

S1.iw

3-Way In-Wall Speaker

Owner's Manual

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INTRODUCTION

Congratulations on your selection of the Induction Dynamics S1.iw in-wall loudspeaker. The S1.iw is engineered for smooth performance in any home theater situation.

The S1.iw incorporates exclusive, patented S4X™ crossover and driver-control technology, which makes possible virtually perfect integration of drivers which are ideal for their intended frequencies. S4X also provides greatly increased control over frequency response, phase, and impedance, resulting in superior performance and imaging. Because of S4X technology, any of Induction Dynamics' speakers can be used to build a custom home theater system. Your S1.iw can be combined with any of our main and surround speakers, be they in-wall, on-wall, or free-standing.

Your S1.iw incorporates a 6.5" Kevlar cone woofer with rubber surround and cast frame, 3" soft dome midrange, and a 1.125" inverted titanium dome tweeter.

The S1.iw is available in Rosewood Gloss, Black Satin, White Satin, and Black Gloss standard finishes. Custom paints and stains are also available. Grille fabric is available in 63 room-complementing colors.

WARNINGS:

WARNING! - SHOCK HAZARD

**WARNING! - DO NOT OPEN
NO USER SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED PERSONNEL**

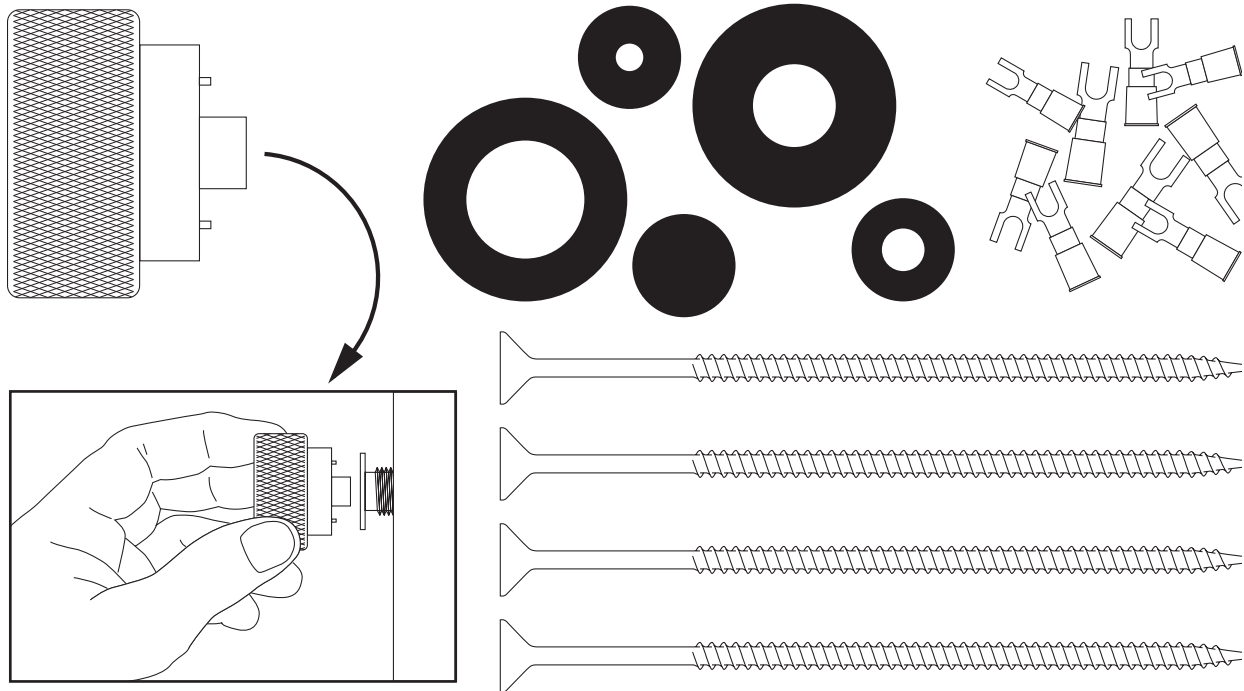
GENERAL INFORMATION

Please read these instructions thoroughly before attempting to install and operate the S1.iw.

