



IN-CEILING SPEAKERS

Installation and Instruction Manual

Introduction

Congratulations on your purchase of RBH Sound in-ceiling speakers! Your speakers are the result of many years of research and development dedicated to producing high quality products for home audio and audio/video systems.

This manual is designed to give you, the installer or owner, basic information as to the speaker's installation and operation. We recommend you thoroughly read through the material contained in this manual before installing your speakers. This will ensure that you have an understanding of how to setup your speakers for optimum performance and allow for years of listening enjoyment.

Break In Period

Allow several hours of listening time to adequately break in the speakers. As the speakers break-in, the driver suspension will loosen. The result of break-in will be an increase in low frequency response, improved definition, clarity and detail.

Features

All RBH Sound in-ceiling speakers feature a swing out dog leg mounting system with pre-started screws for fast and easy installation. Most RBH Sound in-ceiling speakers feature directional swivel tweeters to direct the sound to the main listening area. All RBH Sound in-ceiling speakers feature polyswitch protection circuitry designed to protect the tweeter from being over driven. This circuit will automatically reset itself once the volume is turned down or the problem causing the circuit to activate is removed.

Steep acoustic slope crossovers are used to integrate the drivers. The use of steep crossover slopes allows high power handling, minimized driver interaction anomalies, and maximizes the clarity with which each driver is able to produce its respective frequency band.

Painting the Speakers

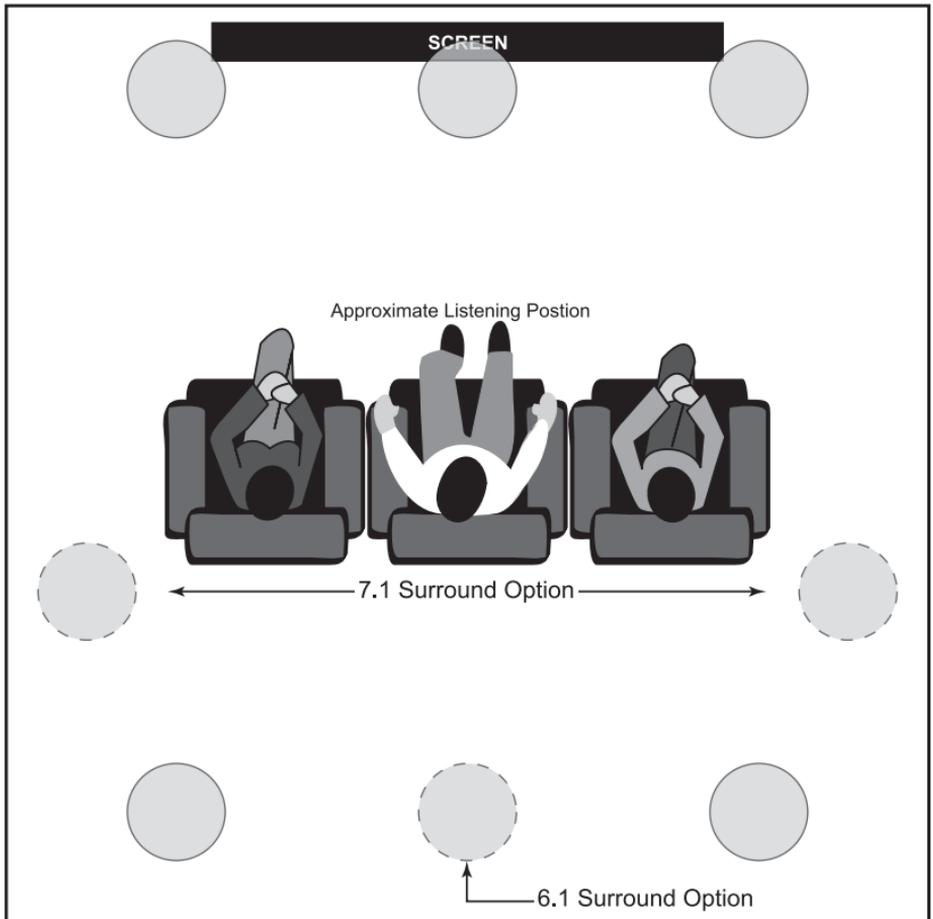
A paint shield is included with your speakers. This shield can be used to protect the speaker when painting the speaker's rim (frame). If you plan to paint your speakers, we recommend it be done prior to installation. If you decide to paint your speakers sometime in the future, it is best to remove them from the ceiling or wall. When painting speakers, the paint shield provided in the packaging must be installed in place of the grille. The grille can also be painted. Painting the speaker's grille should be done with a paint sprayer set to fine. Remove the grille from the speaker, peel off the grille fabric on the back of the grilles and set aside. Place the grilles on a flat surface. Do not use a brush or roller on the grilles as this will clog the holes, greatly reducing the sound quality of the speakers. Do not paint the grilles while attached to the speakers. Be sure to remove the paint shields from the speakers and replace the fabric to the back of the grilles before reinstalling them and using the speakers.

