

SYNTHESIS[®]

JBL

SYNTHESIS[®] FOUR
S4VC, S4HC
& S4Ai
FLUSH-MOUNT
LOUDSPEAKERS

OWNER'S AND INSTALLER'S
MANUAL

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INTRODUCTION

Thank you for purchasing JBL Synthesis® Four flush-mount home theater loudspeakers. These products represent the synthesis of everything that JBL, Inc., has learned about the emotional power of audio and video in more than sixty years of preeminence in the field. They set new benchmarks in the use of “high technology” and provide you with the experience of being in the world’s greatest movie houses and concert halls – right at home! JBL Synthesis Four speaker systems feature the following:

THX™ ULTRA2™-LICENSED HOME AUDIO SYSTEM: When used with a THX® controller and amplifiers, your speaker system will deliver a state-of-the-art THX home theater experience to your living room. You will hear in your home exactly what the director and sound engineer heard in the recording studio. The system will reproduce the audio flawlessly and without distortion.

FLUSH-MOUNT APPEARANCE: The S4Ai, S4VC and S4HC are designed to fit flush to your wall surface. Designers and interior decorators will be pleased by their hidden appearance and stunning performance.

PURE-TITANIUM, HIGH-FREQUENCY TRANSDUCER DOME: The pure-titanium diaphragms with neodymium magnet structures are ultralight to accurately reproduce lightning-fast sounds – such as cymbal crashes – yet extremely rigid to eliminate distortion and ear fatigue.

ELLIPTICAL OBLATE SPHEROIDAL™ (EOS) WAVEGUIDE: First developed for our JBL® Professional LSR studio monitors, this unique structure enables Synthesis Four Series speakers to evenly disperse high frequencies, creating precise imaging over a wide listening area.

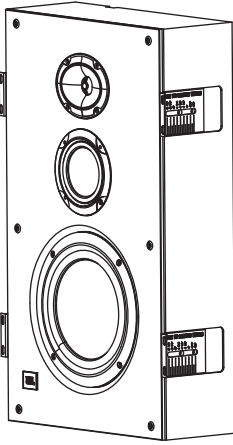
PURE-TITANIUM, INVERTED-DOME, MIDRANGE TRANSDUCERS (S4VC, S4HC): The midrange drivers seamlessly complement the titanium-dome tweeter and offer nearly perfect piston motion, which eliminates the uncontrollable flexing found in conventional cones. The inverted dome is driven precisely at its center, which cancels resonances inherent in cone materials. The result is ruler-flat frequency response beyond the crossover point.

TITANIUM-ALLOY, INVERTED-DOME, LOW-FREQUENCY TRANSDUCERS (S4VC, S4HC): The low-frequency drivers deliver precise, undistorted bass reproduction that matches the titanium tweeter and midrange. The powerful neodymium magnet provides its own video shielding, allowing for flexible placement near video monitors. Cast-aluminum frames remain rigid even at the highest volumes, avoiding the distortion found in some other speaker designs. The aluminum doesn’t affect the magnetic field, so driver movement is precise.

COMMON VOICING: Synthesis Four speaker systems use common voicing across the front three channels. Since identical drivers are used, each speaker has the same tonal qualities; thus, as a sound is panned from one side to the other, there will be no change in timbre.

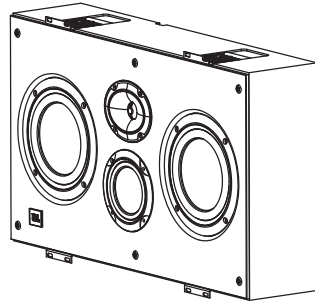
MAGNETIC SHIELDING: All front speakers are magnetically shielded, allowing you to place them near video monitors without generating interference or distorting the picture. (The S4Ai is not magnetically shielded.)

INCLUDED



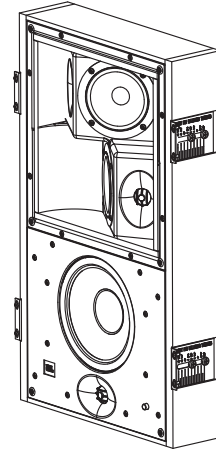
One S4VC vertical channel flush-mount loudspeaker

or

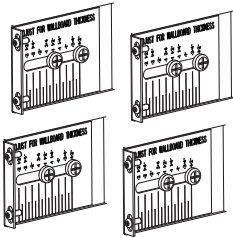


One S4HC horizontal channel flush-mount loudspeaker

or



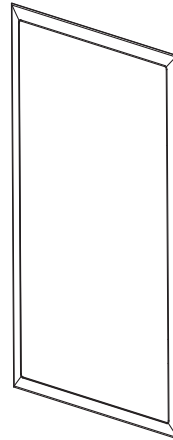
One S4Ai multipole ambient flush-mount loudspeaker



Four mounting L-brackets with eight 1/4-20 x 3/4" screws



Eight 8-32 x 1/2" screws for speaker installation



One grille with grille frame

SPEAKER PLACEMENT

Positioning your loudspeakers properly is critical in order to achieve the sonic performance of a home theater. Please read the following section for guidance in correct and optimal placement.

LEFT AND RIGHT SPEAKERS: If you have purchased a Synthesis Four digital home theater system, then the S4VC model will serve as your front left and right main speakers.