Check Speaker and Parts

Unpack and carefully check each loudspeaker. If you suspect damage from transit, report the problem immediately to your dealer and/or delivery service. If possible, save the shipping cartons for future use.

Each S1.iw comes with a parts packet and mounting hole template. The parts packet contains a grille mounting flange driver, a selection of grommets with various hole sizes, four stud screws and a selection of #8 insulated fork terminals. Check to make sure you have all these items.



General Care of Your Loudspeaker

Whenever changing speaker wires, interconnect wires, or power cords, always turn off all equipment. To prevent fire or shock hazard, do not expose the amplifier to rain or excessive moisture.

Your speakers come in a high quality finish that is both attractive and durable. To clean, use a soft, damp cloth. If your drivers become dusty, dust them with a paintbrush or a brush vacuum attachment. Do not use a strong or abrasive cleaner.

The grille is covered in acoustic cloth. To keep your grille clear of debris, we recommend you use a lint roller (like you would use on clothes).

Bass and Loudness Contour Controls

Do not use bass or loudness contour controls. Induction Dynamics' subwoofers produce very low frequencies without these controls. Use of these controls will make the bass sound "boomy", obscure higher frequencies, and possibly cause damage to your speakers.

S1.iw Location

The S1.iw mounts between wall studs and should be placed in accordance with the speaker's application (mains, surrounds, or stereo speakers).

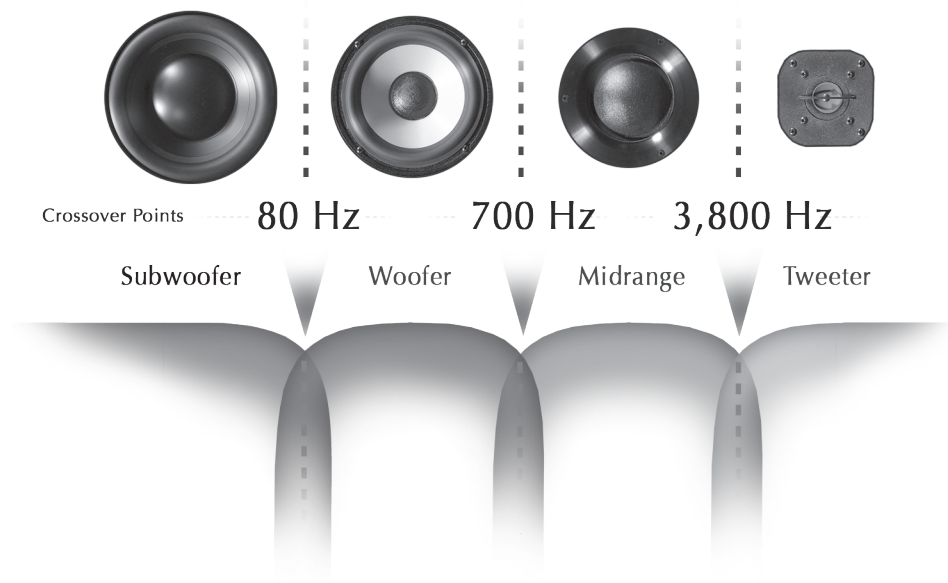
The height of the speaker should be determined by locating the tweeter near ear level. The tweeter reproduces high-frequency audio, which our ears perceive as most directional, so we are most attuned to their placement and level. As you make your decision, consider whether people will be standing or sitting in the listening area. The S1.iw may be mounted upside down (tweeter nearest floor) to achieve the proper tweeter level with the look of a higher mounted speaker.

SPEAKER INFORMATION

S4X™ Crossover

The heart of Induction Dynamics® is found in the S4X™ Super Fourth-Order Crossover. The patented S4X inductively couples crossover coils and optimizes each driver's performance, individually and interactively with the other drivers. This greatly increases control over driver range, frequency response, phase and impedance. Because S4X produces such a steep crossover slope and thus a flatter frequency response Induction Dynamics is able to use the best possible drivers for each range of frequencies, allowing us to sonically match every speaker in our lineup and to create speaker models able to perform in any combination and in any acoustic environment.

The S4X' optimized frequency response means music that moves dramatically up and down in pitch will never fade in or out, but rather maintain its power as it seamlessly crosses over from one driver to the next. It also means that frequencies critical to human speech (frequencies that deliver consonants like "S" and "C") will sound as natural coming from your speakers as they would in real life—making dialogue from movies and television sound crisp and clearly understood.