Room Setup Suggestions

With nearly endless placement options, careful consideration for placement of the in-ceiling speakers needs to be considered, as installation requires cutting a hole in your wall or ceiling! When using speakers in home theater applications follow the guidelines illustrated below.

Swivel Tweeter Placement

The swivel tweeter allows sound to be directed toward or away from the listening area depending on the application. A tweeter aimed toward your listening position improves imaging and detail. When using a speaker with a swivel tweeter as front/main home theater speakers or as stereo speakers in a distributed audio system, aim the tweeter toward the main listening position. For rear/surround speakers, aim the tweeter toward the nearest reflecting surface (an adjacent wall or ceiling) for a more diffuse sound field (for more direct sound, aim the tweeter at your listening position).



Speaker Installation

RBH Sound in-ceiling speakers are designed on an infinite baffle configuration. This means a back box is not required for the speaker to perform properly. RBH Sound in-ceiling speakers have also been designed to make installation as easy as possible. Upon opening the speaker boxes you will notice that the screws are pre-started into the dog legs or a pinch ring. The basic idea behind in-ceiling speakers is the speaker is held in place by sandwiching the speaker and the drywall. A frame around the speaker conceals the cutout in the drywall and presses against the front of the ceiling. Behind the ceiling, the speaker has a set of dog legs or a pinch ring which cinch the speaker to the drywall.

CAUTION: Be certain there are no electrical wires, water pipes, heating ducts or any other obstructions in the planned area of installation before starting to drill or cut into the ceiling or wall. If there is an electrical outlet nearby, turn off the circuit breaker to avoid possible injury.

Installing WITH a New Construction Bracket:

If using a new construction bracket for the size of the speaker being installed, cutting the drywall should not be necessary. Continue with *"Connecting the Speaker"* instructions on the next page.

Installing WITHOUT a New Construction Bracket:

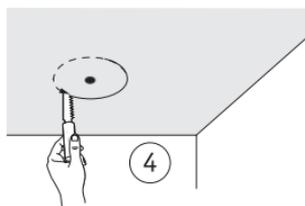
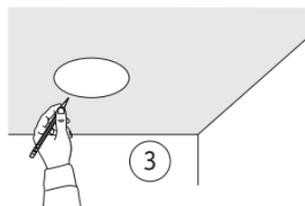
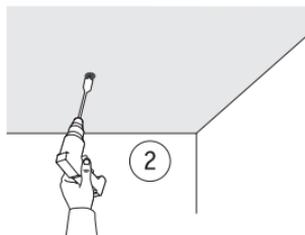
Use the cutout template supplied with the speaker for guidance in cutting the drywall, following *"Using the Template"* instructions below.

Using the Template:

1. These speakers are designed to be mounted between the framing members. Use a stud finder to locate the positions of joists and rafters. Make sure you have a 2-inch clearance from the outside of the cutout hole from joists and rafters.
2. Drill a 1/4-inch hole in the center of the area you plan to mount the speaker. Cut or bend a piece of wire (a coat hanger works well) to a 90-degree angle. Insert the wire into the pilot hole and fish around to make sure there aren't any obstructions which will interfere with the installation.

NOTE: If you must choose another location, the pilot hole can be easily patched.

3. Once a suitable location is found, use masking tape to temporarily place the supplied cutout template on the ceiling or wall, centered over the pilot hole. Draw a circle around the inside edge of the template.
4. Carefully cut the hole with the appropriate cutting tool to remove the material inside the circle inscribed by the template.



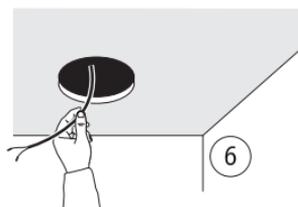
Speaker Installation (continued)

NOTE: The frame will overlap the cutting edge by about a 1/2-inch which will mask any minor cutting inaccuracies.

5. Confirm the speaker easily fits into the hole, without any gaps.

Connecting the Speaker:

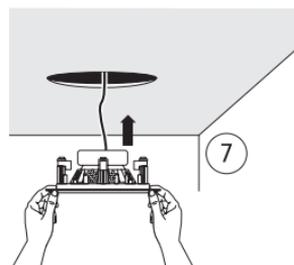
6. Pull the speaker wire out of the hole and connect the speaker. Split the two conductors of the speaker wire apart about 3-inches so they form a “Y”. Using wire strippers, remove about 1/2-inch of insulation from each of the two conductors of the wire to expose the bare metal and twist each of the conductors into a single unfrayed strand.