Since the left and right speakers have been designed for maximum localization of sound, they should be placed with the center of the speakers at about the same height on screen as the actors would be, to aid in the illusion that the actors' voices are coming directly from their on-screen images. Ideally, the speakers will be placed about 45 degrees apart from each other, viewed from the listening position, so that the distance between the speakers is the same as each speaker's distance from the listener (see Figure 1).

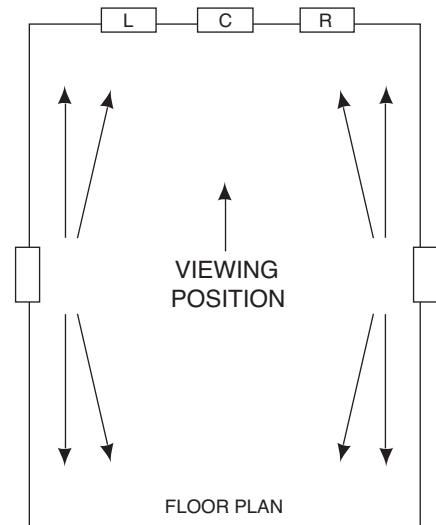


Figure 1. 5.1-Channel system

CENTER CHANNEL SPEAKERS

S4VC: If you have purchased the vertical channel speaker (model S4VC) for the center position, be sure to place it vertically during installation in order to take advantage of its sound-dispersion characteristics. If you mount it horizontally, it will not provide the correct dispersion pattern. If the speaker is being used with a perforated projection screen, it should be mounted behind the center of the screen (see Figure 2). If a nonperforated projection screen, plasma display or other fixed video device is being used in the installation, the preferred center speaker is the model S4HC (below).

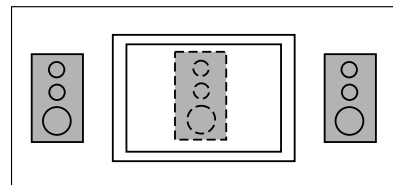


Figure 2.

S4HC: If you have purchased the horizontal channel speaker (model S4HC) for the center position, be sure to position it horizontally during installation in order to take advantage of its sound-dispersion characteristics. If you mount it vertically, it will not provide the correct dispersion pattern. Although the preferred speaker model to be used with a perforated projection screen is the vertical model S4VC (above), the S4HC horizontal speaker may be used instead and should be mounted behind the center of the screen. If a nonperforated projection screen, plasma display or other fixed video device is being used in the installation, then the recommended location is directly below and as close as possible to the video display (see Figure 3), although the inverse of this method will work also.

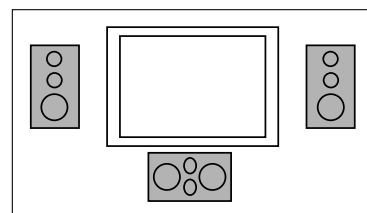


Figure 3.

SPEAKER PLACEMENT

NOTE:

It is extremely important to place the tweeter/mid-bass arrays for each of the center, left and right speakers at the same height. The EOS waveguide containing the tweeter in the center channel speaker should be no more than 2 feet higher or lower than those in the left and right speakers. This preserves the “localization integrity” of “sound pans,” in which the sound appears to move from left to center to right. If the program material also appears to travel up and down, it can destroy the illusion of panning effects and so should be avoided.

AMBIENT SURROUND SPEAKERS: Although it has been common for many years to use a number of surround speakers in commercial movie houses, until recently, the traditional home theater configuration called for 5.1 channels, i.e., front left, center, front right, surround left and surround right, plus a low-frequency-effects channel. The newer surround formats that are appearing in consumer audio equipment are calling for more complicated 6.1- and 7.1-channel systems. The advantages of using additional speakers are many. Additional channels enable a more versatile use of directionality for a more accurate surround presentation. Also, a higher overall sound-pressure level can be achieved with less energy expenditure from any individual speaker. Placement of the surround speakers remains critical.

5.1-CHANNEL SYSTEMS

The S4Ai multipole ambient surround speakers work optimally if they are placed as far back from the screen as the viewing chairs are. If there are two rows of chairs, these speakers should be placed between them.

The ambient surround speakers should be placed higher than the seating area, at least 2 feet above (seated) ear level (see Figure 4).

The preferred method to mount the ambient surrounds is to put them directly in the side walls. This lets each speaker radiate to the front and back of the room and to reflect off the side walls.

There are a few instances in which the ambient surrounds would perform better if mounted in the ceiling rather than the walls. If one or both of the walls are “acoustically dead,” due to the presence of windows, fabric, furniture or other absorption, it may be necessary to turn the ambient speakers sideways and, instead of mounting them in a vertical orientation, mount them in the ceiling in a horizontal orientation.

6.1-CHANNEL SYSTEMS

A 6.1-channel system can be thought of as a 5.1-channel system with the addition of a rear center speaker placed midway between the two surround speakers, and further to the rear than the surrounds. It should be placed at the same height as the side surround speakers (see Figure 5).

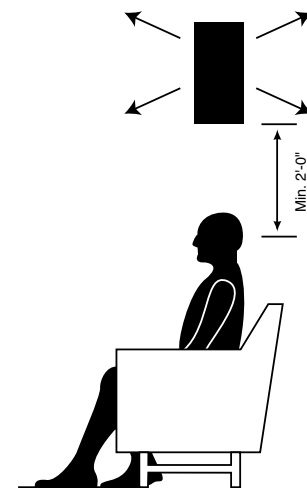


Figure 4.

