

**Preparation:**

**Tools For Installation**

- Pencil
- Drill
- Tape Measure
- Wire Cutter
- Phillips Screwdriver
- Utility Knife
- Safety Eye Wear
- Gloves
- Sandpaper

**Speaker Wire Guide**

- 18AWG minimum - for distances up to ..... 10 ft
- 16AWG - from ..... 10 to 50 ft
- 14AWG - from ..... 50 to 100 ft

**Considerations**

- Where is the best place to install the speakers?
- Where do the speakers sound the best?
- Separate the speakers 6 - 10 feet apart.
- **(For Ceiling LCR models only)** Place speakers with the 15° angled woofer pointed towards the main listening area.
- If you intend to paint the grilles, do so before installation.

**Placement**

There are many options for proper speaker placement depending upon speaker type and application. It's important to carefully plan the placement of your speakers, as installation requires that you cut a hole in your wall or ceiling.

**(See Diagram 1.)** Typical speaker placement for a 5.1 and 7.1 speaker system.

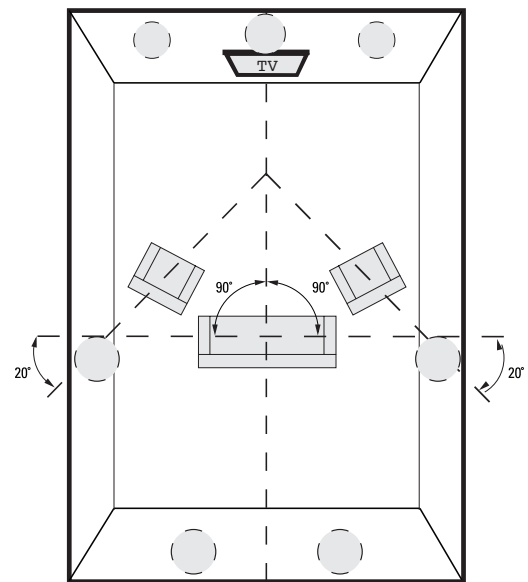


Diagram 1

**Installation:**

**Cut Out**

**NOTE: This is the most important part of the entire installation.** If you are not certain whether any obstructions exist behind the desired mounting area, you should start by cutting a small hole in the center of your penciled mounting hole with a drywall saw.

Trace along the included template. Cut along the traced line using a drywall saw or rotary drill. Use a piece of sandpaper to sand down the cut out edge for a smoother contour. **(See Diagram 2.)**

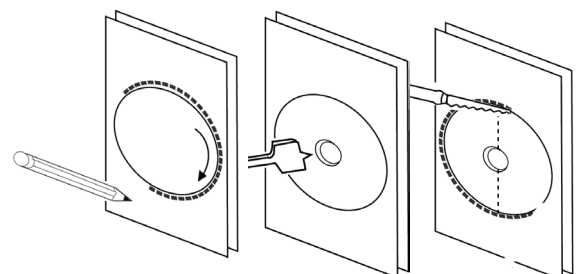


Diagram 2

**Mounting**

Tighten the mounting brackets by simply turning the screws on the front of the speaker baffle slowly clockwise. The quick-turn mounting system and frame will “sandwich” or clamp around the dry-wall to hold the speaker securely in place once fully tightened to the locked position. (See Diagram 3.)

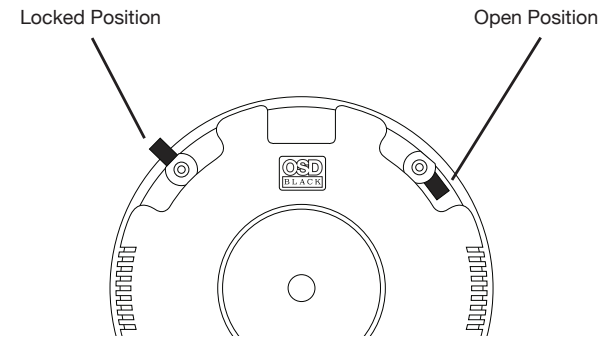


Diagram 3

**Connection**

When connecting any speakers to the amplifier or receiver, always make sure the power is off. Locate the connection terminals on the back of your receiver or amplifier. Always make sure to connect audio out from the back of your receiver or amplifier to the speakers. (See Diagram 4.)

