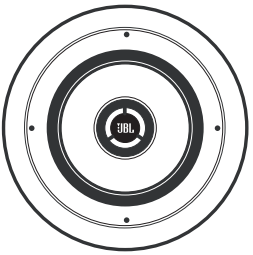
Leviton Architectural Edition powered by JBL

Indoor Speakers

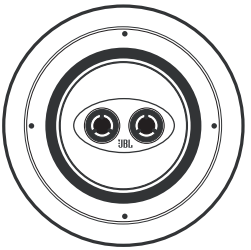
Cat. Nos.

AEC65
AEC80
AEI65
AEI80
AEM65

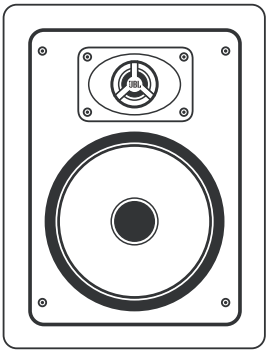
USER GUIDE



AEC65
AEC80
Ceiling Speaker



AEM65
Dual Tweeter
Stereo Ceiling Speaker



AEI65
AEI80
In-Wall Speaker

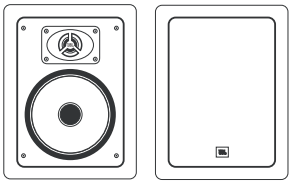
PK-93410-10-00-2A

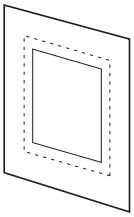
OVERVIEW

Thank you for choosing Leviton Architectural Edition™ *powered by* JBL.

Please take a moment to register your product on our Web site at www.leviton.com. It enables us to keep you posted on our latest advancements, and helps us to better understand our customers and build products that meet their needs and expectations.

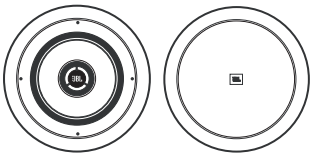
PARTS INCLUDED

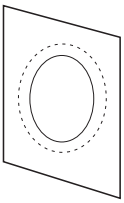




Template/Paint Shield. Remove paint shield (inner rectangle) at perforation.

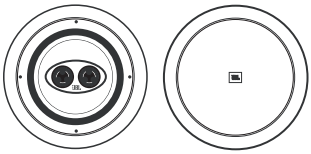
Cat. Nos. AEI65 and AEI80
One pair of speakers with grilles.

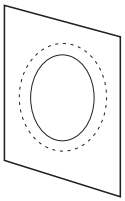




Template/Paint Shield. Remove paint shield (inner rectangle) at perforation.

Cat. Nos. AEC65 and AEC80
One pair of speakers with grilles.



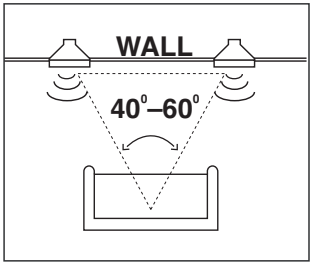


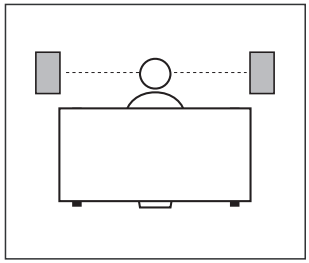
Template/Paint Shield. Remove paint shield (inner rectangle) at perforation.

Cat. Nos. AEM65
One speaker with grille.

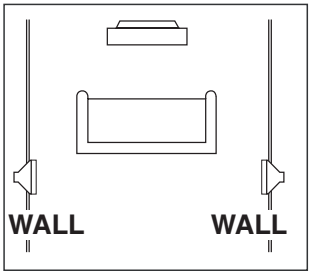
SPEAKER PLACEMENT

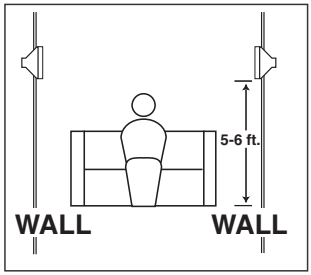
Front Speaker Mounting



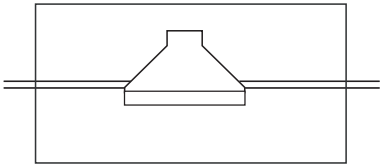


Rear Speaker Mounting





Ceiling Speaker Mounting



Proper placement of the speakers is an important step in obtaining the most realistic soundstage possible. These recommendations are for the optimum placement of the loudspeakers. Use these placement recommendations as a guide. Slight variations will not diminish your listening pleasure.

