

**M**

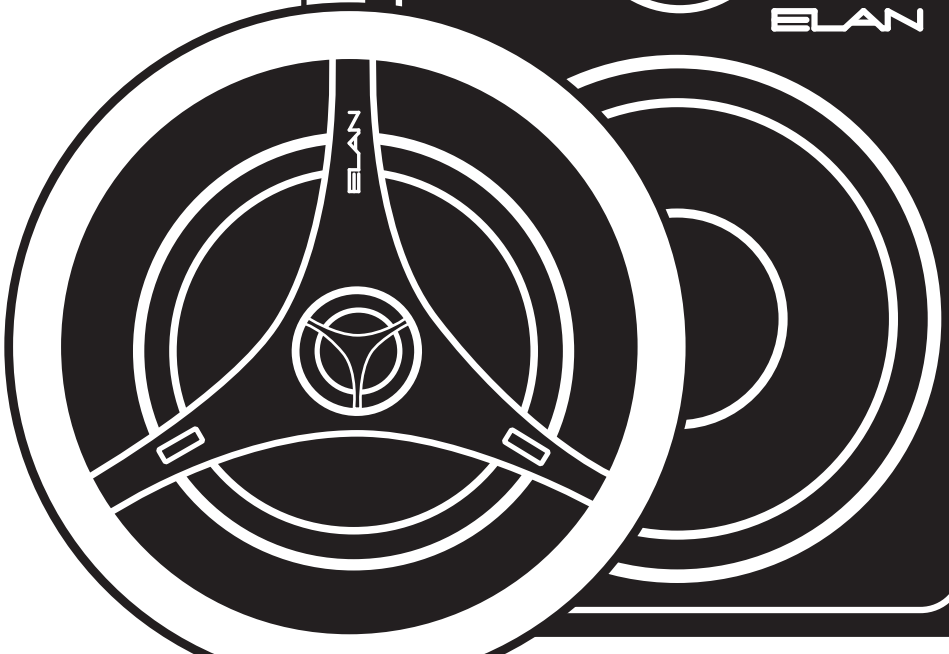
SERIES

# SPEAKER INSTALLATION MANUAL

**ELAN**  
HOME SYSTEMS™



**ELAN**



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# M SERIES BY ELAN: AN IN-WALL SPEAKER LINE OF DISTINCTION

The ELAN M Series is a multi-tiered speaker offering that achieves a new level of design flexibility and acoustical performance.

**True quality** begins with a discriminating eye toward the goal. The goal? To deliver a line of in-wall and in-ceiling speakers with superior performance at all price levels.

**The process** began by assessing every major name brand in-wall speaker for performance, price, aesthetics and attention to detail. From there it went to the lab—listening, evaluating, analyzing, comparing, debating, formulating, reformulating and defining.

**We hired** world-class acoustical engineers to refine our conclusions. We summoned expert dealers to test the design decisions, assortment and product attributes. We then selected the finest materials at each cost level to create a consistent offering. The materials were carefully tested and voiced against the nearest competitive speaker to arrive at the best performance against every model offered in each class.

**The result:** speakers second to none in every class from basic to premium grade. In fact, the M Series are the top performers in each cost class. Better sound, better looks, and better quality at a given price.

## DISCERNING FEATURES

**Styling Perfection**—Narrower flat-profiles, sharp-radius frames and tall aspect ratios make for a sleek, slim appearance on the wall. A fine-mesh grille finish adds to the elegant look of the M Series products.

**Acoustical Mastering**—Balance across the full range of the musical spectrum requires a sophisticated selection of the right woofer cones, surrounds, tweeters, crossover components and baffle construction for each system. Most importantly, each crossover has been "voiced" to provide the best performance for the materials deployed.

**Installation Provisions**—Getting the speaker in the wall solidly and efficiently is beneficial to its end use. The ability to mount these designs with or without baffles, and the flexible stud mounting flanges makes installation a snap in the most difficult locations. The multi-legged clamp system provides the best means for eliminating undesirable vibration common with other speaker alternatives.

**A Family of Performers**—When multiple speakers from other manufacturers were tested, the range of performance fell off considerably between models. No one company exceeded average performance with all models in the given class. M Series provides above average performance with all models - with no under performers in the entire lineup.

**Listen with Confidence**—All M Series speakers come with a Limited Lifetime Warranty.

**Enjoy Your Choice**—You are about to experience music reproduction few expect from an in-wall speaker. Sit back and listen, and savor the resounding quality that your new ELAN speakers deliver. We are pleased to be able to provide you with many pleasurable moments for years to come. Thank you for your selection of M Series—and enjoy the music.

# INSTALLATION OVERVIEW

## ABOUT THE M SERIES

### MOUNTING CLAMP DESIGN

All models in the ELAN M Series speaker line feature rigid, heavy-duty mounting clamps that ensure a quick, secure, vibration-free installation in walls from 1/2" to 1 1/2" in thickness.

The ceiling models and 5.25" In-Walls have four mounting clamps each. The 6.5" and 8" In-Wall models have six mounting clamps.