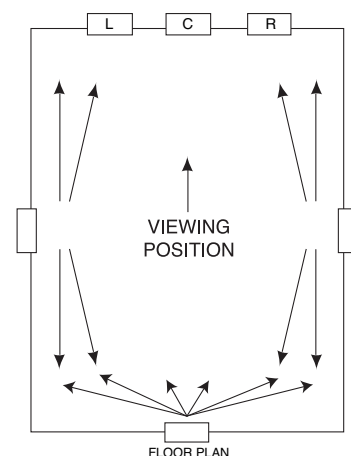


Figure 5. 6.1-Channel system

SPEAKER PLACEMENT

7.1-CHANNEL SYSTEMS

In a 7.1-channel system, two speakers are added for rear fill, in addition to the surround speakers in a 5.1-channel system. The two additional speakers are placed on the rear wall or near the rear wall in the ceiling (see Figure 6).

S4Ai MODES OF OPERATION

The S4Ai multipole ambient surround speakers feature the unique capability of being configured in any of three operational modes. Choose between Dipole or Bipole operation for cinema reproduction, and Direct Radiating operation for music. Both Dipole and Bipole modes are diffusive, meaning there is less energy on-axis than off-axis relative to the front of the speaker baffle. As Figure 7 indicates, the S4Ai's omni-directional woofer faces toward the listening area, while dual sets of tweeter/ midrange (diffuse) arrays face toward the front and rear or from side to side in the room. In Dipole mode the arrays play out of phase in relation to each other, and in Bipole mode they play in phase with each other.

NOTE: The recommended (and factory-default) mode of operation is Bipole mode. It is highly recommended that this be the mode of operation that is used. In this mode, the phase switch must be in the OUT position for the arrays to operate correctly. Please check for proper setup before finishing the installation.

To activate the Direct Radiating mode for music playback, use a 12-volt DC trigger to trigger the autoswitching relay in the loudspeakers. The input to the trigger connection is located at the bottom of the speaker, next to the speaker terminals (see Figure 8), and accepts two-conductor, #24 to #16 AWG wire. The relay is activated by a constant 12V/200mA DC signal.

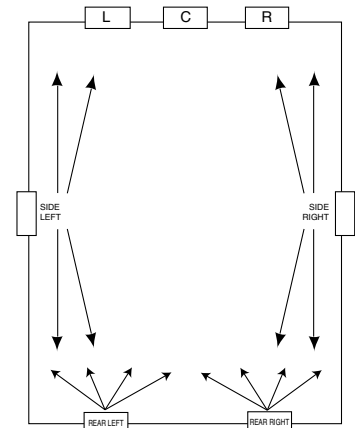


Figure 6. 7.1-Channel system

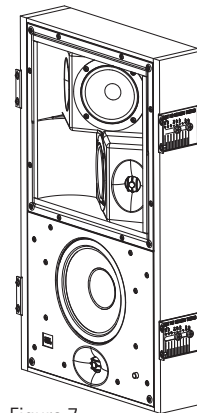


Figure 7.

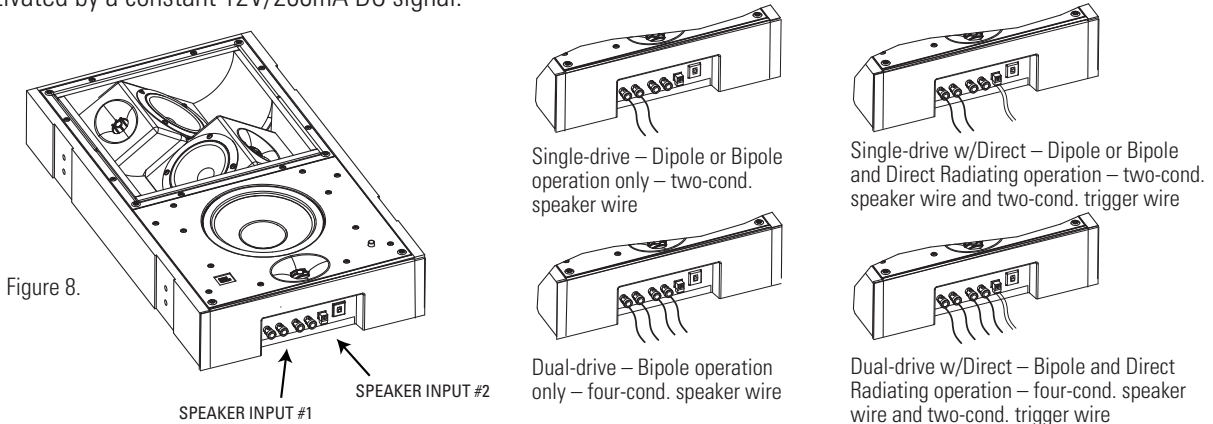


Figure 8.

S4Ai WIRING GUIDE

Each S4Ai speaker can be wired in Single- or Dual-Drive mode. The best performance can be obtained by installing four S4Ai speakers in a 7-channel system and wiring them in Single-Drive mode; that is one amplifier channel per S4Ai speaker. If only two S4Ai speakers can be used in a particular application, then they should be wired in Dual-Drive mode so as to gain the advantages of a 7-channel system. Each S4Ai speaker receives amplification from two channels – side and rear – which can only be accomplished in the Bipole mode.

SPEAKER PLACEMENT

WHICH DIFFUSE MODE IS THE RIGHT ONE FOR THE JOB?

BIPOLE MODE IS TYPICALLY USED WHEN:

RECOMMENDED (FACTORY-DEFAULT) MODE

- The speaker is located relatively far away from the listening position.
- Multiple side or rear speakers are being used in a large listening room.
- The speaker is mounted in a corner, at a 45-degree angle.