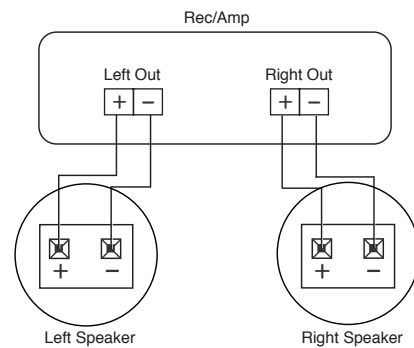


Diagram 4

**Adjustment**

On select models ( \*Performance, Reference ) of OSD Black Series, a front mounted 3 position  $\pm 3$ dB treble contour switch can be used to tailor high frequencies according to speaker placement or the listeners preference. (See Diagram 5.)

\* Excludes Shallow Mount Series

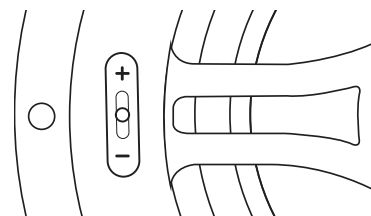


Diagram 5

**Pivoting Tweeter**

Your Black series speaker comes from the factory with the tweeter centered in the neutral position. This will provide the smoothest response. However, select models come with a pivoting tweeter so you can focus the sound directly towards the listening area if needed. In order to do this, carefully press on the edge of the tweeter baffle in the direction you wish to focus the sound. (See Diagram 6.)

