ELIOS™

ARCHITECTURAL SPEAKERS

ELAN® HOME SYSTEMS

Contents

1. Introduction

The Evolution of Architectural Audio

For years, in–wall and in–ceiling speakers were thought of as an acceptable lower–cost, lesser quality alternative to free–standing speakers for homeowners who wanted their music heard, but not seen, throughout the house.

Over the years, things have changed significantly in the speaker arena. Digital audio has brought crystal–clear portable sound directly to the ears of millions. Expectations of what people want to hear in the confines of their homes – whether in the bedroom, kitchen, bathroom or garage – have grown. Whole–house audio is no longer back–ground music, and discriminating listeners expect more.

Elios™ has been carefully developed in direct response to these higher expectations.

Designed and Built With an Understanding of the Applications

Great speakers are much more than the sum of their parts. Technologically advanced cone materials and computer–designed crossover networks are of little value if the end result is a speaker that is difficult to install and unpleasing to the ears.

The Elios line of Architectural In–Wall and In–Ceiling Speakers were designed and built with an understanding of all the applications. The most technologically advanced cone materials have been used for all drivers; and the aid of a computer when designing our crossover networks. And that was only the beginning.

Taking the holistic approach, our guiding tenet when developing Elios was that a whole system of values must be analyzed rather than simply its individual components. Ev–erything from the exacting needs of the installer to the discriminating ear of the listener must be carefully and thoroughly considered if we were to take architectural audio to a completely new level.

Our research shows that most people we know don't listen to music in an acoustically–perfectsound lab. They listen while lying in bed, or standing at the kitchen counter, or while taking a bath. In addition to using anechoic chamber measurements to aid in the design, every Elios speaker was voiced under real–life listening conditions – in a real room with real furniture and real pictures hanging on the wall.

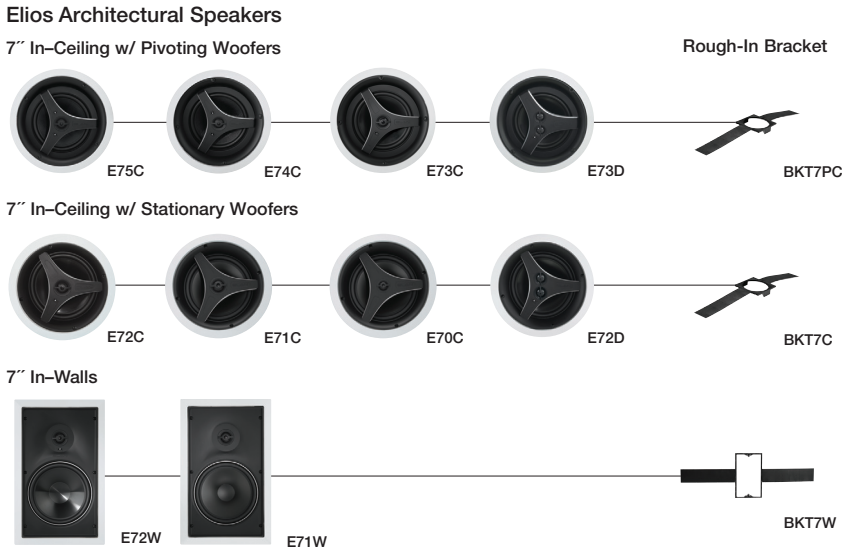
Most of the Custom Audio/Video Contractors we know don't install architectural speak–ers in a test lab with free–standing drywall platforms and pre–cut ceiling tiles. Every Elios speaker was installation tested under real–life installation conditions – in a real home with real walls and high ceilings.

At ELAN, we felt it was about time that expectations were met like never before. Introducing ELIOS – designed to meet your highest expectations.

Elios Architectural Speakers

In-Ceiling • In-Ceiling Dual Voice Coil • In-Wall

Introducing the Elios line of Architectural Speakers; ten in–wall and in–ceiling speaker models designed to meet the exacting needs of Homeowner and Custom Installer alike.



Features

- **1" Tweeter / 7" Woofer 2-Way Speaker Design**
  Greater Power-Handling & Natural Vocals

- **Custom Crossover Networks**
  Less Distortion & Better Sound Quality

- **EQ/BASS/TREBLE Switches**
  Customize Sound to Match Every Application

- **Directional Sound**
  Enhanced Stereo Imaging

- **Bigger Magnets**
  Higher Output & Punchier Bass

- **Easy-Stay Grilles**
  Grilles Install Easily & Stay in Place

- **Easy-Release Clamping Legs**
  High-Strength Legs Won't Break

- **Easy-Cut Flanges**
  Provide Sleek In-Wall/In-Ceiling Appearance

- **Easy-Paint Bezels**
  Allows a Wide range of Paint to Properly Adhere

- **Easy-Catch Debris Screens**
  Prevents Damage to Speaker

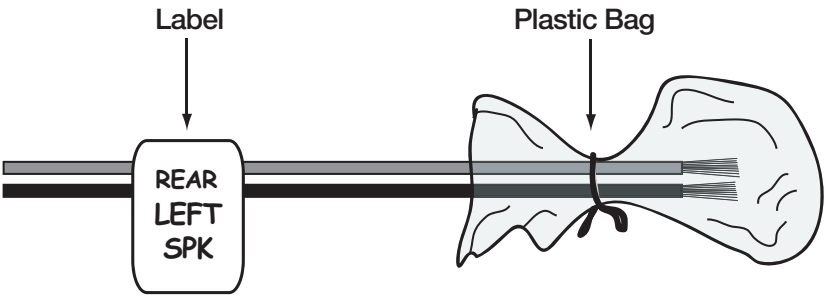
- **Limited Lifetime Warranty**

2. Installation

The Installation process is divided into two distinct processes; Wiring and Mounting. After carefully considering the intended application (Home Theater, ambient back–ground music, critical listening, multi–channel or stereo, etc.) specific mounting loca–tions can be decided upon. Once the specific locations are determined, installation can commence.

Wiring Speakers

Before actually running any wire or cable, take the time to look around each room or area of the house and plan the wire paths for maximum efficiency. Look for routes through uncluttered parts of the stud wall or ceiling that allow you to group all low–voltage wires wherever possible. It is a good practice to label both ends of all cables and to protect wires by tying a plastic bag over the ends.