The front speakers should be placed the same distance from each other as they are from the listening position. They should be placed at about the same height from the floor as the listener's ears will be, with the tweeters aimed toward the listener at ear-level height.

In a home theater configuration, the two surround speakers should be placed slightly behind the listening position and ideally should face each other and be at a level higher than the listener's ears. If that is not possible, they may be placed in a wall (or in the ceiling) behind the listening position, facing forward.

The surround speakers should not call attention to themselves. They should provide a diffuse, ambient sound accompanying the main program material heard in the front speakers. In Dolby* Digital and DTS® systems, aim the tweeters toward the listening position at ear-level height.

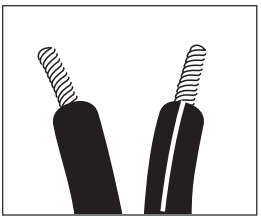
Dual Tweeter Stereo Speaker, Cat. No. AEM65:

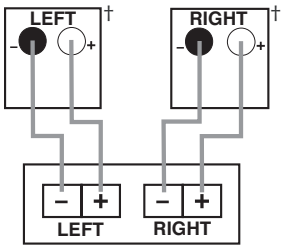
Model AEM65 has the capability of playing two channels through one loudspeaker, thanks to its dual-tweeter/dualvoice-coil construction. Since the tweeters are close together, in general they should be aimed away from each other for best coverage.

For two-channel (stereo) applications, e.g., as a single speaker in a remote room of a distributed audio system, install the AEM65 stereo speaker centrally in the ceiling for best stereo imaging, swiveling the tweeters so that one points toward the left and the other toward the right of the listening position, aimed at ear level height.

The AEM65 stereo speaker may also be used to play the left and right surround channels in a 5.1-channel home theater system, in which case it should be mounted in the ceiling slightly behind the listening position, centered from left to right and with the tweeters pointing toward the left and right of the listening position, aimed at ear-level height. For 7.1-channel systems where it is desired to use two AEM65 stereo speakers, one to play both the left surround and surround back channels and the other to play both the right surround and surround back channels, mount each AEM65 stereo speaker in the ceiling, slightly behind the listening position, one closer to the left side of the room and the other closer to the right side. Aim the tweeters away from each other, toward the front and rear of the room.

SPEAKER CONNECTIONS





Front and Rear Speaker Output

The wires for both speakers should be the same length. If one speaker is placed closer to the amplifier than the other,

Hide the excess wire behind the wall. Speakers and electronics terminals have corresponding (+) and (–) terminals.

Most manufacturers of speakers and electronics, including Leviton Architectural Edition *powered by* JBL, use Red to denote the (+) terminal and Black for the (–) terminal. It is important to connect both 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 a poor stereo image. With the advent

of multichannel surround sound systems, connecting all of the speakers in your system with the correct polarity remains equally important in order to preserve the proper ambience and directionality of the program material. To use the push-type speaker terminals, press the red (+) or black (–) cap for the desired terminal, insert the bare end of the speaker wire into the hole below the cap and release the cap. Gently tug on the wire to make sure that it is fully inserted.

The side of the wire that is Red, with a ridge, or other coding is usually considered positive polarity (i.e., +). For wire runs inside the wall, be sure to use a CL2/3 fire rated cable (refer to local codes). Also, consult the owner's manuals that were included with your amplifier or receiver to confirm connection procedures.

WIRE LENGTH	RECOMMENDED SIZE
Up to 20 ft.	16 gauge
Up to 30 ft.	14 gauge
Greater than 30 ft.	12 gauge

INSTALLATION

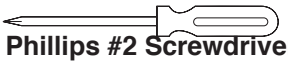
WARNING: TO BE INSTALLED AND/OR USED IN ACCORDANCE WITH APPROPRIATE ELECTRICAL CODES AND REGULATIONS.

NOTE: LEVITON/JBL IN-WALL AND CEILING SPEAKERS WERE DESIGNED TO BE EASILY INSTALLED. HOWEVER, IF YOU ARE UNSURE OF YOUR ABILITY TO PROPERLY INSTALL THESE LOUDSPEAKERS, PLEASE CONTACT YOUR DEALER OR A QUALIFIED INSTALLER.