DIPOLE MODE IS TYPICALLY USED WHEN:

- The speaker is located relatively close to the listening position.
- Multiple side or rear speakers are being used in a small listening room.
- The speaker is mounted near, but not in, a corner and will be subject to negative reflections from nearby walls.
- The room is highly reflective.

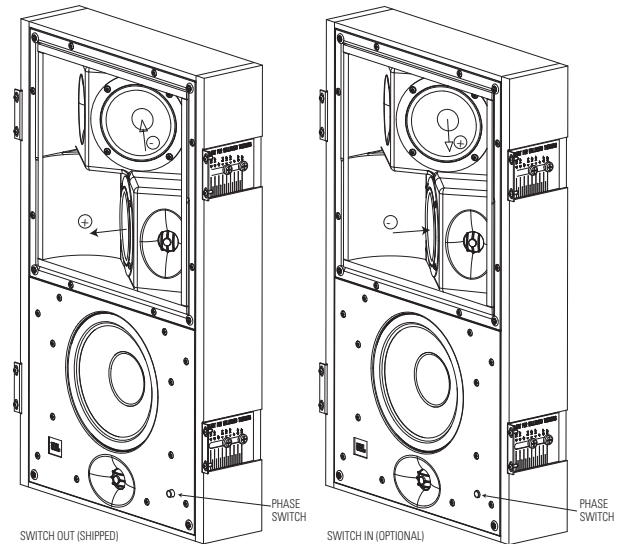


Figure 9. Dipole phase relationship

PREPARING THE S4Ai FOR THE CORRECT OPERATIONAL MODE

It will be necessary to choose which of the two diffuse modes to use at the time of installation. The S4Ai is shipped from the factory in the Bipole mode. This is the recommended mode of operation. If this is your choice and the speaker will be placed in the vertical orientation, no changes are required and the S4Ai can be directly installed into its permanent location. Make sure the Phase switch is in the OUT position or the Bipole mode will not function properly.

Setting the phase in relation to the other speakers in the room only applies when the S4Ai speakers are set in Dipole mode. If you choose to use the S4Ai in Dipole mode, the following information for proper phase relations between speakers will apply:

The S4Ai speakers are shipped from the factory with the Phase switch in the OUT position. In this position, the positive phase array is pointing toward the left as you face the speaker. That is, when positive voltage is applied to the cone, the cone will move outward. Usually, when the Dipole mode is used in a 5.1 system, the positive phase array should fire toward the front of the room. The array facing the rear of the room will have a negative orientation. That is, when positive voltage is applied to the cone, it will move inward, in the opposite direction of the other array on the speaker. As shipped from the factory, the S4Ai is set up for placement in the right-side wall in a 5.1-channel system. The speaker that will be placed in the left-side wall should have its Phase switch pushed in so that the positive phase array will be firing toward the front of the room when installed (see Figure 10).

SPEAKER PLACEMENT

In a 7.1-channel system, where two additional S4Ai speakers may be mounted in the rear wall, the positive phase arrays should both fire toward the center of the rear wall, as shown in Figure 11. Thus, the speaker on the left (from the perspective of someone seated in the listening position and facing the front) should be configured with its phase switch in the OUT position (as shipped), and the speaker on the right should be configured with its phase switch in the IN position. See the table on the right side.

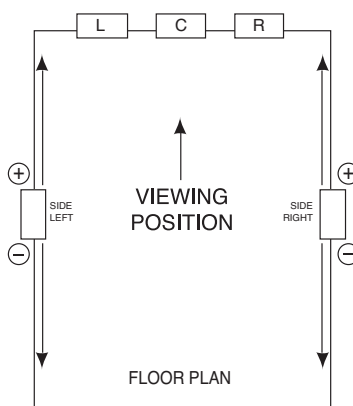


Figure 10. 5.1 System

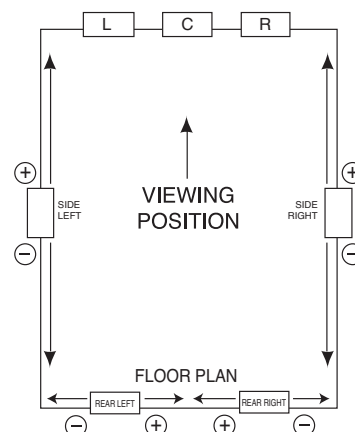


Figure 11. 7.1 System

To change the operational mode between Bipole and Dipole, move the switch to the Dipole-mode position (see Figure 12). The switch can be accessed from the back of the speaker, or from the front by removing the upper half of the baffle.