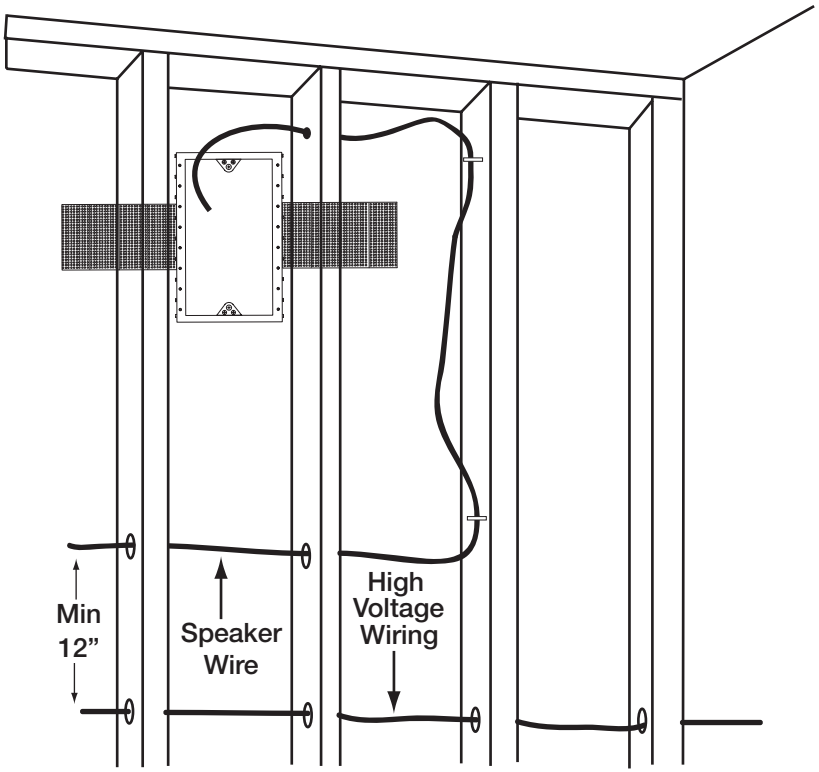


Note 1: Low voltage wiring must be run in accordance with the National Electri–cal Code as well as any other applicable provisions of the local building codes in your area. In some cases (such as commercial installations), running the wire in conduit may be required. If you have any questions concerning the wiring of speakers in your home, contact your local building and inspection department.

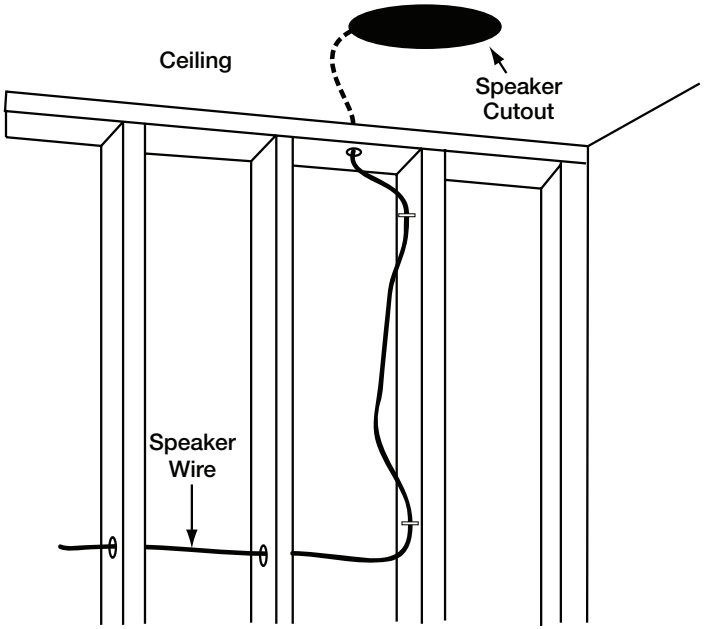
Note 2: It is recommended that you use quality CL2 or CL3 rated stranded speaker wire when installing ELAN TheaterPoint speakers.Solid–core "Romex" type wire is not acceptable! Use at least 16AWG speaker wire for runs up to 100 feet, and at least 14 AWG speaker wire for runs up to 200 feet. If you must cross high–voltage lines, always do so at a 90 degree angle to avoid audible hum through the speakers!

Wiring w/ Rough-In Brackets

The audio/speaker cable runs should be routed from the head–end location (where the amplifer is placed) to the speaker rough–in brackets (if used). At the speaker locations, securely fasten the speaker wire to the rough–in bracket.

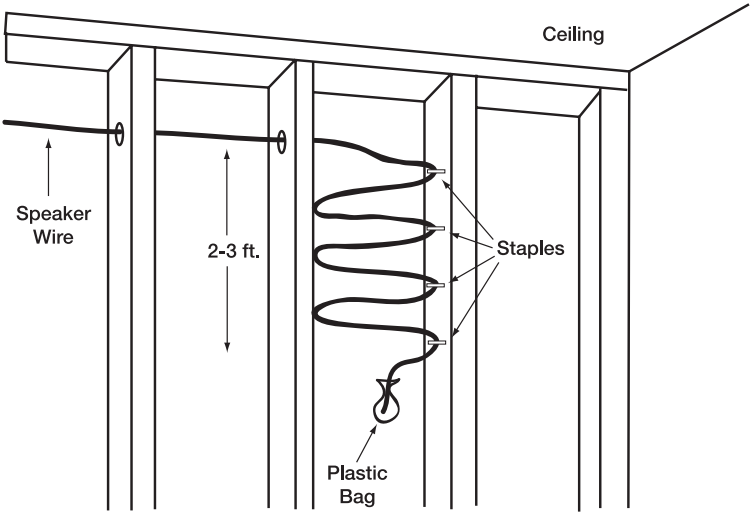


WARNING: Do Not Run Speaker Wires Through Holes Shared By High-Voltage Wiring!



Wiring w/Out Rough-In Brackets

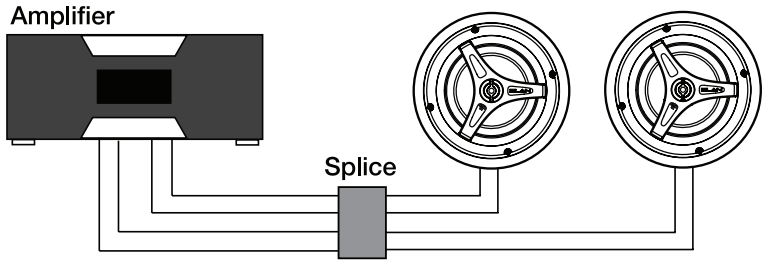
If speaker rough–in brackets are not being utilized, speaker wire runs should be sta–pled in a loose zigzag between the studs or joists where the speaker is to be mounted in order to make it easier to find the cable after the drywall is installed. Zig–zagging the cable also allows flexibility in the placement of the speaker.



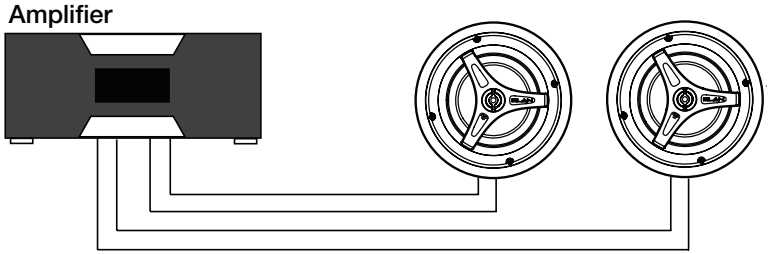
Stereo Speaker Pairs

There are three common scenarios for connecting stereo speaker pairs to a distributed audio system:

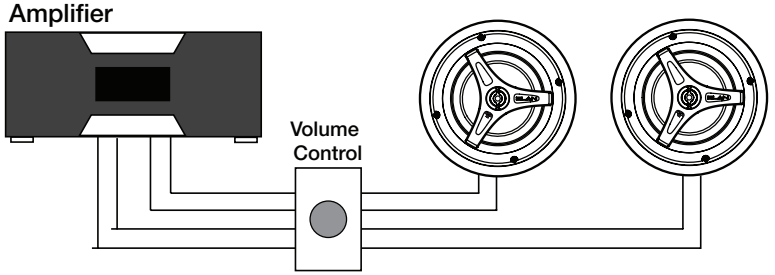
• One 4-conductor speaker wire runs from the amplifier to one speaker w/ 2 conductors connected. The second 2-conductors are spliced and connected to a 2-conductor speaker wire that runs to the second speaker.