NOTE: SPEAKER WIRE RUNS SITUATED INSIDE A WALL NEED TO BE FIRE-RATED. WHEN IN DOUBT, CONSULT YOUR LOCAL ELECTRICAL INSPECTOR FOR CORRECT WIRE RATINGS.

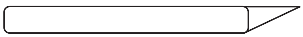
Tools Required:

Pencil

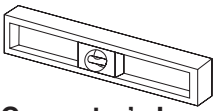


Phillips #2 Screwdriver

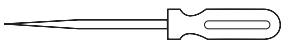
Measuring Tape



Utility Knife

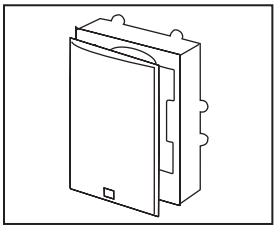


Carpenter's Level

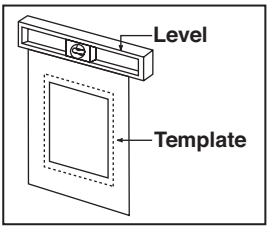


Awl

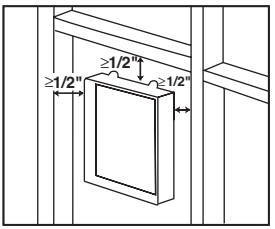
IN-WALL SPEAKER INSTALLATION – EXISTING CONSTRUCTION:



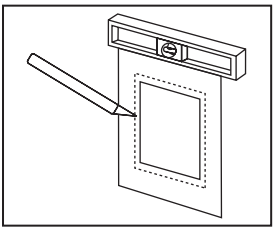
Step 1:
Remove the grille from the speaker frame by pulling on the paper tab. If the tab is missing, to avoid scratching the grille or baffle you may unfold a paper clip, insert the straight end through one of the holes in the grille, and gently pull up.



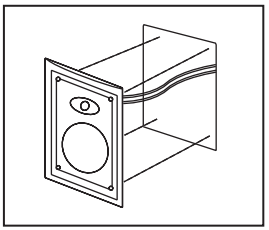
Step 2:
Determine the correct speaker location.
NOTE: Remove the inner template, which is the paint shield, at the perforation. Use the outer template when cutting the drywall.



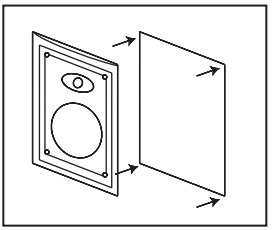
Step 3:
Always allow at least one-half inch between a wall stud and the speaker cutout or the locking tabs will not be able to swivel into place.



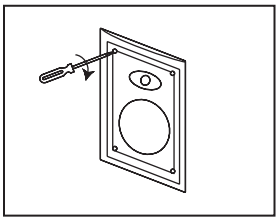
Step 4:
Cut the drywall.



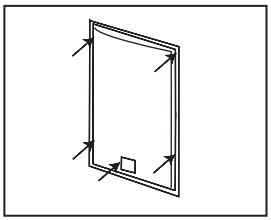
Step 5:
Connect the speaker wires to the speaker.



Step 6:
Place the frame assembly in the wall.



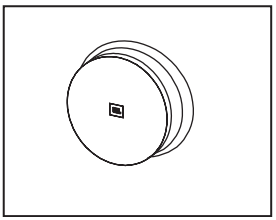
Step 7:
Screw down each of the four Phillips head screws. The locking tabs will swivel into place and secure the unit to the rear surface of the drywall.



Step 8:
Replace the metal grille.

The speakers feature unique swivel mounts for the tweeters that enable you to aim the very directional high frequencies toward the listening position, at ear-level height. Before installing the speaker grille, gently press on the outer edge of the tweeter mount to adjust the position of the tweeter. The tweeter will not swivel more than 15 degrees in any direction; do not attempt to force it to move further. You may also rotate the tweeter to orient the JBL logo as desired.