Phase Switch Setting in Dipole Mode

	5.1 System	7.1 System
Side Left	IN	IN
Side Right	OUT	OUT
Rear Left	N/A	OUT
Rear Right	N/A	IN

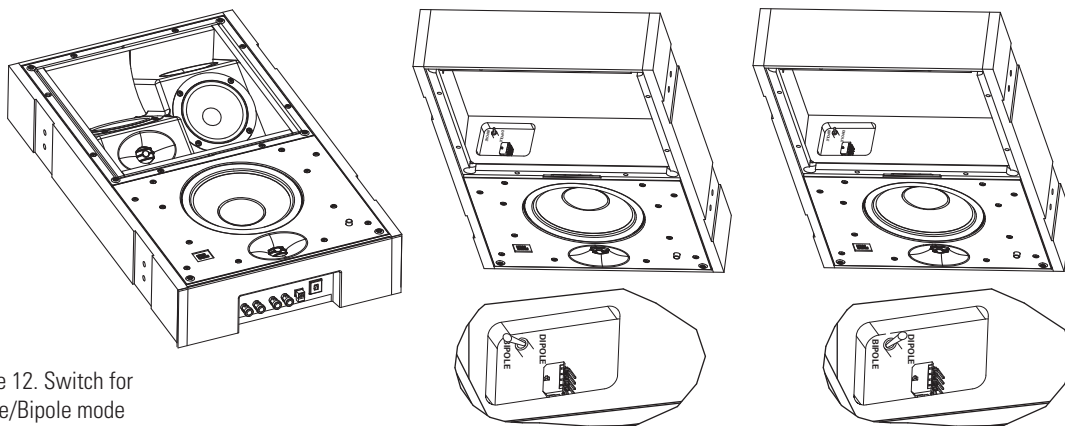


Figure 12. Switch for Dipole/Bipole mode

NOTE: For Bipole mode, the phase switch must be OUT or the S4Ai will not work properly.

S4Ai ORIENTATION – VERTICAL OR HORIZONTAL

The S4Ai's top baffle or "diffuse array" may be rotated 90 degrees clockwise so that the speakers can be placed in either vertical or horizontal orientation and still be able to produce the correct dispersion pattern. This may be necessary, for example, if the S4Ai is being installed in a ceiling and the joists are running from front to back in the room. In that situation, conventional in-wall side channels would be firing side to side rather than front to back. To correct this and produce the correct pattern, remove the eight retaining screws from the "diffuse array" and rotate 90 degrees so the dispersion pattern is correct in relation to the room and the other surround speakers in the system. If changing from the vertical to horizontal configuration, rotate the array clockwise. If changing from the horizontal to vertical configuration, rotate the array counterclockwise (see Figure 13). In both cases, take care not to damage the wiring, which will remain connected to either the Dipole or Bipole connector, as discussed above (see Figure 12).

SPEAKER PLACEMENT

S4Ai DUAL-DRIVE MODE

As the S4Ai has the capability of producing both side and rear fields from a single location in Bipole mode while dual-driven for cinema playback (see S4Ai Wiring Guide on page 7), some care must be taken when using the Direct Radiating mode with the autoswitching trigger for music playback.

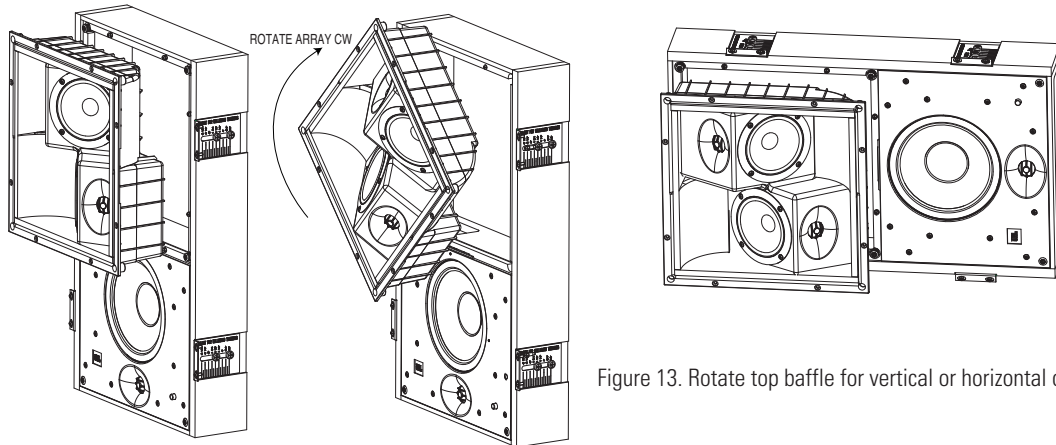


Figure 13. Rotate top baffle for vertical or horizontal orientation

Use Speaker Input #1 (see Figure 8) for the side field so that the direct-radiating tweeter for both speakers plays the correct information generated by the decoder. This can be accomplished by rotating the "diffuse array" 180 degrees from default so that the speakers mirror each other in the installation.

See Figure 13, which shows how to rotate the array, but note that for Dual-Drive mode you will need to rotate the array an additional 90 degrees from the position shown for a final position, in which the tweeter-midrange array that started out on top ends up on the bottom (and thus with the tweeter facing to the right rather than the left).

MOUNTING THE SPEAKERS

SPEAKER-MOUNTING OPTIONS

The S4VC, S4HC and S4Ai models all use the same mounting bracket. There are two models to choose from, based on the type of installation. In the case of new construction, choose the S4PCB preconstruction bracket. For retrofit installation, use the S4RFB. Both are sold separately. The speakers will fit into standard-construction 2" x 6" walls with 16" on-center studs. For horizontal mounting, cross-bracing is required; also at 16" on center. See separate instructions on mounting either S4PCB or S4RFB, included with the brackets.