• Two separate two-conductor speaker wires run from the amplifier to each stereo speaker.

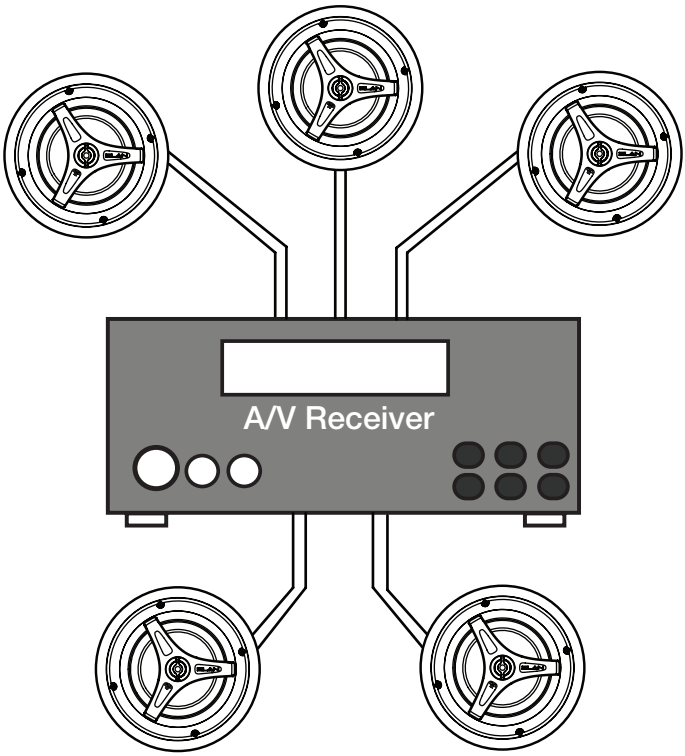


• One four-conductor speaker wire runs from the amplifier to a stereo volume control, then one two-conductor speaker wire runs to each stereo speaker.



Surround Speakers

Typically, Home Theater surround speakers are connected directly from the amplifier to the speakers without the use of a volume control.



WARNING: Turn Off Power to Amplifier Before Connecting Speakers!

Mounting Speakers

There are two situations that are typically encountered when mounting in–wall or in–ceiling speakers:

Pre-Construction

Installations that occur in new homes being built and in remodel situations where walls and/or ceilings are exposed are considered Pre–Construction situations.

Retro-Fit

Installation that involve existing homes with walls and ceilings finished are considered Retro–Fit situations.

While the end result of either type of installation is similar, the process for each is quite different.

Pre-Construction

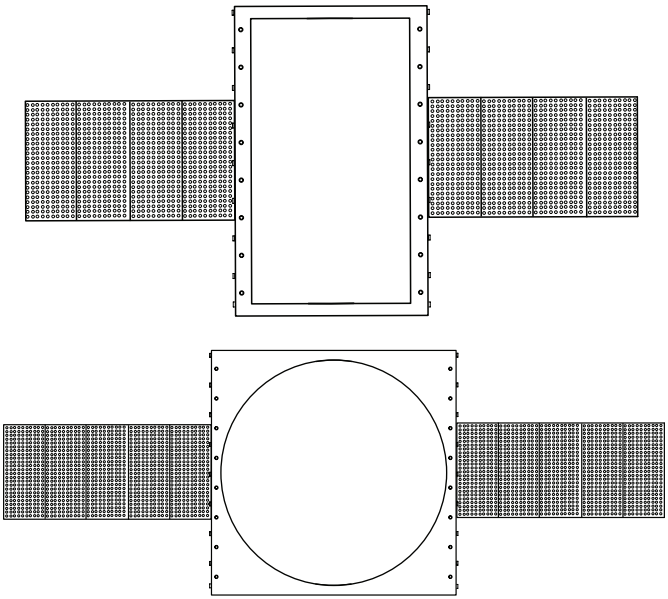
In a pre–construction installation, walls and ceilings are open with no drywall installed. This is desirable and allows the installer much greater access than in retro–fit ap–plications. ELAN ELIOS Rough–In Brackets are specifically designed to work with these speakers and should be used whenever possible to reserve a neat hole in the drywall, ensuring proper placement of speakers and making trim–out and final installation neat and organized. See the chart on the next page for the correct rough–in bracket for the speaker being installed.

Referring to the floor plan marked with component locations, install all speaker rough–in brackets. Be sure that the bracket frame is facing out for drywall cutting accuracy. All rough–in brackets must be securely mounted to wall studs and cannot be installed after the drywall is up!

Rough-In Brackets

The chart below details the correct rough–in bracket for each ELIOS Architectural speaker.

Bracket	Use w/ Speaker
BKT7C	**E70C** **E71C** **E72C** **E72D**
BKT7PC	**E73C** **E74C** **E75C** **E73D**
BKT7W	**E71W** **E72W**

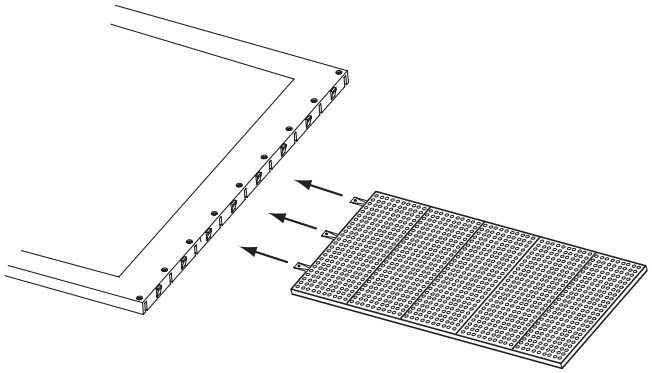


Mounting Rough-In Brackets In Walls

1. Decide on the installation location for the speakers.

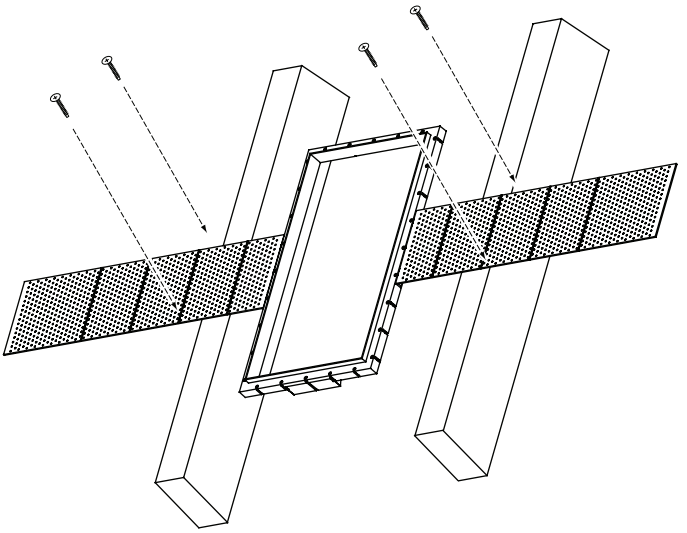
WARNING: Be sure mounting locations are clear of high-voltage wiring, pipes, or other obstructions.