The speaker terminals will accommodate any speaker wire up to 14-gauge. Select an appropriate wire gauge from the following chart:

- 18 gauge for up to 50-feet
- 16 gauge for up to 100-feet
- 14 gauge for up to 200-feet

NOTE: When connecting a speaker it is very important to retain the correct polarity (improper polarity will cause reduced bass performance and unnatural imaging effects). To do this, be sure the wire attached to the positive terminal on the speaker (marked [+] or colored red) connects to the positive terminal on the amplifier. Similarly, the negative terminal (marked [-] or colored black) must connect to the negative terminal on the amplifier.



Finishing the Installation

7. Slide the speaker into the pre-cut hole in drywall or new construction bracket keeping the speaker cable above and out of the way to prevent pinching it.
8. Tighten the screws. The dog legs will automatically swing out and tighten (pinch) themselves against the new construction bracket or the drywall with the turning of the screws and will hold the speaker solidly in place. Don't over-tighten screws, if you over-tighten the screws the speaker frame may bend which will make it difficult to properly install the grille.

NOTE: If using a drill/driver, set the clutch to a low setting to prevent over-tightening and possible damage to the frame or dog legs. If using hand tools, tighten just until firm.

9. If the speaker has any tone controls or has a pivoting tweeter, leave the grille off until you can listen to the speaker. Once the speaker is adjusted, install the grille.

NOTE: Handle the grille carefully, as they pressure-fit into the installed speaker. If the grille does not install easily try loosening the mounting screws before resorting to forcing the grille into the speaker. For magnetically held Visage series grilles simply place on top edge of baffle and tilt grille down to cover front of speaker, making sure to align grille edges around baffle edge.

Speaker Accessories

Rear Enclosure

The FB-C6 and FB-C8 enclosures are a flexible, pre or post-construction square acoustic foam box. Designed for 6.5-inch in-ceiling speakers, providing a better enclosed environment for the speaker, thereby improving the sound quality while also reducing sound transfer into other rooms. Using additional framing, these rear enclosures can be mounted in-between joists or trusses during construction or for post-construction installation, simply fold and push through the speaker's mounting hole, and it will expand inside the ceiling. Once the rear enclosure is in place, install the speaker which, along with gravity and insulation, will easily keep the rear enclosure in position.



Rear Enclosures

Back Cans

Back Cans (BC's) attach neatly and directly to the back of in-ceiling speakers to prevent sound from being transferred into adjacent floors or rooms. Back cans on in-ceiling speakers are needed to meet building code requirements in select areas. All RBH Sound back cans are UL rated.



Back Cans

Blank Plates

Blank plates are a very clean and efficient way to cover the holes left in drywall when a new construction bracket is used or a speaker is removed. Install blank plates when in-wall/in-ceiling speakers will not be immediately installed after drywall is finished.



Short Back Can

New Construction Brackets

An excellent way to guarantee placement of in-wall and in-ceiling speakers prior to drywall installation, New Construction Brackets (NCB's) also make installation of in-wall and in-ceiling speakers faster and easier by reducing time and mess. Once drywall is installed, just connect the speaker to the speaker wire and install. New Construction Brackets eliminate the time and need to locate and cut drywall before speaker installation.



Blank Plates



New Construction Bracket

For more information on RBH Sound in-ceiling speaker accessories go to www.rbhsound.com.

Troubleshooting

Situation	Probable Cause	Solution
No sound from speakers.	Speaker wire not connected. Speaker selector on amplifier is not on.	Make sure wire is properly connected to the speaker and the amplifier observing proper polarity. Activate proper speaker selector on amplifier.
No sound from one speaker.	Balance control on receiver or preamp is not centered. Speaker wire not completely connected.	Place balance control in the center. Check all connections at amplifier and speakers.
Very little bass and/or imaging	Speakers are wired out of phase.	Check entire system for proper polarity and make adjustments as necessary.

Warranty

Your RBH Sound in-ceiling speaker is covered by a limited warranty against defects in materials and workmanship for a period of 25 years. This warranty is provided by the authorized RBH Sound dealer where the speaker was purchased. Warranty repair will be performed only when your purchase receipt is presented as proof of ownership and date of purchase. Defective parts will be repaired or replaced without charge by your dealer's store or by RBH Sound authorized locations to service RBH Sound products. Charges for unauthorized service and transportation cost are not reimbursable under this warranty. This warranty becomes void if the product has been damaged by alteration, misuse or neglect. RBH Sound assumes no liability for property damage or any other incidental or consequential damage whatsoever which may result from the failure of this product. Any and all warranties of merchantability and fitness implied by law are limited to the duration of this express warranty. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

For detailed specifications of this in-ceiling speaker and other RBH models please visit www.rbhsound.com

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