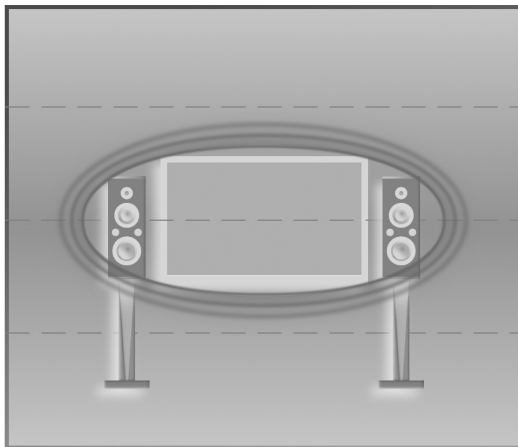
Above: The S4X crossover routes audio signal to their intended drivers at specific frequencies (700, 3,800 Hz). Because the S4X produces such a steep crossover slope, Induction Dynamics is able to use the best possible drivers for each frequency range. Subwoofer crossover points are generally selectable through your subwoofer amplifier. Induction Dynamics recommends a subwoofer crossover point between 50-60 Hz.

Wide Angle™ Phase Alignment

In each crossover region, which spans approximately one octave, the sound from two different drivers must be added together. This simple fact creates problems in most speakers, because the phase must be matched, not just on axis, but also off axis in order to create a large “sweet spot” for the listener. Most speakers’ drivers are only optimized on-axis, using measurements from a microphone placed at a single point in front of the speaker. This produces a horizontal zone in which the sound is optimized; however there may be drastic differences in sound quality along the vertical axis—meaning there may be a loss of sound quality if you stand up, sit, or otherwise move out of the optimized zone.

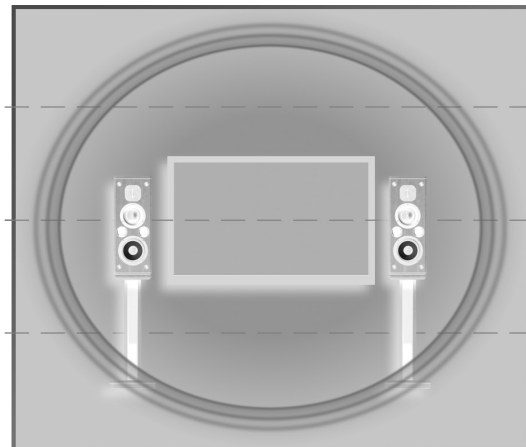
Induction Dynamics® eliminates phase differences with respect to height through our Wide Angle™ phase alignment technology. Because our patented circuitry provides additional variables that can help control phase, Wide Angle finds the one optimization solution that produces a flat frequency response along the vertical axis, when the microphone (or listener’s ear) is moved up and down vertically. This means you experience true audio perfection whether you’re standing, sitting, or lying down.

CONVENTIONAL SPEAKER SYSTEM



Most conventional speaker designs have a small and horizontally narrow “sweet spot” caused by inaccurate phase matching of the drivers. The best quality sound can be heard only within a very confined area. Outside of this area the sound quality can drastically decrease, becoming muddy or indistinct.