2. Attach the Bracket Flanges to the Bracket Frame as shown.



Note: Make sure the dimpled side of the flange faces OUT and interlocks with the frame from the rear.

3. Secure the bracket assembly to the wall studs with flat–head screws or heavy–duty staples.



4. Once the drywall has been installed, ***carefully*** and ***accurately*** cut out the speaker holes using a routing tool or similar device. A drywall professional may perform this step.

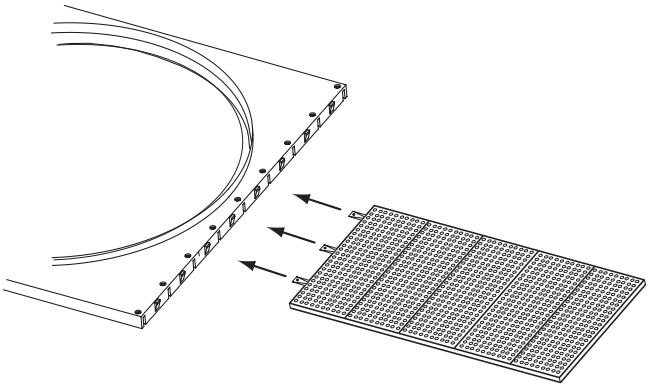
Mounting Rough-In Brackets In Ceilings

1. Decide on the installation location for the speakers.

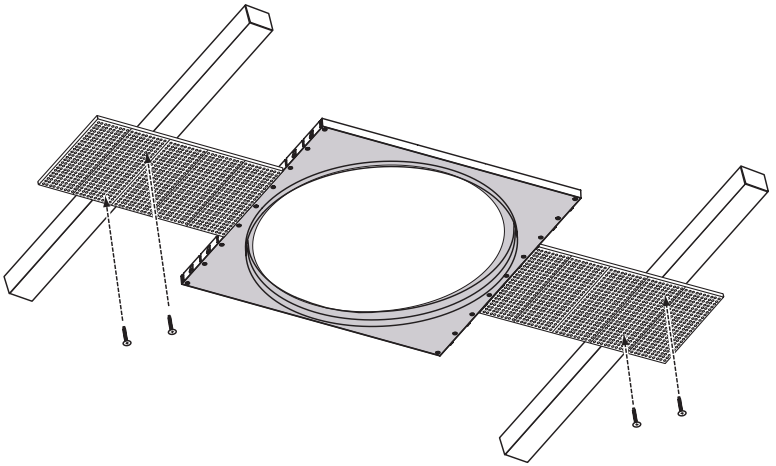
WARNING: Be sure mounting locations are clear of high-voltage wiring, pipes, or other obstructions.

2. Attach the Bracket Flanges to the Bracket Frame as shown.

Note: Make sure the dimpled side of the flange faces OUT and interlocks with the frame from the rear.

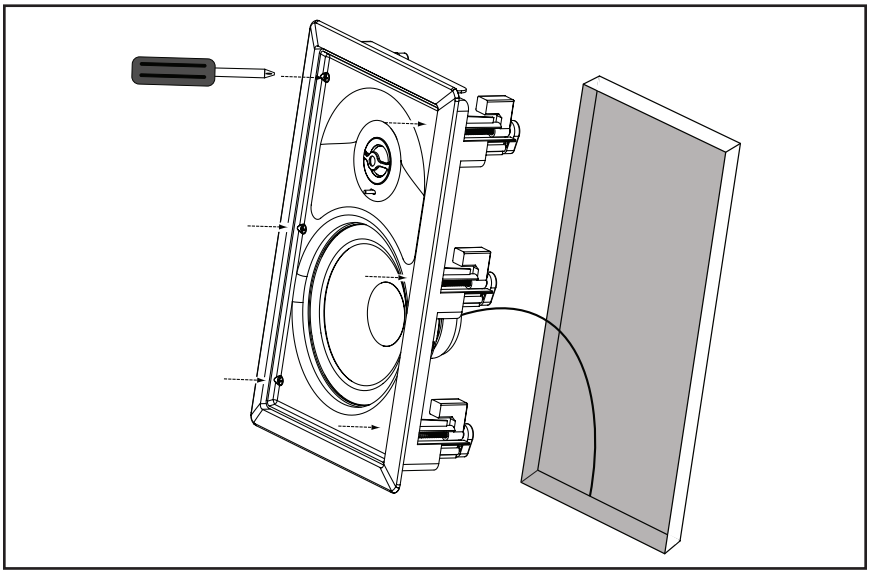


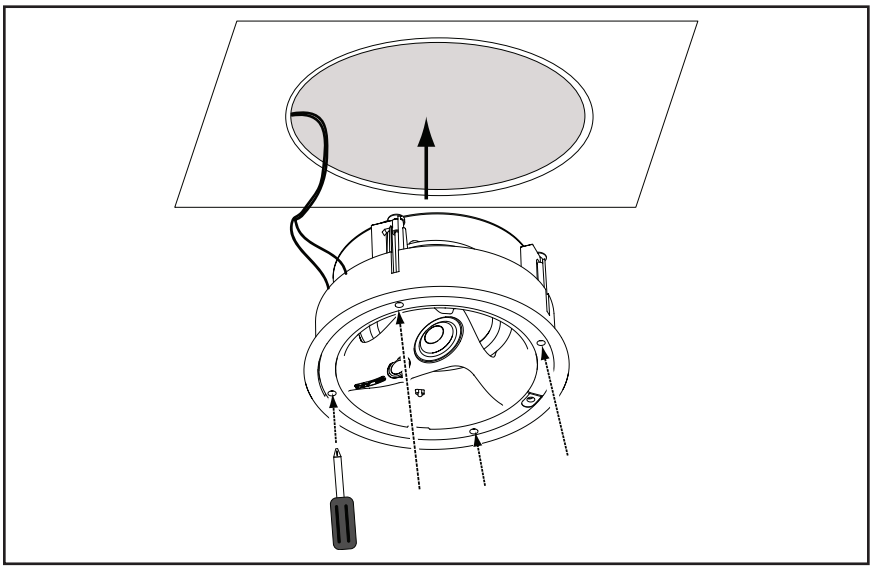
3. Secure the bracket assembly to the ceiling joists with flat–head screws or heavy–duty staples.