CEILING SPEAKER INSTALLATION – EXISTING CONSTRUCTION:



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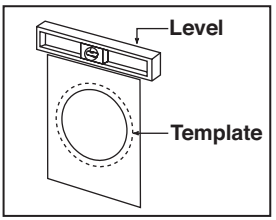
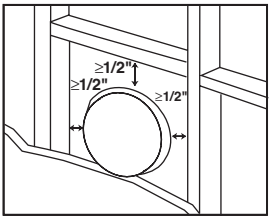
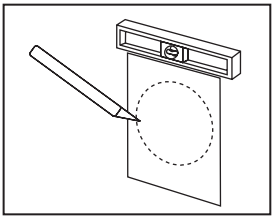


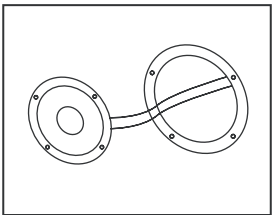
Step 2:
Determine the correct speaker location.
NOTE: Remove the inner template, which is the paint shield, at the perforation. Use the outer template when cutting the drywall.



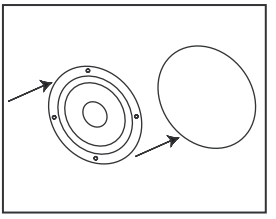
Step 3:
Always allow at least one-half inch between a wall stud and the speaker cutout or the locking tabs will not be able to swivel into place.



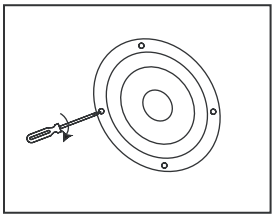
Step 4:
Cut the drywall.



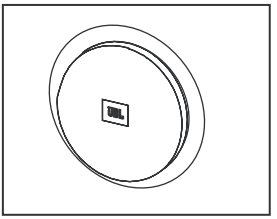
Step 5:
Connect the speaker wires to the speaker. **NOTE:** Cat. No. AEM65 requires two sets of speaker wires, one for each channel.



Step 6:
Place the frame assembly in the wall.



Step 7:
Screw down each of the four Phillips head screws. The locking tabs will swivel into place and secure the unit to the rear surface of the drywall.



Step 8:
Replace the metal grille.

The speakers feature unique swivel mounts for the tweeters that enable you to aim the very directional high frequencies toward the listening position, at ear-level height. Before installing the speaker grille, gently press on the outer edge of the tweeter mount to adjust the position of the tweeter. The tweeter will not swivel more than 15 degrees in any direction; do not attempt to force it to move further. You may also rotate the tweeter to orient the JBL logo as desired.

The dual tweeters of speaker, Cat. No. AEM65, may be swiveled independently. Optimum imaging will be obtained by aiming the tweeters to the left and right of the listening position, at ear-level height, if your application permits.

PAINTING THE SPEAKER FRAME AND GRILLE

Leviton Architectural Edition *powered by* JBL loudspeakers can be painted to match any decor. If you wish to change their color, the satin finish on the grille and frame will function as a primer coat. Before painting, install the paint shield (inner section of template in the assembly kit) securely into the recess in the baffle. This will protect the speaker components and baffle from paint residue. Use a high-quality spray paint, and apply a thin coat of color.

Be certain the grille perforations remain free of paint. Filling them with paint will diminish the sound quality.

NOTE: Gently remove the acoustical foam blanket from the grille before painting. Reattach the blanket after the paint has dried.

TROUBLESHOOTING

IF THERE IS NO SOUND FROM ANY OF THE SPEAKERS:

- Check that receiver/amplifier is on and a source is playing.
- Check all wires and connections between receiver/amplifier and speakers. Make sure all wires are connected. Make sure none of the speaker wires are frayed, cut, punctured or touching each other.
- Review proper operation of your receiver/amplifier.

IF THERE IS NO SOUND COMING FROM ONE SPEAKER:

- Check the “Balance” control on your receiver/amplifier.
- Check all wires and connections between receiver/amplifier and speakers. Make sure all wires are connected. Make sure none of the speaker wires are frayed, cut, punctured or touching each other.

IF THERE IS LOW (OR NO) BASS OUTPUT:

- Make sure the connections to the left and right “Speaker Inputs” have the correct polarity (+ and –).
- Consider adding a powered subwoofer to your system.
- In Dolby Digital or DTS modes, make sure your receiver/processor is correctly configured. When using a subwoofer, make sure the subwoofer output of the receiver/ processor has been enabled. If no subwoofer is being used, make sure the left and right front and rear speakers have been configured as “LARGE.” See your receiver/ processor’s owner’s manual for further information on correct speaker configuration in Dolby Digital, DTS and other surround sound modes.