WIDE ANGLE™ PHASE ALIGNMENT



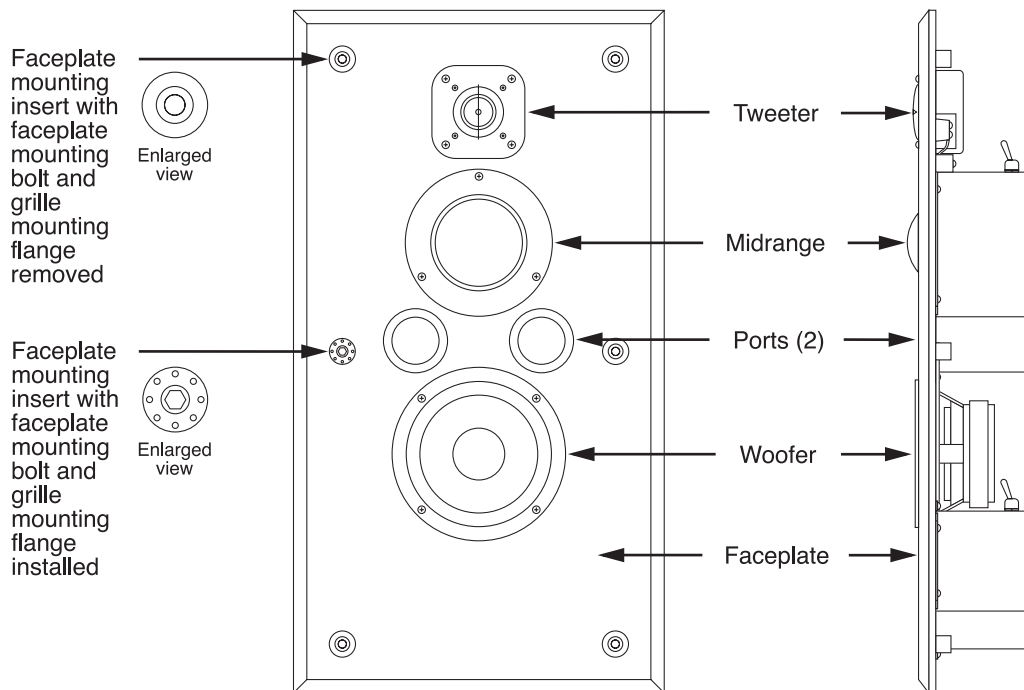
Patented Wide Angle™ Phase Alignment circuitry provides precise phase matching of the drivers, noticeably expanding the “sweet spot” both horizontally and vertically. Listeners are immersed in a large sound field and enjoy clear, undistorted sound regardless of their position relative to the speakers.

INSTALLATION

Speaker Wire

Use approved wire designed for in-wall or exposed use, as appropriate for your installation. For the S1.iw, we recommend using high-quality speaker wire that is 12 gauge or lower, with easily visible polarity coding to make your connections. The following chart identifies minimum gauge requirements for various lengths. See your local dealer or installation contractor for more information.

| WIRE LENGTHS / MINIMUM GAUGE REQUIREMENTS | |
|---|----------------------|
| Length (in feet) | AWG size & stranding |
| up to 18' | 14 gauge (19/27) |
| up to 29' | 12 gauge (65/30) |
| up to 51' | 10 gauge (105/30) |



S1.iw 3-way in-wall speaker
(configuration & components)

Tools and Materials You Will Need

Stud Finder
Pencil
Drill and assorted bits
Level
Drywall knife or keyhole saw
Hand saw
1/4" hex key or hex driver
#2 Square Drive Screwdriver
Slotted screwdriver
Speaker cable (fire rated)
Flashlight
Level

New Construction Installation

In new home construction, or with walls where drywall has not been applied, it is recommended that you wait until after the drywall application before installing the easy-mount boxes for the following reasons:

1. The installer gains the control to cut a neat and accurate hole, eliminating possible mistakes by drywallers.
2. Drywall around the hole is more likely to be flat. This is especially true if any mudding is done in the vicinity of the hole. The result is a cleaner final fit around the edges.
3. Possible shimming behind drywall can throw off depth calculations and final alignment of gasket with the face of the drywall. Drywallers sometimes shim to level out the wall where studs are out of line.
4. Mud and construction dust is kept from getting into the box.

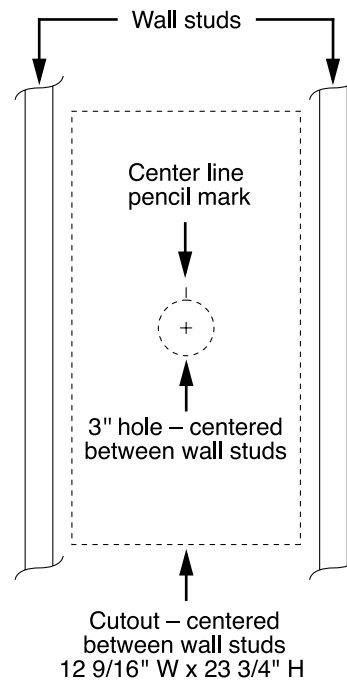
If circumstances require the easy-mount boxes to be installed prior to drywall, then be sure the gasket on the front of the boxes protrudes out from the edge of the wall studs by an amount equal to the thickness of the drywall plus 1/4". Alternatively, the outside back of the metal box should be 3 7/8" back from the finished drywall surface.