Mounting Speakers in Rough-In Brackets

1. Remove speaker grille and place speaker face down.
2. Locate the speaker wire and pull through the wall or ceiling opening.
3. Connect the speaker wire. ***Be sure to observe correct polarity!***
4. Insert the speaker into the the wall or ceiling opening and ***carefully*** tighten each clamping screw, alternating diagonally between each screw position to ensure proper fit.





5. Once the speaker is mounted in the wall or ceiling, direct the tweeter towards the primary listening position (for models with pivoting tweeters). See **Positioning Speakers** for details.
7. Set the ***EQ***, ***TREBLE*** and/or ***BASS*** switches, if applicable. See **Setting Switches** for details.
8. Replace the speaker grille.

Retro-Fit

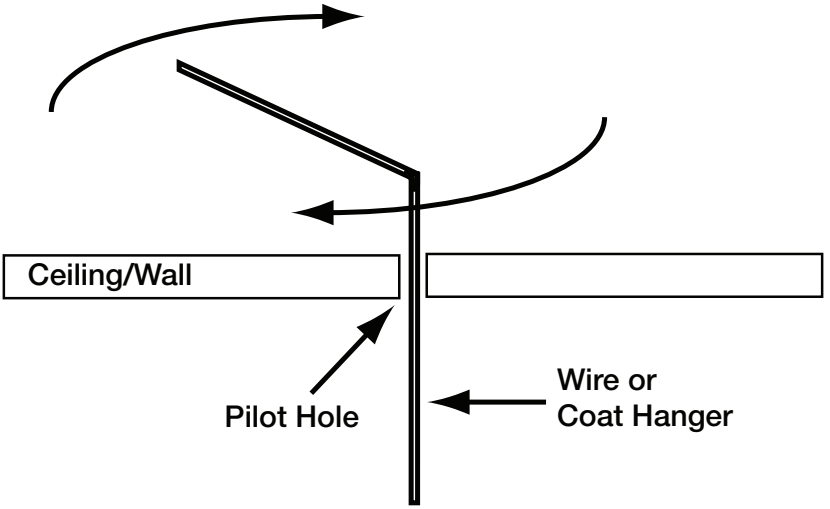
Retro–fit installations are more difficult to complete than pre–construction because walls and ceilings are intact. Typically wires must be fished into position through walls, floors and ceilings. Holes must be cut and speakers mounted directly in the ceiling with no rough–in brackets. ***Before cutting holes in any existing wall or ceiling surface, probe the cavity behind each speaker's installation location for obstructions!***

Cutting Openings in Walls or Ceilings - No Rough-in Brackets

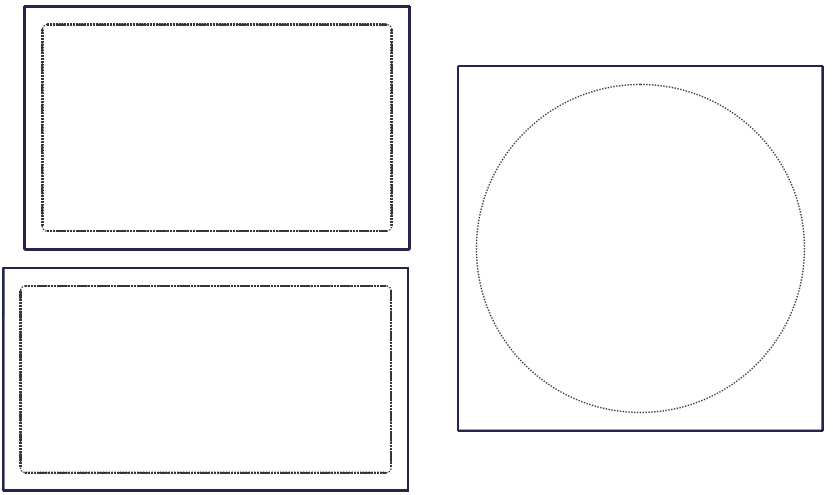
1. Use a stud finder to locate the studs around the intended speaker location.

Note: A stud–finding device may not detect pipes, wiring, or other obstructions located behind the drywall.

2. Use the inside portion of the speaker cutout template to confirm speaker placement.
3. Remove templates and drill or carefully punch a pilot hole in the wall. A bent piece of wire or a coat hanger may be use to probe the stud bay for obstructions. If you experience resistance of any kind – STOP! If any obstructions are detected, patch the pilot hole and try again in another location.



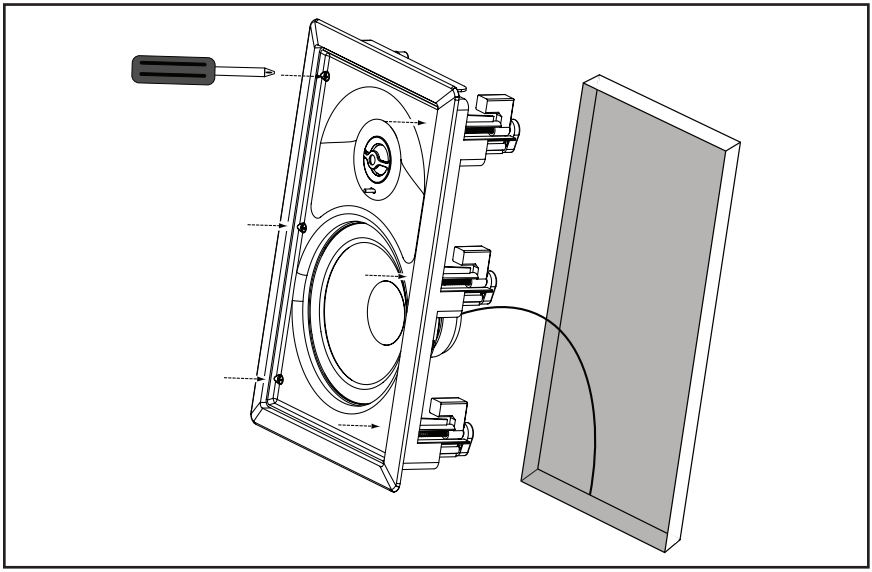
4. Once it has been determined that the cavity is free from obstructions, position the cutout template and use a pencil to lightly trace the perimeter of the template.