**CAUTION:** When adjusting the pivoting tweeter be sure not to touch the dome as you may cause damage to the speaker.

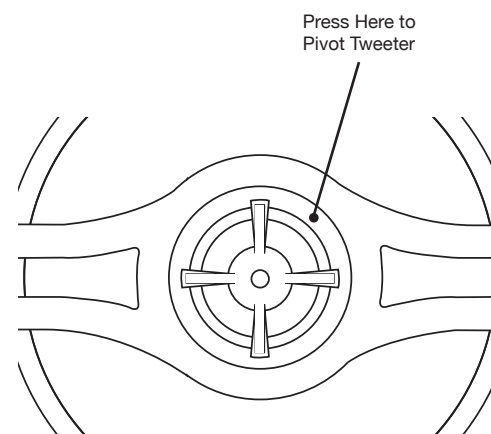


Diagram 6

Model	Description	Woofers	Tweeter	Freq Response	Power	Sensitivity	Impedance	Dimension	Depth	Cut Out	
CEILING SPEAKERS	R51	Ceiling Speaker Acoustic	5.25" Poly W/ Rubber Surround	1/2" Pivoting Silk Soft Dome	65-20K	75W	85dB	8 ohm	8.2"	3.81"	6.6"
	R52	Ceiling Speaker Performance	5.25" Graphite W/ Rubber Surround	3/4" Pivoting CatEye Parachute Silk Soft Dome	55-20K	90W	85dB	8 ohm	8.2"	3.81"	6.6"
	R53	Ceiling Speaker Reference	5.25" Carbon Fiber W/ TPR Surround	1" Pivoting Ceramic Coated Aluminum Dome	50-20K	100W	87dB	8 ohm	8.2"	3.81"	6.6"
	R61	Ceiling Speaker Acoustic	6.5" Poly W/ Rubber Surround	1/2" Pivoting Silk Soft Dome	45-20K	100W	86dB	8 ohm	9.3"	3.93"	7.8"
	R62	Ceiling Speaker Performance	6.5" Graphite W/ Rubber Surround	1" Pivoting CatEye Parachute Silk Soft Dome	40-20K	120W	87dB	8 ohm	9.3"	3.93"	7.8"
	R63	Ceiling Speaker Reference	6.5" Carbon Fiber W/ TPR Surround	1" Pivoting Ceramic Coated Aluminum Dome	38-20K	150W	89dB	8 ohm	9.3"	3.93"	7.8"
	R62DT	Stereo Ceiling Speaker Performance	6.5" Graphite W/ Rubber Surround	Dual 3/4" Pivoting CatEye Parachute Silk Soft Dome	40-20K	120W	86dB	8 ohm	9.3"	3.93"	7.8"
	R62A	Angled Ceiling Speaker Performance	6.5" Graphite W/ Rubber Surround	1" Pivoting CatEye Parachute Silk Soft Dome	40-20K	120W	87dB	8 ohm	9.8"	4.72"	8.3"
	R63A	Angled Ceiling Speaker Reference	6.5" Carbon Fiber W/ TPR Surround	1" Pivoting Ceramic Coated Aluminum Dome	38-20K	150W	89dB	8 ohm	9.8"	4.72"	8.3"
	R81	Ceiling Speaker Acoustic	8" Poly W/ Rubber Surround	1/2" Pivoting Silk Soft Dome	50-20K	120W	89dB	8 ohm	11"	4.33"	9.5"
	R82	Ceiling Speaker Performance	8" Graphite W/ Rubber Surround	1" Pivoting CatEye Parachute Silk Soft Dome	45-20K	150W	88dB	8 ohm	11"	4.33"	9.5"
	R83	Ceiling Speaker Reference	8" Carbon Fiber W/ TPR Surround	1" Pivoting Ceramic Coated Aluminum Dome	28-22K	175W	91dB	8 ohm	11"	4.33"	9.5"
	R83DT	Reference Stereo Ceiling Speaker	8" Carbon Fiber W/ TPR Surround	Dual 1" Pivoting Ceramic Coated Aluminum Dome	28-22K	175W	90dB	8 ohm	11"	4.33"	9.5"
	R82DT	Performance Stereo Ceiling Speaker	8" Graphite W/ Rubber Surround	Dual 1" Pivoting CatEye Parachute Silk Soft Dome	40-20K	150W	86dB	8 ohm	11"	4.33"	9.5"
R82A	Performance Angled Ceiling Speaker	8" Graphite W/ Rubber Surround	1" Pivoting CatEye Parachute Silk Soft Dome	38-22K	150W	88dB	8 ohm	11"	5.4"	10"	
R83A	Reference Angled Ceiling Speaker	8" Carbon Fiber W/ TPR Surround	1" Pivoting Ceramic Coated Aluminum Dome	28-22K	175W	91dB	8 ohm	11"	5.4"	10"	
SHALLOW MOUNT	R62 SM	Performance Shallow Mount Weather Resistant Ceiling Speaker	6.5" PP Cone	1" PEI Dome	75-20K	60W	86 dB	8 ohm	9.3"	3.1"	7.7"
	R82 SM	Performance Shallow Mount Weather Resistant Ceiling Speaker	8" PP Cone	1" PEI Dome	70-20K	100W	88 dB	8 ohm	11"	3.1"	9.4"
	R62SS	Performance Super Shallow Mount Ceiling Speaker	6.5" Composite Glass Fiber Cone	1" PEI Dome	55-20K	25-100W	88 dB	8 ohm	9.3"	2.12"	8.18"
IN-WALL SPEAKERS	T52LCR	Reference In-Wall LCR	Dual 5.25" Graphite W/ Rubber Surround	1" Pivoting CatEye Parachute Silk Soft Dome	55-20K	120W	88dB	8 ohm	15.9" x 8.2"	3.14"	14.4" x 6.7"
	T53LCR	In-Wall LCR Reference	Dual 5.25" Carbon Fiber W/ TPR Surround	1" Pivoting Ceramic Coated Aluminum Dome	50-20K	150W	90dB	8 ohm	15.9" x 8.2"	3.14"	14.4" x 6.7"
	T61	In-Wall Speaker Acoustic	6.5" Poly W/ Rubber Surround	1/2" Pivoting Silk Soft Dome	45-20K	100W	86dB	8 ohm	12.4" x 9"	3.62"	10.8" x 7.4"
	T62	In-Wall Speaker Performance	6.5" Graphite W/ Rubber Surround	1" Pivoting CatEye Parachute Silk Soft Dome	40-20K	120W	87dB	8 ohm	12.4" x 9"	3.62"	10.8" x 7.4"
	T63	In-Wall Speaker Reference	6.5" Carbon Fiber W/ TPR Surround	1" Pivoting Ceramic Coated Aluminum Dome	38-20K	150W	89dB	8 ohm	12.4" x 9"	3.62"	10.8" x 7.4"
	T81	In-Wall Speaker Acoustic	8" Poly W/ Rubber Surround	1/2" Pivoting Silk Soft Dome	50-20K	120W	89dB	8 ohm	14.4" x 10.4"	3.81"	12.9" x 8.8"
	T82	In-Wall Speaker Performance	8" Graphite W/ Rubber Surround	1" Pivoting CatEye Parachute Silk Soft Dome	38-22K	150W	88dB	8 ohm	14.4" x 10.4"	3.81"	12.9" x 8.8"
	T83	In-Wall Speaker Reference	8" Carbon Fiber W/ TPR Surround	1" Pivoting Ceramic Coated Aluminum Dome	28-22K	175W	91dB	8 ohm	14.4" x 10.4"	3.81"	12.9" x 8.8"