Check for Obstacles Inside Walls

Check the home's architectural blueprints to verify that your preferred mounting location is free from obstacles including extra wall studs, electrical wires, plumbing, and heating ducts.

Locating the Loudspeaker Mounting Holes

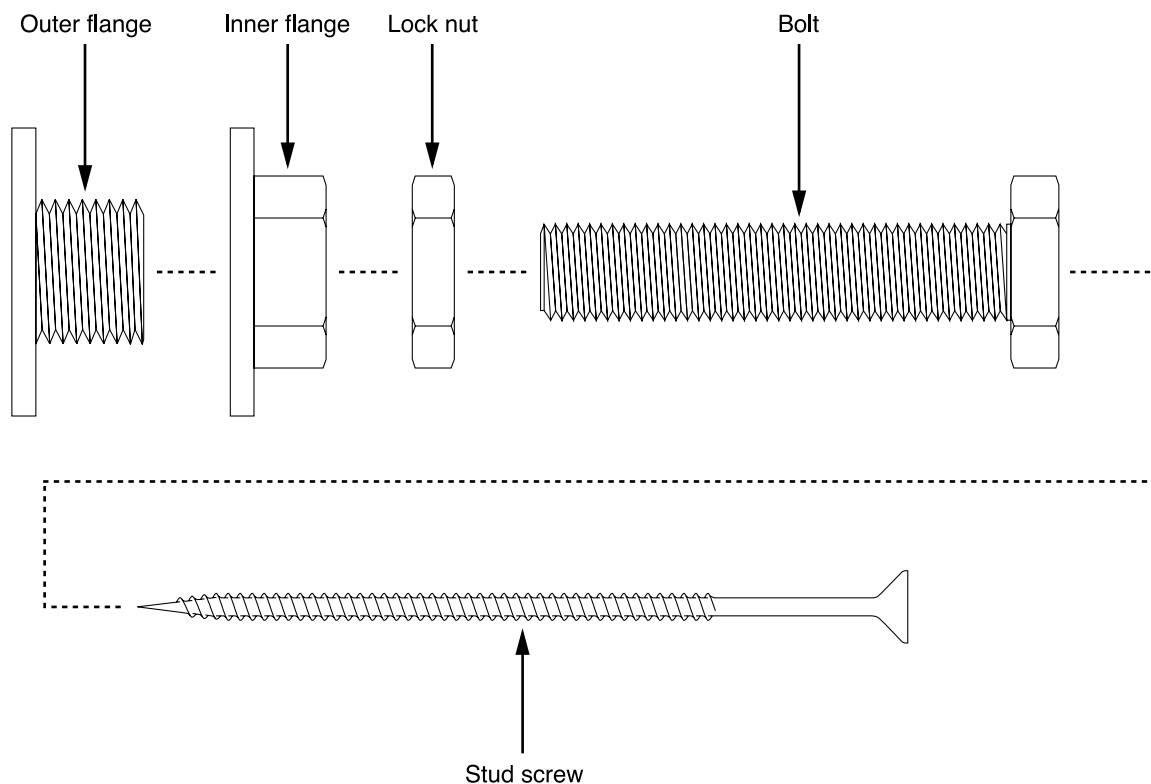
1. To find wall studs, use a stud finder. The S1.iw will mount between two studs and should be positioned so that the tweeter is at ear level.
2. When you've decided on a location, cut a 3" hole in the approximate center of the proposed cutout area. Measure the exact distances from the left and right wall studs from the inside of the wall, to establish the horizontal center line between the wall studs and mark this with a pencil.
3. Place the mounting hole template flush against the wall. The template should be centered between the wall studs, making sure that the left and right channels are the same height.
4. Using a drywall knife or keyhole saw, carefully cut along the drawn line and remove the cutout.
5. Before installing the easy-mount box into the walls, you will need to bring the speaker wire into the mounting hole. Be sure to leave plenty of extra wire coming into the mounting hole, especially if you are bringing in the wire from below since the speaker wire access holes are at the top of the easy mount box.