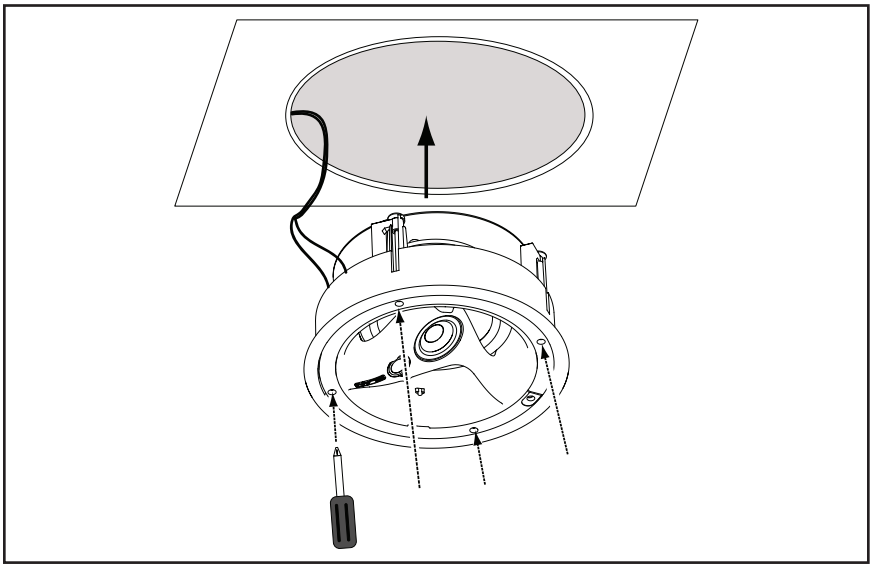


5. Cut the opening using a keyhole saw, drywall router, or razor knife.

Mounting Speakers in Wall or Ceiling

1. Remove speaker grille and place speaker face down.
2. Locate the speaker wire and pull through the wall or ceiling opening.
3. Connect the speaker wire. ***Be sure to observe correct polarity!***
4. Insert the speaker into the the wall or ceiling opening and ***carefully*** tighten each clamping screw, alternating diagonally between each screw position to ensure proper fit.





5. Once the speaker is mounted in the wall or ceiling, direct the tweeter and/or mid–range driver towards the primary listening position (for applical models). See **Positioning Speakers** for details.
7. Set the ***EQ***, ***TREBLE*** and/or ***BASS*** switches, if applicable. See **Setting Switches** for details.
8. Replace the speaker grille.

Positioning Speakers

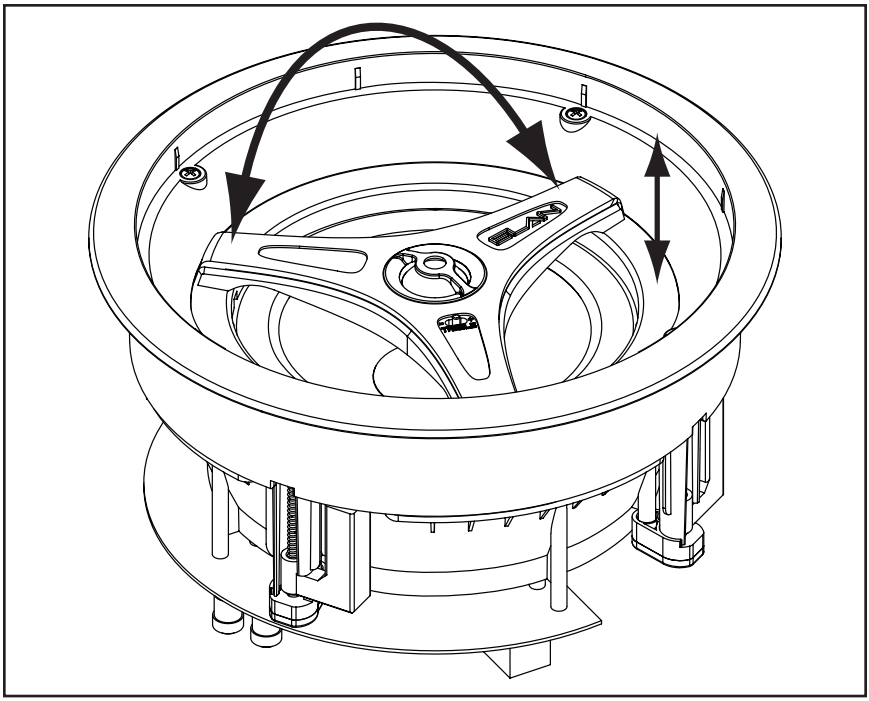
ELIOS speakers are specifically designed to produce outstanding audio quality when properly placed in relationship to the listening area. Human hearing relies on midrange and high frequencies to determine spatial direction (where a sound is coming from). Midrange and high frequency drivers (tweeters) tend to produce narrow soundfields that sound much better when pointing directly at the listener whereas low frequency drivers (woofers) envelop much larger areas and tend to be more omnidirectional. ELIOS speakers feature directional midrange drivers and/or tweeters (depending on model) that can take advantage of these acoustical properties.

Positioning the Midrange

Several ELIOS in–ceiling speakers feature movable midrange drivers. Once the audio system is connected and the speakers have been completely installed (with the grilles off), it is time to point the midrange drivers (for models so equipped) towards the listening area.

Pivoting Baffle (E75C, E74C, E73C)

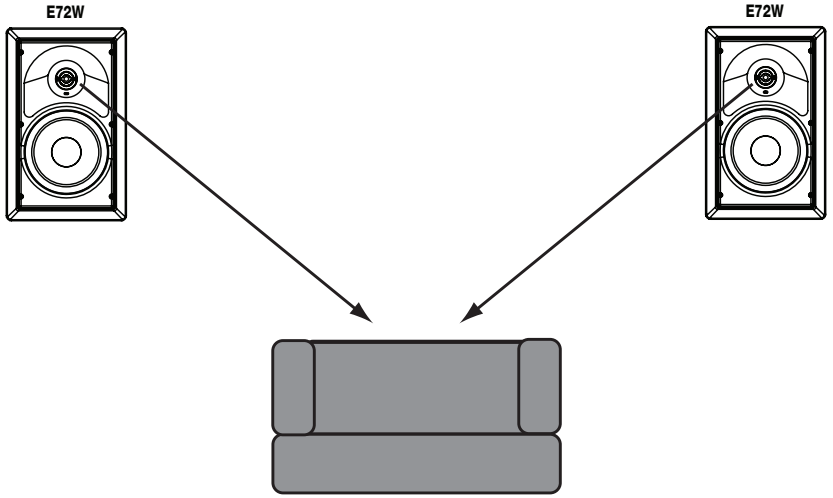
Models E75C, E74C and E73C feature a pivoting baffle in order to point the midrange driver toward the listening area. Use the bridge of the speakers (where the tweeter is mounted) to move the baffle to the desired position.



Positioning the Tweeter (All models except E73D, E72D)

Because the human ear relies heavily on high frequencies to locate sound, and because high frequency drivers create a narrow soundfield, it is important to align tweeters precisely. Stereo imaging and surround sound effects and dialogue are greatly improved by positioning the tweeter correctly.

To correctly position the tweeter, simply move the tweeter within its pivoting axis so that it points toward the desired listening position. The correct location will depend on the specifics of the listening area. The drawing below shows a stereo listening area with correctly positioned tweeters.