The speakers are directly attached to the mounting L-brackets with hardware supplied in the speaker packing box, and can be adjusted for proper mounting depth with a variation of up to 2-1/2". The actual depth will vary depending on wall construction and acoustic materials applied to the wall surface (see Figure 14). To flush-mount the grille to the wall surface, the speaker must be recessed in the wall no more

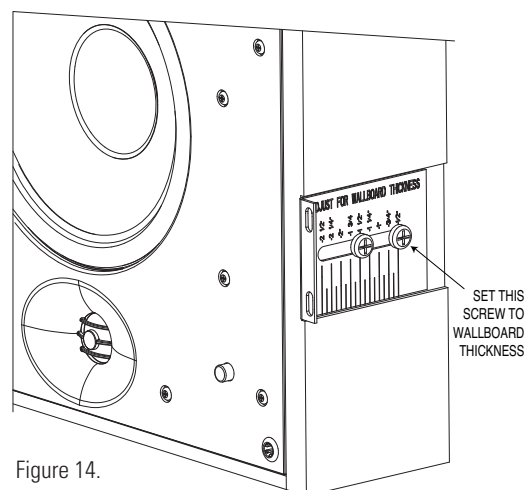


Figure 14.

MOUNTING THE SPEAKERS

than 1/4". The grille pins fit directly into the speaker cabinet via receiver bushings with 15 ft/lb of tension per pin. Use the marked speaker-depth-indicator flanges (attached to the sides of the speaker baffle) to appropriately adjust the depth from the wall surface so that the baffle is recessed 1/4". This will ensure that the grille will sit flush to the wall surface.

REQUIREMENTS FOR MOUNTING

OPTION 1 – NEW CONSTRUCTION: The S4PCB mounting-flange bracket must be installed before the drywall is installed in the room. Attach the included L-brackets to the speakers (see Figure 14), and attach them to the mounting flanges at the appropriate recessed distance. The S4VC and S4HC require a minimum 6" wall depth. The S4Ai requires a minimum 4" wall depth (see Figures 15, 16 and 17).

Figure 15. Mounting the S4VC speaker using the S4PCB kit

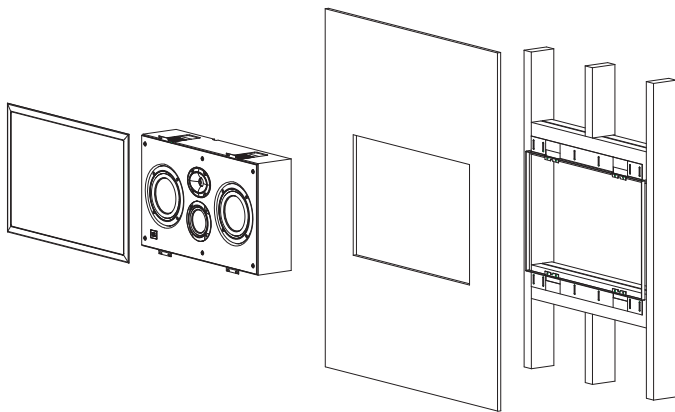
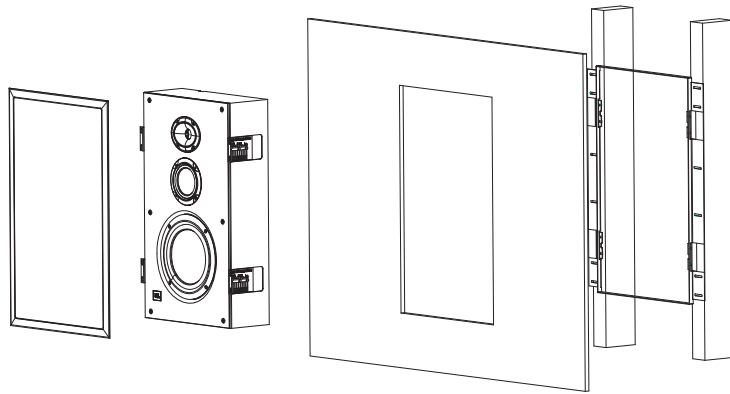
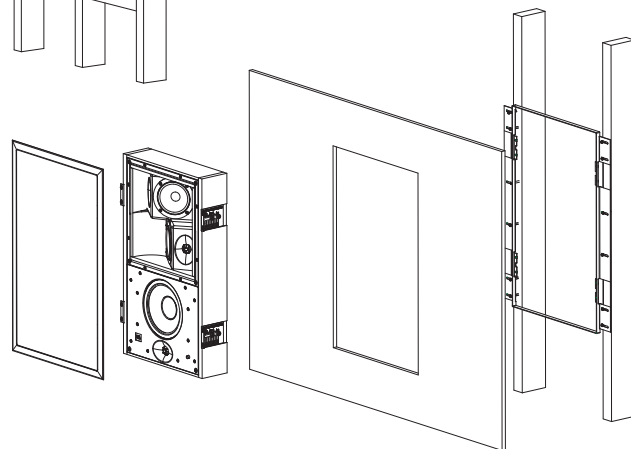


Figure 16. Mounting the S4HC speaker using the S4PCB kit

Figure 17. Mounting the S4Ai speaker using the S4PCB kit



MOUNTING THE SPEAKERS

REQUIREMENTS FOR MOUNTING

OPTION 2 – RETROFIT/PREEXISTING

CONSTRUCTION: Use the S4RFB bracket.

Mount the S4RFB to the wall surface and secure it to studs behind the wall. Attach the speaker via mounting flanges to the appropriate recessed distance. The S4VC and S4HC require a minimum 6" wall depth. The S4Ai requires a minimum 4" wall depth (see Figures 18, 19 and 20).