### REMOVABLE BAFFLES (ME, MM AND MP MODELS ONLY)\*

M Series' removable baffle assemblies give you important job-site options. With only a frame and grille installed, there's no expensive baffle left unguarded at the job site—simply install it when the interior is complete. Removable baffles also allow you to replace or upgrade speakers without having to remove or re-paint the frame and grille.

*\*NOTE: Mounting ceiling speaker frames without a baffle requires the use of M Series New Construction Brackets. In-wall frames would also require the use of M Series New Construction Brackets unless the frame is being mounted directly to a stud. (see Direct-To-Stud Mounting, Page 7).*

### DAMPING THE WALL CAVITY

Damping the wall/ceiling cavity behind the speakers by loosely filling it with fire-rated fiberglass insulation can enhance the performance of your M Series speakers and reduce unwanted transmission of sound into adjacent rooms.

## PAINTING THE SPEAKERS

All ELAN M SERIES speakers can be finished to match any room décor. Their white, textured frames and no-rust aluminum grilles readily accept most water-based interior latex and spray enamels.

We recommend the grille and frame be painted separately. To aid in frame painting, we've included a plastic paint shield that will protect the speaker baffle.

### Painting Tips:

1. If not using spray paint, we recommend that the paint be thinned to prevent clogging the speaker grille perforations.
2. When painting, several light coats will yield the best results.

## INSTALLATION PROCEDURES

As the installation of flush-mount speakers requires cutting into walls where high-voltage wiring, pipes and duct work may be present, installation should be performed by experienced and trained professionals only.

### NOTES:

- **Check for Obstructions**—Before cutting holes in any existing wall or ceiling surface, the cavity behind each speaker's installation location **MUST** be probed for obstructions. Make sure to probe both speaker locations in the room to ensure that symmetrical placement is feasible.

- Always maintain proper polarity when wiring speakers. Failure to do so will result in poor stereo imaging and a decrease in base response
- ELAN M SERIES speakers are factory balanced for optimum performance with the EQ switches in the 0 dB position. + or - 3 dB adjustment is provided to accommodate room acoustics and personal taste. (MM and MP models only)

the perimeter of the template. If installing an In-Wall speaker, use a level to accurately position the cutout before you trace its outline.

5. Use a keyhole saw, drywall router, or razor knife to cut the openings.

**IMPORTANT NOTE:** *The slim design of M SERIES speaker frame flanges require that careful attention be paid to not oversize the cut-out hole.*

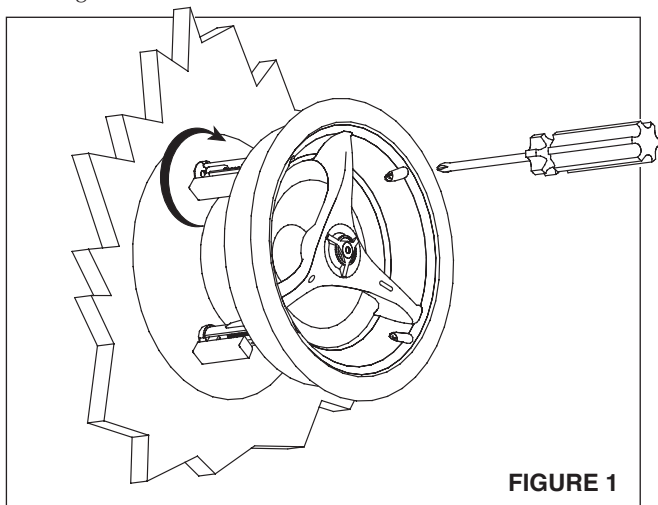
## CUTTING SPEAKER OPENINGS IN FINISHED WALLS

1. Use a stud finder to locate the studs around the intended speaker placement. **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 the speaker placements.
3. Remove templates and drill or carefully poke a pilot hole in both locations. 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 holes and try again in another location.
4. Once you have determined the cavity is free from obstructions, re-position the cutout template and use a pencil to lightly trace

## IN-CEILING SPEAKER INSTALLATION:

### Complete Assemblies (with or without New Construction Brackets)

1. Remove speaker grille and set speaker face down on cardboard.
  - ! **CAUTION: DO NOT DROP SPEAKER ON ITS BACK. DAMAGE COULD RESULT TO CROSSOVER COMPONENTS.**
2. Locate the speaker wire and pull through the wall opening.
3. Connect the speaker wire. **BE SURE TO OBSERVE CORRECT POLARITY!**