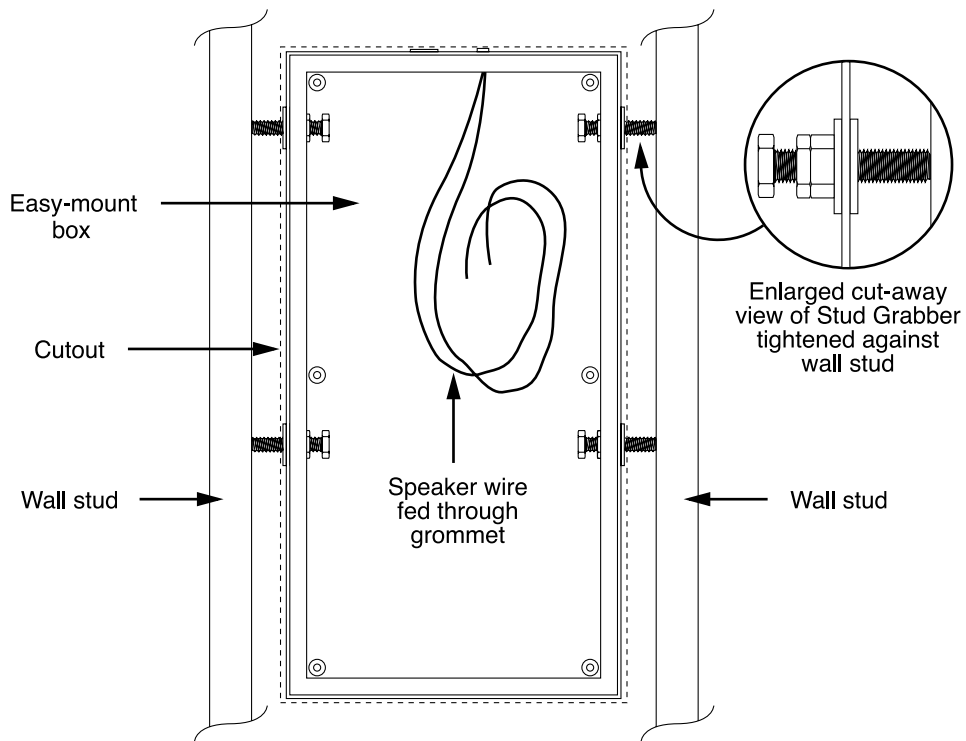
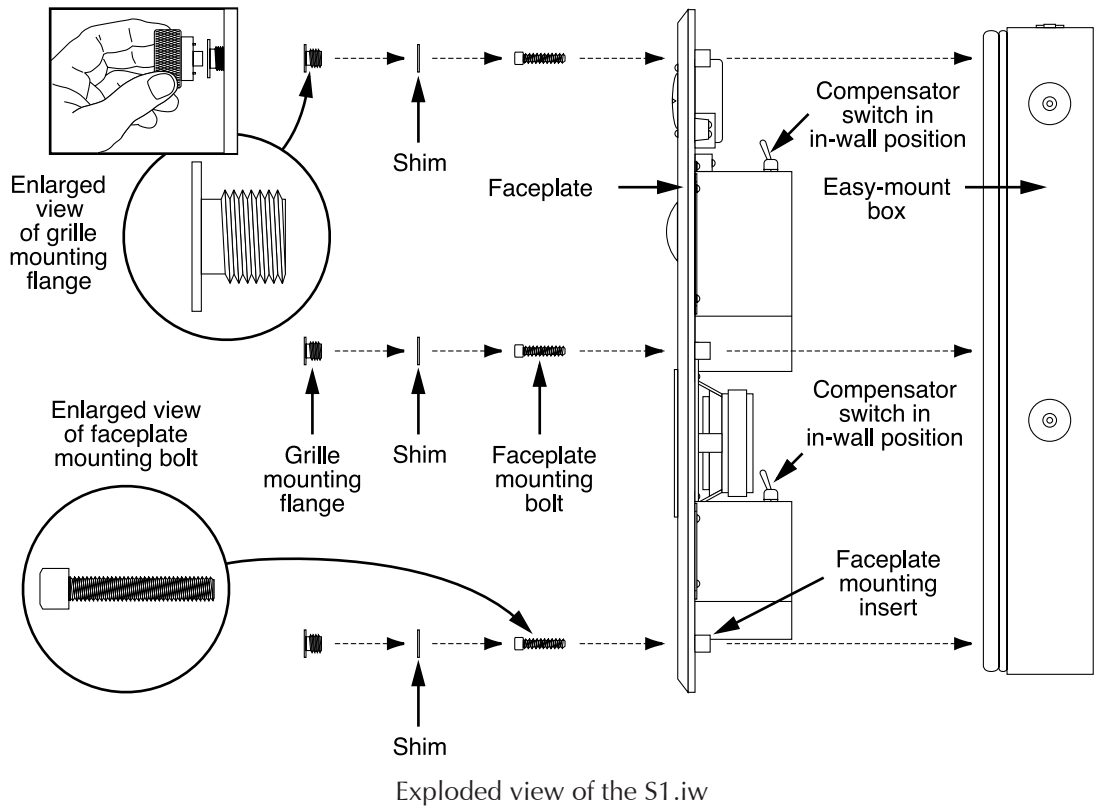


