toward your listening position. When using SOLA for surround speakers, or in a background environment, aim the tweeter toward the nearest reflective surface (adjacent wall or ceiling). This will create a more diffuse sound field. Fine adjustments between direct and diffuse can provide you with just the right balance for your listening needs.

To adjust the tweeter follow these simple steps:

- Hold the edges of the tweeter carefully between the thumbs and forefingers of both hands.
- Rock the tweeter slightly to aim it.
- Avoid touching the titanium dome.

When adjusting the tweeter on the SOLA SC-650 in-ceiling speaker, do not turn the tweeter like a door knob. Doing so will cause damage to your speaker.

SOLA Series Architectural Loudspeaker Specifications

	SOLA SW-650	SOLA SC-650
Speaker Type	Two-way in-wall	Two-way coaxial in-ceiling
Frequency Response	30 Hz - 20 kHz	30 Hz - 20 kHz
Recommended Power	5 - 100 w (RMS)	5 - 100 w (RMS)
Impedance	8 Ohms (Nominal)	8 Ohms (Nominal)
Efficiency (dB 1w/1m)	89 dB	89 dB
Woofer	6.5" Moisture Resistant Polypropylene with Resilient Polyurethane Edge and Dust Cap	6.5" Moisture Resistant Polypropylene Resilient Polyurethane Edge
Tweeter	3/4" Titanium Eyeball	3/4" Titanium Eyeball
Crossover	12 dB	12 dB
Grille	Powder Coated Aluminum With Scrim Cloth	Powder Coated Aluminum With Scrim Cloth
Overall Dimensions	8 5/8" x 12"	9" Diameter
Cutout Dimensions	7 3/8" x 10 7/8"	7 5/8" Diameter
Depth with 1/2" drywall	2 7/16"	2 3/8"
Shipping Weight (pair)	7 1/2 pounds	5 1/2 pounds
RoHOS Compliant	Yes	Yes
CE	Yes	Yes
Included Accessories	Plastic Paint Shield Mounting Template	Plastic Paint Shield Mounting Template
Optional Hardware	RIK-650W Pre-Construction Bracket (Pair)	RIK-650C Pre-Construction Bracket (Pair)
Warranty	Limited, 5 Year	Limited, 5 Year

Specifications are all nominal, and are subject to change without notice.

We recommend ZON Whole House Digital Audio products for use with these products. For more information, please visit our website at www.zonaudio.com.

Warranty Information

ZON Whole House Digital Audio System - FIVE-YEAR LIMITED WARRANTY

Pursuant to the limitations herein, Oxmoor Corporation, LLC warrants that each Oxmoor loudspeaker product shall be free from defects in workmanship and materials and will, at its option, repair or replace any part of the product without charge, provided that the product is delivered to Oxmoor Corporation, LLC within five years of the date of original purchase from or delivery by an authorized Oxmoor dealer.

PRIOR AUTHORIZATION FROM OXMOOR CORPORATION, LLC IS REQUIRED BEFORE RETURNING GOODS.

To obtain warranty service call 1-800-262-6898 for a Return Authorization Number and shipping information.

Except as provided by applicable law, you assume the risk of loss or damage during transit and transportation and you are responsible for delivery or handling charges incurred in the transport of product(s) to the service location. Oxmoor Corporation, LLC will return repaired or replaced product under this limited warranty to you, with return transportation, delivery or handling charges prepaid.

If the product failure is not covered by this limited warranty, or if proof of purchase does not meet the terms of this limited warranty, Oxmoor will notify you and will request that you authorize the cost of repair and return shipping costs for the repair of products that are not covered by this limited warranty.

Oxmoor Corporation, LLC assumes no risk for damage or loss of any product in transit. Shipping insurance is your responsibility.

WHAT MUST YOU RETURN WITH THE PRODUCT TO GET WARRANTY SERVICE?

- Return the product properly packaged to prevent damage during shipment
- Include a description of the malfunction or difficulty
- Include "valid proof of purchase" (sales receipt) identifying the product purchased and the date of purchase; and
- Provide your name, correct shipping address, telephone number, e-mail address and other contact information.

WHAT IS NOT COVERED BY THIS LIMITED WARRANTY

- Product that has been subjected to misuse, accident, shipping damage, flood, lightning or other physical damage, improper installation, abnormal operation or handling, neglect, inundation, fire, water or other liquid intrusion; or
- Product that has been damaged due to repair, alteration, or modification by anyone other than an authorized service representative or Oxmoor Corporation, LLC; or
- Product to the extent that the problem experienced is caused by signal conditions, network reliability or cable or antenna systems; or
- Product to the extent that the problem is caused by use with non-Oxmoor electrical accessories; or
- Product whose warranty/quality stickers, product serial numbers, plates or electronic serial numbers have been removed, altered or rendered illegible; or
- Product returned without valid proof of purchase; or
- Charges for installation or set-up, adjustment of customer controls, and installation or repair of system outside the unit.
- Any damages occurring or alleged to have occurred as a consequence of the failure of any Oxmoor product or service.

OTHER LIMITATIONS

This warranty is the complete and exclusive agreement between you and Oxmoor Corporation, LLC. It supersedes all other written or oral communications related to this product. Oxmoor Corporation LLC provides no other warranties for this product. The warranty exclusively describes all of Oxmoor's responsibilities regarding the product. Except as expressly set forth in this limited Warranty, Oxmoor Corporation LLC makes no other warranties or conditions, express or implied, including any implied warranties of merchantability and/or fitness for a particular purpose. Oxmoor Corporation LLC expressly disclaims all warranties and conditions not stated in this limited warranty including any and all claims for consequential damages. No one is authorized to make modifications to this limited warranty, and you should not rely on any such modification. State Law Rights: This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

OXMOOR FACTORY SERVICE

For service information contact:

Oxmoor Corporation, LLC
Factory Service Department
309A Cahaba Valley Parkway North
Indian Springs, AL 35124 USA

Telephone: 1-205-982-8200
Fax: 1-205-982-8292

End User Notes

OXMOOR®

Oxmoor Corporation, LLC
309A Cahaba Valley Parkway North
Indian Springs, AL 35124 USA
Telephone: 205-982-8200
Fax: 205-982-8292
Internet: www.zonaudio.com