IF THE SYSTEM PLAYS AT LOW VOLUMES BUT SHUTS OFF AS VOLUME IS INCREASED:

- Check all wires and connections between receiver/amplifier and speakers. Make sure all wires are connected. Make sure none of the speaker wires are frayed, cut , punctured or touching each other.
- If more than one pair of main speakers is being used, check the minimum-impedance requirements of your receiver/amplifier.

SPECIFICATIONS

NOTES:

- All features and specifications are subject to change without notice.
- † The maximum recommended amplifier power rating will ensure proper system headroom to allow for occasional peaks. We do not recommend sustained operation at these maximum power levels.
- * Trademark of Dolby Laboratories.

  DTS is a registered trademark of Digital Theater Systems, Inc.

AEM65

Frequency Response
40Hz–20kHz (±10dB)

Recommended Maximum Amplifier Power †
100 watts

Impedance
8 ohms nominal

Sensitivity
88dB (2.83V/1m)

Crossover Frequency
3,000Hz

Woofer
6-1/2" Titanium-laminate cone w/rubber surround

Tweeter
Dual 3/4" (19mm) Titanium-laminate dome, w/Elliptical Oblate Spheroidal™ waveguide and swivel mounts

Plate Size (Dia.)
9-3/16" (233mm)

Mounting Cutout Size (Dia.)
7-7/8" (200mm)

Mounting Depth
4-1/4" (108mm)

Weight per Speaker
4 lb (1.8kg)

AEC65

Frequency Response
40Hz–20kHz (±10dB)

Recommended Maximum Amplifier Power †
80 watts

Impedance
8 ohms nominal

Sensitivity
88dB (2.83V/1m)

Crossover Frequency
3,000Hz

Woofer
6-1/2" Titanium-laminate cone w/rubber surround

Tweeter
1" Titanium-laminate dome, w/Elliptical Oblate Spheroidal™ waveguide and swivel mount

Plate Size (Dia.)
9-3/16" (233mm)

Mounting Cutout Size (Dia.)
7-7/8" (200mm)

Mounting Depth
4-1/4" (108mm)

Weight per Speaker
3.85 lb (1.7kg)

SPECIFICATIONS

AEC80

Frequency Response
32Hz–20kHz (±10dB)

Recommended Maximum Amplifier Power †
100 watts

Impedance
8 ohms nominal

Sensitivity
89dB (2.83V/1m)

Crossover Frequency
3,000Hz

Woofer
8.0” Titanium-laminate cone w/rubber surround

Tweeter
1" Titanium-laminate dome, w/Elliptical Oblate Spheroidal™ waveguide and swivel mount

Plate Size (Dia.)
10-7/8" (275mm)

Mounting Cutout Size (Dia.)
9-1/2" (240mm)

Mounting Depth
4-1/4" (108mm)

Weight per Speaker
4.5 lb (2.0kg)

AEI65

Frequency Response
38Hz–20kHz (±10dB)

Recommended Maximum Amplifier Power †
80 watts

Impedance
8 ohms nominal

Sensitivity
88dB (2.83V/1m)

Crossover Frequency
3,000Hz

Woofer
6-1/2" Titanium-laminate cone w/rubber surround

Tweeter
1" Titanium-laminate dome, w/Elliptical Oblate Spheroidal™ waveguide and swivel mount

Plate Size (W x H)
8-1/2" x 11" (216mm x 279mm)

Mounting Cutout Size (W x H)
7-1/8" x 9-11/16" (181mm x 246mm)

Mounting Depth
3-7/8" (98mm)

Weight per Speaker
4.3 lb (2.0kg)

SPECIFICATIONS

AEI80

Frequency Response
30Hz–20kHz (±10dB)

Recommended Maximum Amplifier Power †
100 watts

Impedance
8 ohms nominal

Sensitivity
89dB (2.83V/1m)

Crossover Frequency
3,000Hz

Woofer
8.0" Titanium-laminate cone w/rubber surround

Tweeter
1" Titanium-laminate dome, w/Elliptical Oblate Spheroidal™ waveguide and swivel mount

Plate Size (W x H)
10-1/8" x 13-1/8" (257mm x 333mm)

Mounting Cutout Size (W x H)
8-7/8" x 11-13/16" (225mm x 300mm)

Mounting Depth
4" (102mm)

Weight per Speaker
5.5 lb (2.5kg)

For additional information, contact Leviton's Techline at 1-800-824-3005 or visit Leviton's website at www.leviton.com

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