Installing the Easy-Mount Box Into the Wall

1. The S1.iw is shipped preassembled with the faceplate attached to the easy-mount box with bolts. In order to install the S1.iw easy-mount box into the wall, you will first need to separate the faceplate from the box. First, remove the grille mounting flanges, using the grille mounting flange driver. Note that there may be shims under some of the grille mounting flanges. You will need to save these shims to use when you reinstall the faceplate. Then unscrew the faceplate mounting bolts using a 1/4" hex key or driver. You will later reattach the faceplate with these same faceplate mounting bolts. See illustration on page 11 for an exploded view.

2. There are two speaker wire access holes located at the top of the easy-mount box. The box comes with a solid grommet preinstalled in the large hole and a small size grommet preinstalled in the smaller hole. The grommet hole size you will need depends on the size of the wire you are putting through the hole. In the parts pouch you will find a selection of large and small grommets that have holes through them of various sizes. Use a grommet of the appropriate size to get a snug fit around the speaker wire where it enters the box. Put a solid grommet in the other hole. Make sure there is enough extra speaker wire feeding into the box for easy handling of the loudspeaker faceplate.
3. Place the easy-mount box into the mounting hole.
4. Snug the Stud Grabber™ bolts against the left and right wall studs just enough to cause the easy-mount box to be suspended in the cutout opening. Do not overtighten these bolts to avoid distorting the studs or box. Make all necessary adjustments to level and position the easy-mount box in the wall. The preferred method is a small level held against the inner side of the easy-mount box to make sure it is perfectly vertical. Upon completion, the box should be level and centered in the cutout opening with the box gasket protruding 1/4" out from the drywall surface.
5. Tighten the Stud Grabber lock nuts with a wrench.
6. Place the 4" stud screws into the hole in the inside of the Stud Grabber bolts. Carefully pound them in about 1/4" with a hammer to get the threads started. Tighten each of the screws with a #2 square head screwdriver until the screws are snug.





Installing the Faceplate

While installing the faceplate, we recommend that an assistant help hold the faceplate. Be careful working with the assembly that you don't damage any of the speaker components. If the 3" soft dome midrange gets dented in, you can work it back out with your fingertips or use a vacuum cleaner to suck it out.

1. Hold the speaker faceplate up to the wall opening and attach the speaker wire to the terminal block on the back of the faceplate, observing the proper polarity. To make the connections to the terminal block, solder or crimp with high pressure the insulated fork terminals provided in your parts packet. Soldering is best. For in-wall use make sure the compensator switch is in the proper position.
2. Position the speaker faceplate over the easy-mount box. Gently move it around from side to side and up and down until the rubber gasket slides around the faceplate mounting inserts. Screw in the faceplate mounting bolts, gently tightening each one a little at a time, until the faceplate is approximately 1/32" from the drywall all around. **DO NOT TIGHTEN THE BOLTS ANY FURTHER.** The faceplate should not contact the drywall. This avoids any vibration or distortion of the drywall.
3. Install the grille mounting flanges that came in the parts packet using the grille mounting flange driver. Any shims that were removed should be replaced back under the grille mounting flanges to make them level with the faceplate. The grille mounting flanges should be used even if the grilles are not, as this gives the loudspeakers a finished appearance.
4. Attach the cloth grille by carefully pressing it into the grille mounting flanges.