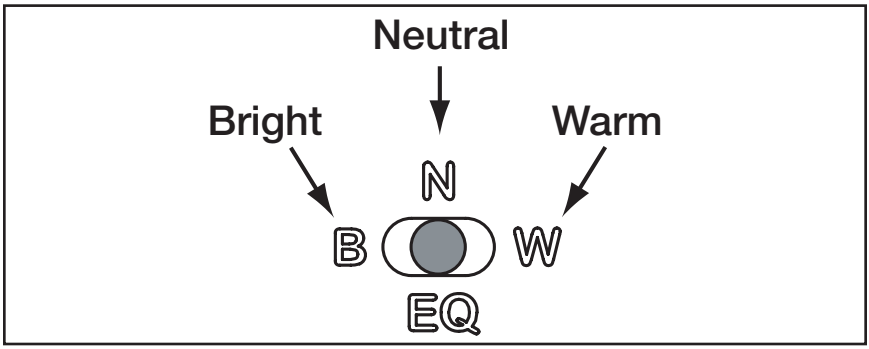


Setting Switches (All models except E71C, E70C, E71W)

Once the speakers are wired, mounted, and positioned correctly, use the built–in switches to fine–tune the speakers based on local environmental variables or system design parameters. The switches are labelled "**EQ**" (Equalizer), "**BASS**" and "**TREBLE**". The **EQ** switch compensates for the "liveness" or "deadness" of the room while the **BASS** and **TREBLE** switches increase and/or decrese low and high frequencies re–spectively.

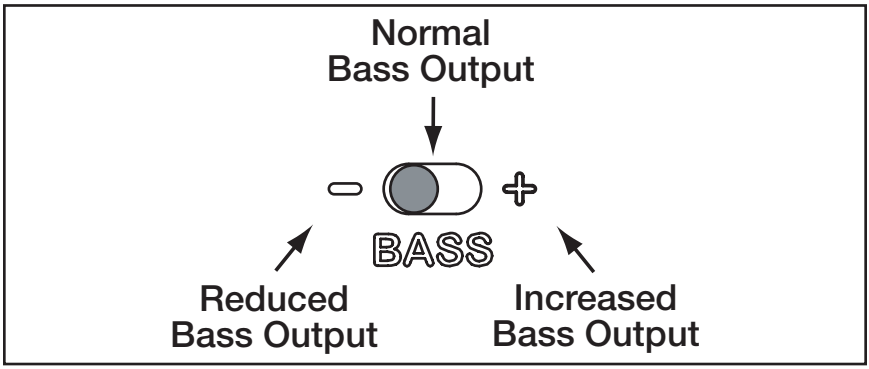
EQ Switch (E75C, E74C, E73C, E73D)

Select the **W** (Warm) position on the **EQ** switch to compensate for "live" rooms where sound bounces and reflects from hard surfaces like tile or hardwood floors, large glass surfaces/windows, stone or brick walls, etc. Select the **B** (Bright) position to compen–sate for "dead" rooms where sound is absorbed by soft materials like heavy drapes, thick carpeting, upholstered furniture, etc. Use the **N** (Neutral) position if no compensa–tion is required.



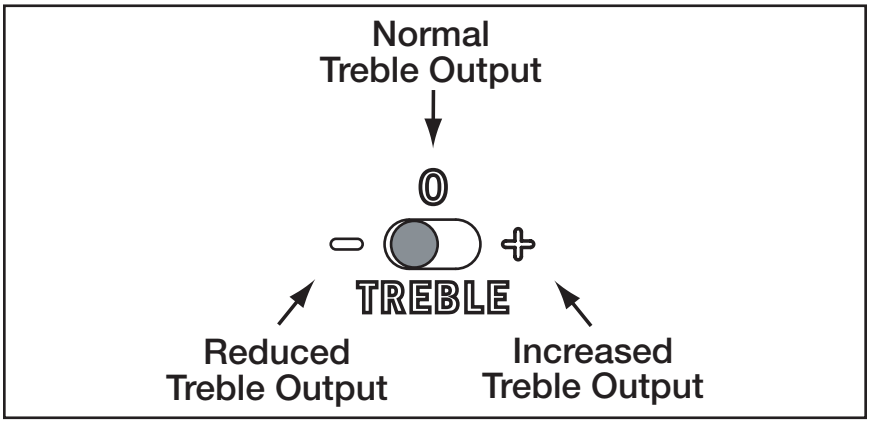
BASS Switch (E75C, E74C)

The **BASS** switch is designed to Increase or decrese the low frequency response of ELIOS speakers. Select the **+** position to increase the low frequency output. Select **–** to decrease the low frequency output. Select the **0** position for flat frequency response.



TREBLE Switch (E72C, E72D, E72W)

The **Treble** switch is designed to Increase or decrese the high frequency response of ELIOS speakers. Select the **+** position to increase the high frequency output. Select **–** to decrease the high frequency output. Select the **0** position for flat frequency response.



Painting

ELAN ELIOS speakers can be finished to match any room décor. Special care was taken to select the right plastic (ABS 757) frame material and aluminum grilles to allow for a wide range of paints to properly adhere to it. This includes eco–friendly water based enamel paints. We recommend the grille and frame be painted separately. To aid in frame painting, a plastic paint shield is included to protect the speaker baffle.

Painting Tips:

- If not using spray paint, it is recommend that the paint be thinned to prevent clog ging of the speaker grille perforations.
- When painting, several light coats will yield the best results.

3. Specifications

E75C

Woofer	7 in. Kevlar, pivoting
Tweeter	1 in. Titanium / Aluminum nano–coated Teteron dome, pivoting
Frequency Response	45Hz–20kHz
Sensitivity	88.5dB
Rated Power	65W RMS
Nominal Impedance	8 Ohms
Crossover	Custom “Q” multi–pole
Switches	Bass & EQ
Cutout Dims.	9–3/4 in. (246.5 mm)
Outside Frame Dims.	11 in. (279 mm)
Depth	5–7/8 (148mm)
Rough–in Brackets	BKT7PC

E74C

Woofer	7 in. fiberglass, pivoting
Tweeter	1 in. Titanium / Aluminum nano–coated Teteron dome, pivoting
Frequency Response	45Hz–20kHz
Sensitivity	88dB
Rated Power	65W RMS
Nominal Impedance	8 Ohms
Crossover	Custom “Q” multi–pole
Switches	Bass & EQ
Cutout Dims.	9–3/4 in. (246.5 mm)
Outside Frame Dims.	11 in.(279 mm)
Depth	5–7/8 (148mm)
Rough–in Brackets	BKT7PC

E73C

Woofer	7 in. Mica–filled injection cone, pivoting
Tweeter	1 in. Teteron Dome, pivoting
Frequency Response	48Hz–20kHz
Sensitivity	87.5dB
Rated Power	60W RMS
Nominal Impedance	8 Ohms
Crossover	Custom “Q” multi–pole
Switches	EQ
Cutout Dims.	9–3/4 in. (246.5 mm)
Outside Frame Dims.	11 in. (279 mm)
Depth	4–1/2 in. (114 mm)
Rough–in Brackets	BKT7PC