NOTE: All specification and dimensions are subject to change without notice.

All Optimal Speaker Design speaker products have Limited Lifetime Warranty against defects in materials and workmanship. Proof of purchase must accompany all claims. During the warranty period Optimal Speaker Design will replace any defective part and correct any defect in workmanship without charge for either parts or labor. Optimal Speaker Design may replace returned speakers with a product of equal value and performance. In such cases, some modification to the mounting may be necessary and are not Optimal Speaker Designs responsibility.

For this warranty to apply, the unit must be installed and used according to its written instructions. If necessary, repairs must be performed by Optimal Speaker Design. The unit must be returned to Optimal Speaker Design at the owner's expense and with prior written permission. Accidental damage and shipping damage are not considered defects, nor is damaged resulting from abuse or from servicing performed by an agency or person not specifically authorized in writing by Optimal Speaker Design.

Optimal Speaker Design sells products only through authorized dealers and distributors to ensure that customers obtain proper support and service. Any Optimal Speaker Design product purchased from an unauthorized dealer or other source, including retailers, mail over dealers and on-line sellers will not be honored or serviced under existing Optimal Speaker Design warranty policy. Any sale of product by an unauthorized source or other manner not authorized by Optimal Speaker Design shall void the warranty on the applicable product.

Damage to or destruction of components due to application of excessive power voids the warranty on those parts. In these cases, repairs will be made on the basis of the retail value of the parts and labor. To return for repairs, you must email customer service at [RMA@audiogeargroup.com](mailto:RMA@audiogeargroup.com) for a Returned Merchandise Authorization (RMA) number# then the unit must be shipped to Optimal Speaker Design at the owner's expense, along with a note explaining the nature of service required. Be sure to pack the speaker(s) in a corrugated container with at least 3 inches of resilient material to protect the unit from damage in transit.

This Warranty Does Not Cover: Damage caused by abuse, accident, misuse, negligence, or improper operation (installation) • Any products that have been altered or modified • Any product whose identifying number of decal, serial #, etc. has been altered, defaced or removed • Normal wear and maintenance.