Connecting to an Amplifier

1. Be sure the amplifier is turned off to avoid damage to the speakers.
2. Connect the speaker wires to the speaker outputs on your amplifier. Observe proper polarity (red to red and black to black).
3. Make sure each speaker is connected to the correct amplifier output (e.g. left front loudspeaker to left front output).

S1.IW SPECIFICATIONS

| | |
|-----------------------------------|--|
| Type: | 3-way in-wall loudspeaker. |
| Crossover: | Exclusive patented S4X Driver Control Technology. |
| Crossover Frequencies: | 700, 3,800 Hz |
| Nominal Impedance: | 8 Ohms |
| Frequency Response: | 55-22,000 Hz |
| Sensitivity (2.83 V @ 1M): | 90 dB |
| SPL (1 W / 1 M): | 90 dB |
| Power Handling: | 150 W |
| Magnetic Shielding: | No |
| Tweeter: | 1.125" inverted titanium dome |
| Midrange: | 3" soft dome |
| Woofers: | 6.5" Kevlar cone with rubber surround and cast frame |
| Subwoofer: | N/A |
| Binding Posts: | Nickel-plated; #8 AWG Max |
| Enclosure: | Ported |
| Optional Accessories: | N/A |

WARRANTY

Induction Dynamics, Inc. warrants the S1.iw against defects in materials and workmanship for a period of seven years from the date of original retail purchase. Induction Dynamics, Inc. will repair or replace any S1.iw that does not meet this warranty.

This warranty may be registered by mailing a copy of the retail sales receipt to Induction Dynamics, Inc. at the address below. Please write the serial number along with the name and address of the retailer from whom you purchased the speaker(s) and/or amplifier(s). This may be done at the time of purchase or before requesting repair service under this warranty.

To obtain repair service, call or write to Induction Dynamics, Inc. at the phone number or address below. You will be given a return authorization number. Please mark this number clearly on the outside of the package(s) for identification. Packages that are not marked with a return authorization number on the outside may not be accepted by Induction Dynamics, Inc. Please pack each S1.iw in a substantial shipping container with plenty of protective foam. If possible, use the original shipping container and packing material. For repairs covered by and performed under this warranty, Induction Dynamics, Inc. will pay for the return shipping charges. This warranty covers defects in materials and workmanship, and does not cover damage or failure resulting from accident, misuse, or shipment. The warranty is void if the S1.iw is serviced or altered by anyone other than Induction Dynamics, Inc. the sole remedy for breach of this warranty shall be repair or replacement.

Limits and Exclusions: There are no warranties except as mentioned above. Neither Induction Dynamics, Inc. nor anyone else who has been involved in the creation, production, or sale of this product shall be liable for any direct, indirect, consequential or accidental damages arising out of the use or inability to use this product, or arising out of breach of this warranty. Induction Dynamics, Inc. makes no other warranties, express or implied, including without limitation warranties of merchantability or fitness for a particular purpose. There are no warranties that extend beyond the description on the face hereof.

Induction Dynamics
Customer Service Department
8005 W. 110th St., Suite 208
Overland Park, KS 66210
USA

Phone: 855.663.5600
Fax: 913.663.3200

CONTACTS

Manufacturer Information

If you have any questions, contact Induction Dynamics by phone at 855-663-5600, 8:00 a.m.- 5:00 p.m. CST, fax at 913-663-3200, email at sales@inductiondynamics.com, or write to:

Induction Dynamics
Customer Service Department
8005 W. 110th St., Suite 208
Overland Park, KS 66210
USA

Note: Please do not ship your loudspeaker for service without obtaining prior approval and return authorization number. See warranty for further information.

Retailer Information

To help simplify your record keeping, please fill out the following information about the retailer you bought your Induction Dynamics products from. Additionally, you may staple, tape, or glue a copy of your receipt to the next page.

Retailer name (company or individual): _____

Address: _____

City: _____

State: _____

Zip or Postal code: _____

Phone: _____

Email: _____

Date of purchase: _____

Serial number: _____

To simplify your record keeping,
please glue, staple, or tape your receipt
to this page.

Audio Perfection Realized



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