E72C

Woofer	7 in. Mica–filled injection cone
Tweeter	1 in. Silk Dome, pivoting
Frequency Response	50Hz–20kHz
Sensitivity	87dB
Rated Power	55W RMS
Nominal Impedance	8 Ohms
Crossover	Custom “Q” multi–pole
Switches	High Freq.
Cutout Dims.	8–5/8 in. (220 mm)
Outside Frame Dims.	10 in. (253 mm)
Depth	4–3/8 in. (111 mm)
Rough–in Brackets	BKT7C

E71C

Woofer	7 in. mineral–filled Polypropylene
Tweeter	1 in. Soft Dome, pivoting
Frequency Response	50Hz–20kHz
Sensitivity	87dB
Rated Power	50W RMS
Nominal Impedance	8 Ohms
Crossover	Custom “Q” multi–pole
Switches	N/A
Cutout Dims.	8–5/8 in. (220 mm)
Outside Frame Dims.	10 in. (253 mm)
Depth	4–1/4 in. (108 mm)
Rough–in Brackets	BKT7C

E70C

Woofer	7 in. mineral–filled Poly–propylene
Tweeter	3/4 in. Soft Dome, pivoting
Frequency Response	50Hz–20kHz
Sensitivity	87dB
Rated Power	50W RMS
Nominal Impedance	8 Ohms
Crossover	Custom “Q” single pole
Switches	N/A
Cutout Dims.	8–5/8 in. (220 mm)
Outside Frame Dims.	10 in. (253 mm)
Depth	4–1/4 in. (108 mm)
Rough–in Brackets	BKT7C

E73D

Woofer	7 in. Mica–filled injection cone, pivoting
Tweeter	(2) 3/4 in. Teteron Dome
Frequency Response	48Hz–20kHz
Sensitivity	88dB
Rated Power	60W RMS
Nominal Impedance	8 Ohms
Crossover	Custom “Q” multi–pole
Switches	EQ
Cutout Dims.	9–3/4 in. (247 mm)
Outside Frame Dims.	11 in. (279 mm)
Depth	6–3/4 in. (171mm)
Rough–in Brackets	BKT7PC

E72D

Woofer	7 in. Mica–filled injection cone
Tweeter	(2) 3/4 in. Silk Dome
Frequency Response	50Hz–20kHz
Sensitivity	87dB
Rated Power	55W RMS
Nominal Impedance	8 Ohms
Crossover	Custom “Q” multi–pole
Switches	High Frequency
Cutout Dims.	8–5/8 in. (220 mm)
Outside Frame Dims.	10 in. (253 mm)
Depth	4–3/8 in. (111 mm)
Rough–in Brackets	BKT7C

E72W

Woofer	7 in. Mica–filled injection cone
Tweeter	1 in. Soft Dome, pivoting
Frequency Response	50Hz–20kHz
Sensitivity	87.5dB
Rated Power	55W RMS
Nominal Impedance	8 Ohms
Crossover	Custom “Q” multi–pole
Switches	High Frequency
Cutout Dims.	13–1/2 x 7–7/8 in. (342 x 201 mm)
Outside Frame Dims.	14–3/4 x 9–1/4 in. (375 x 234 mm)
Depth	3–7/8 in. (97 mm)
Rough–in Brackets	BKT7W

E71W

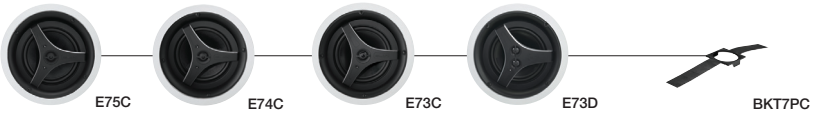
Woofer	7 in. mineral–filled Poly–propylene
Tweeter	1 in. Soft Dome, pivoting
Frequency Response	50Hz–20kHz
Sensitivity	87dB
Rated Power	50W RMS
Nominal Impedance	8 Ohms
Crossover	Custom “Q” multi–pole
Switches	N/A
Cutout Dims.	13–1/2 x 7–7/8 in. (342 x 201 mm)
Outside Frame Dims.	14–3/4 x 9–1/4 in. (375 x 234 mm)
Depth	3–7/8 in. (97 mm)
Rough–in Brackets	BKT7W

ELIOS ARCHITECTURAL & CINEMA SPEAKERS

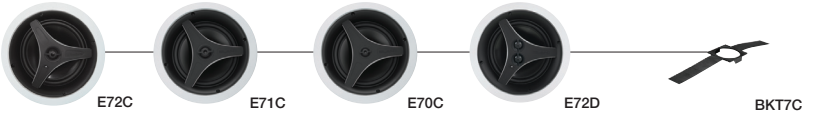
Elios Architectural Speakers

7″ In–Ceiling w/ Pivoting Woofers

Rough-In Bracket



7″ In–Ceiling w/ Stationary Woofers



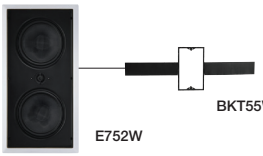
7″ In–Walls

Elios Cinema Speakers

9″ In–Ceiling w/ Rotating Baffles

9″ In–Ceiling w/ Stationary Baffles

Dual 7″ In–Wall



Dual 5.25″ In–Wall

Notes:

Limited Lifetime Warranty

ELAN HOME SYSTEMS L.L.C. (“ELAN”) warrants to the original purchaser only that ELIOS speakers are free from defects in materials and workmanship provided that the product was purchased from an authorized ELAN Home Systems Dealer. If the purchaser discovers that such item was not as warranted above and promptly notifies ELAN in writing, ELAN shall repair or replace the item at the company’s option. This warranty shall not apply (a) to equipment not manufactured by ELAN, (b) to equipment which shall have been installed by other than an ELAN authorized installer, (c) to installed equipment which is not installed to ELAN’s specifications, (d) to equipment which shall have been repaired or altered by others than ELAN, (e) to equipment which shall have been subjected to negligence, accident, or damage by circumstances beyond ELAN’s control, including, but not limited to, lightning, flood, electrical surge, tornado, earthquake, or other catastrophic events beyond ELAN’s control, or to improper operation, maintenance or storage, or to other than normal use of service. With respect to equipment sold by, but not manufactured by ELAN, the warranty obligations of ELAN shall in all respects conform to the warranty actually extended to ELAN by its supplier. The foregoing warranties do not cover reimbursement for labor, transportation, removal, installation or other expenses which may be incurred in connection with repair or replacement.

Except as may be expressly provided and authorized in writing by ELAN, ELAN shall not be subject to any other obligations or liabilities whatsoever with respect to equipment manufactured by ELAN or services rendered by ELAN.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESSED AND IMPLIED WARRANTIES EXCEPT WARRANTIES OF TITLE, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

ATTENTION: TO OUR VALUED CONSUMERS

To ensure that consumers obtain quality pre-sale and after-sale support and service, ELAN Home Systems products are sold exclusively through authorized dealers. ELAN products are not sold online. The warranties on ELAN products are NOT VALID if the products have been purchased from an unauthorized dealer or an online E-tailer. To determine if your ELAN reseller is authorized, please call ELAN Home Systems at (859) 269-7760.

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