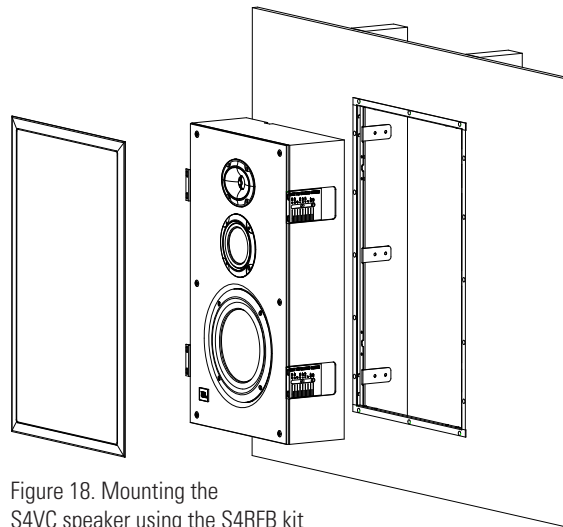


Figure 18. Mounting the S4VC speaker using the S4RFB kit

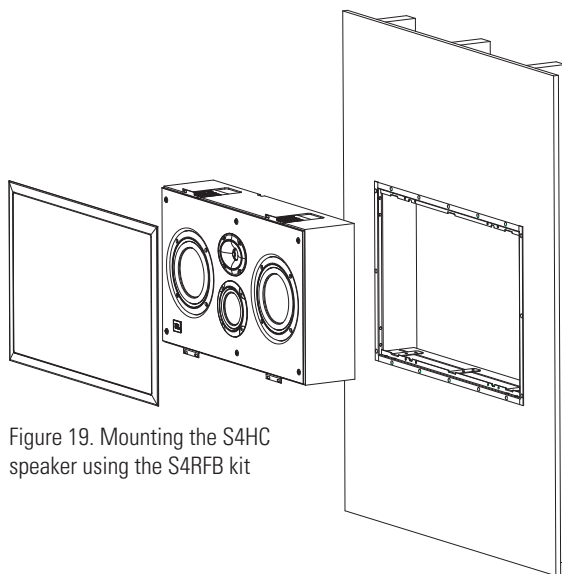


Figure 19. Mounting the S4HC speaker using the S4RFB kit

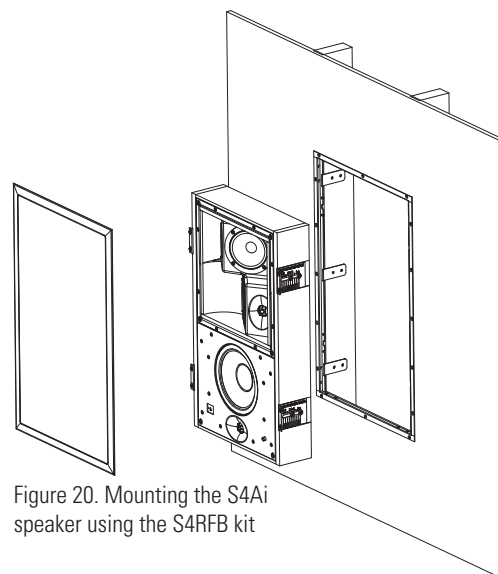


Figure 20. Mounting the S4Ai speaker using the S4RFB kit

NOTE: Do not attempt to install any type of mounting bracket other than the S4PCB, the S4RFB, or any other bracket that JBL, Inc., may supply for these speakers in the future. Drilling holes in the product or improperly installing mounting brackets may void your JBL warranty and cause a safety hazard.

A JBL factory-authorized custom installer can install appropriate brackets. Contact JBL, Inc., and your installer/dealer for additional information.

CONNECTING THE SPEAKERS TO THE REST OF YOUR SYSTEM

To connect the Synthesis Four loudspeakers to the power amplifiers or receiver, use two-conductor insulated speaker wire. We recommend #14 AWG wire as a minimum size. Your JBL dealer can recommend suitable cables.

Both the S4VC and S4HC utilize push-style friction binding posts that can accommodate up to #10 AWG stranded wire.

Since the S4Ai can be configured in three different ways, be sure to run the correct number and type of wires. Refer to the S4Ai Wiring Guide on page 7.

PREPARING THE HOOKUP WIRE

1. First determine the distance between your amplifier and the most distant speaker in each group (fronts, surrounds, back surrounds, subwoofers).
2. Now make the hookup wires for all speakers in each group this length, even if one speaker is much closer to your amplifier than the other. This will help maintain proper signal balance.
3. Strip off 3/8" of insulation from both ends of each conductor.
4. Twist each set of standard wires into a tightly bunched spiral.
5. Speakers and electronics terminals have corresponding (+) and (–) terminals. Most manufacturers of speakers and electronics, including JBL, Inc., use red to denote the (+) terminal and black for the (–) terminal, although some electronics manufacturers have adopted the new color-coding standard promulgated by the Consumer Electronics Association. In that case, the positive terminal will be colored to correspond to the channel position, while the negative terminal will be black.

It is important to connect all speakers identically: (+) on the speaker to (+) on the amplifier and (–) on the speaker to (–) on the amplifier. Wiring "out of phase" results in thin sound, weak bass and poor imaging.

With the advent of multichannel surround sound systems, connecting all of the speakers in your system with the correct polarity remains equally important to preserve the proper ambience and directionality of the program material.

Now find a visual difference between the two conductors of each molded pair of speaker wires. Differentiating marks can be a different color wire (copper or silver); a strand of yarn in one conductor; thin, raised ribs on one part of the outer insulation; or a printed marking on one part of the outer insulation. It doesn't matter which of the two strands go to the (+) and (–) on the speakers and amplifiers, as long as all speakers are connected identically. Push down on the binding post, insert the wire into the hole, and release.

TROUBLESHOOTING

SYMPTOM	PROBABLE CAUSE	SOLUTION
No sound coming from speaker	<ul style="list-style-type: none"> • Amplifier is not turned on • Amplifier gain is low • Correct source is not selected or turned on • Defective patch cords to amplifier • Speaker wires are not connected to amplifier • Balance control is set improperly • Speaker wires are damaged or shorted • Speaker is not configured correctly • Center speaker is configured incorrectly • Problem is not diagnosed 	<ul style="list-style-type: none"> • Turn on amplifier. • Make sure that there is amplifier gain for that channel. • Select proper source. • Check/replace patch cords. • Check speaker wire connection to amplifier. • Make sure Balance control is set at center, or 12 o'clock, position. • Make sure none of the speaker wires are frayed, cut or punctured. Make sure no wires are touching other wires or terminals and creating a short circuit. • In Dolby® Digital or DTS® mode, make sure that the receiver/processor is configured so that the speaker in question is enabled. • In Dolby Pro Logic® mode, make sure the center speaker is not in Phantom mode. • To diagnose the likely source of the problem, it is often helpful to switch the nonfunctioning speaker with one that is functioning correctly. Turn off all electronics before exchanging the speakers. Turn everything back on, and determine whether the problem is in the same place, or has moved with the speaker. If the problem is in the same place, the source is most likely with your receiver or amplifier. If the problem has followed the speaker, then contact your authorized JBL Synthesis custom installer or dealer for further assistance. If that is not possible, visit www.jblsynthesis.com for further information.
Bass is very weak	<ul style="list-style-type: none"> • Subwoofers are wired out of phase • Subwoofers have not been placed optimally 	<ul style="list-style-type: none"> • Make sure that positive terminals on the subwoofers go to the positive terminals on the amplifiers (red) and do the same for the negatives. • Experiment with different locations.
Poor or smeared imaging	<ul style="list-style-type: none"> • Poor room acoustics • Poor program source • Improper polarity 	<ul style="list-style-type: none"> • Use absorptive materials to minimize early reflections. • Aim speakers at listening area. • Check another program source. • Check polarity of wire connections.
Indistinct dialogue	<ul style="list-style-type: none"> • Slap echoes • Miscalibration of center channel output level 	<ul style="list-style-type: none"> • Add absorption or diffusion materials. • Check output levels of surround processor.
Uneven surround coverage	<ul style="list-style-type: none"> • Poor speaker placement, strong reflections • Excessive absorption near surrounds 	<ul style="list-style-type: none"> • Place surrounds according to THX specifications. • Add absorption and/or diffusion materials. • Remove absorptive material to provide surround reflections.
S4Ai diffuse array is out of phase from woofer in Bipole mode	<ul style="list-style-type: none"> • Phase switch is pressed in with Bipole mode selected 	<ul style="list-style-type: none"> • Push switch out on front panel.

SPECIFICATIONS

MODEL #	S4VC	S4HC	S4Ai
Description	3-Way 8" (200mm) vertical flush-mount speaker	3-Way dual 6-1/2" (165mm) horizontal flush-mount speaker	Configurable-array flush-mount surround speaker
Power Handling	250W	250W	200W Single-driven or 175W-per-array dual-driven
Nominal Impedance	6 Ohms	6 Ohms	6 Ohms
Sensitivity (2.83V@1M)	91dB	91dB	91dB
Frequency Response	65Hz – 20kHz	65Hz – 20kHz	80Hz – 20kHz
Crossover Frequencies	600Hz, 3.5kHz	600Hz, 3.5kHz	Dipole mode: 800Hz; 3.6kHz Bipole mode: 800Hz, 3.6kHz Direct mode: 2.5kHz
Bass Transducer(s)	8" (200mm) Titanium-alloy inverted dome with rubber surround and cast basket, shielded	Dual 6-1/2" (165mm) titanium-alloy inverted domes with rubber surrounds and cast baskets, shielded	8" (200mm) Dual-voice-coil inverted dome with rubber surround and cast basket
Midrange Transducer(s)	4" (100mm) Titanium inverted dome with rubber surround and cast-aluminum basket, shielded	4" (100mm) Titanium inverted dome with rubber surround and cast-aluminum basket, shielded	Dual 4" (100mm) neodymium full-ranges with rubber surrounds and cast-aluminum baskets
High-Frequency Transducer(s)	1" (25mm) Pure-titanium dome with rubber surround, shielded, with EOS waveguide	1" (25mm) Pure-titanium dome with rubber surround, shielded, with EOS waveguide	Triple 1" (25mm) pure-titanium domes with rubber surrounds, shielded, with EOS waveguide
Dimensions (H x W x D)	23-7/8" x 14" x 5-1/2" (606mm x 356mm x 140mm)	14" x 23-7/8" x 5-1/2" (356mm x 606mm x 140mm)	23-7/8" x 14" x 3-3/4" (606mm x 356mm x 95mm)
Weight	26 lb (12kg)	32 lb (15kg)	23 lb (10kg)
Connectors	Two-conductor push-type, 10 – 16-gauge	Two-conductor push-type, 10 – 16-gauge	Speaker: four-conductor push-type, 10 – 16-gauge; control: two-conductor screw terminal, 16 – 24-gauge
Trigger Input	NA	NA	12-Volt/200mA

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Part No. 361103-001 8/08

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Luc Guillaume
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