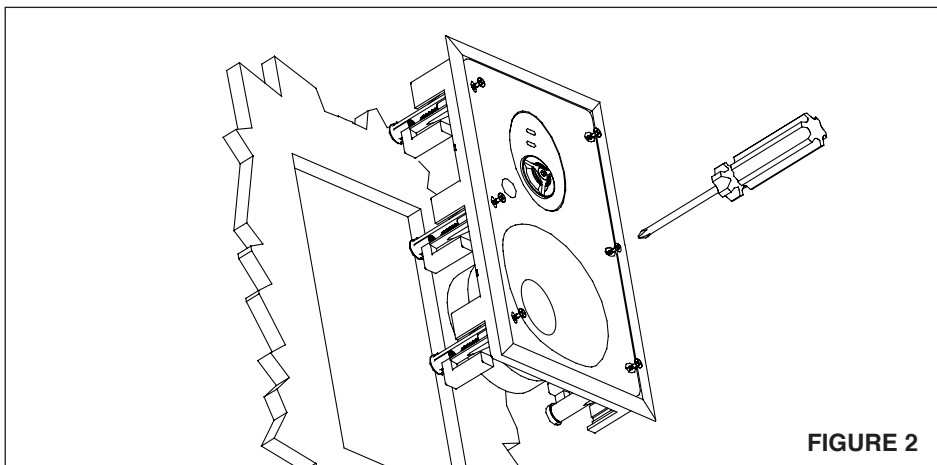
**FIGURE 1**

4. Insert the speaker into the opening in the ceiling and CAREFULLY tighten each of the four clamping screws, alternating diagonally between each screw position to ensure proper fit and finish. **FIGURE 1, Page 4**
- ! CAUTION: DO NOT OVERTIGHTEN THE SCREWS!**  
*If using a drill to tighten the clamping screws, be sure to set the torque setting very low. Setting the drill's torque too high may break the mounting clamps, the wall surface, and/or the speaker frame assembly.*
5. Set the EQ switches (*MM and MP models only*).
  6. Replace the speaker grille.
2. Locate the speaker wire (and IR wire, if applicable) and pull through the wall opening.
  3. Install ELAN IR Tube if applicable (*see Installing the ELAN IR Tube, Pages 8,9*)
  4. Connect the speaker wire. **BE SURE TO OBSERVE CORRECT POLARITY!**
  5. Insert the speaker into the opening in the wall and CAREFULLY tighten each of the clamping screws (four on all 5 1/4" models, six on all 6 1/2" and 8" models), alternating diagonally between each screw position to ensure proper fit and finish. **FIGURE 2**
- NOTE:** Do not place insulation directly behind the 8" in-wall woofer magnets as they are 4" deep.

## IN-WALL SPEAKER INSTALLATION:

### Complete Assemblies (with or without New Construction Brackets)

1. Remove speaker grille.



**FIGURE 2**

- ! CAUTION: DO NOT OVERTIGHTEN THE SCREWS!** (see caution note on this page)

6. Set the EQ switches (*MM and MP models only*).
7. Replace the speaker grille.

## FRAME-ONLY INSTALLATION (ME, MM & MP MODELS ONLY)

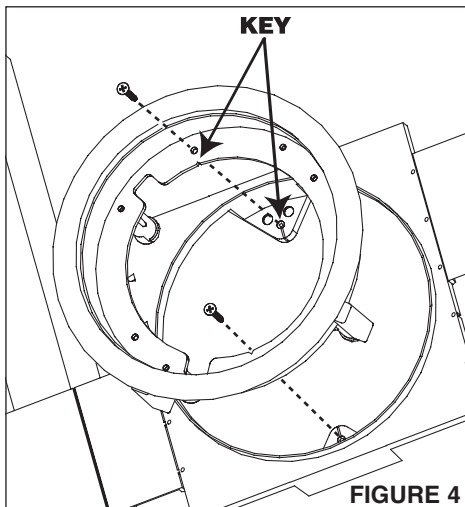
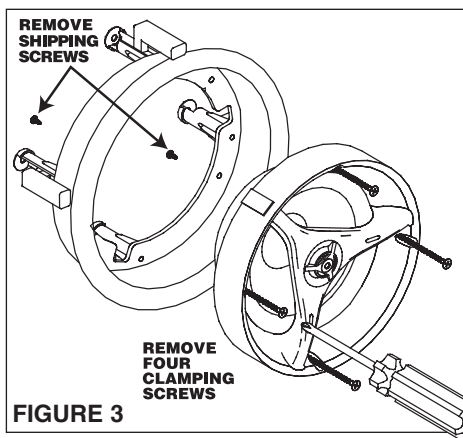
### In-Ceiling Frame-Only Installation

(M SERIES New Construction Brackets Required)

1. Remove the speaker grille and set speaker face down on cardboard.
2. Remove the clamping screws (four) from the speaker baffle, and the two shipping screws on the back of the speaker. **FIGURE 3**
3. Remove speaker baffle and set aside.

**NOTE:** The Mounting Clamps remain "captured" even though all screws are removed. **DO NOT** remove the clamps.

4. The In-Ceiling Speaker Frame is 'keyed' for easy frame/bracket alignment. Insert the speaker frame into the bracket and rotate until frame 'keys' are aligned with the bracket's 'slots'. **FIGURE 3**
5. With 2 bracket screws, secure the frame to the bracket. Hand-tighten only. **FIGURE 4**



**NOTE:** The rough-in bracket screws hold the frame in place only. **DO NOT OVERTIGHTEN** as this may crack the Frame and/or Bracket.

6. Replace the grille.
7. See "Re-installing The Ceiling Speaker Baffle" on Page 8 when you are ready to replace the baffle.

### In-Wall Frame-Only Installation

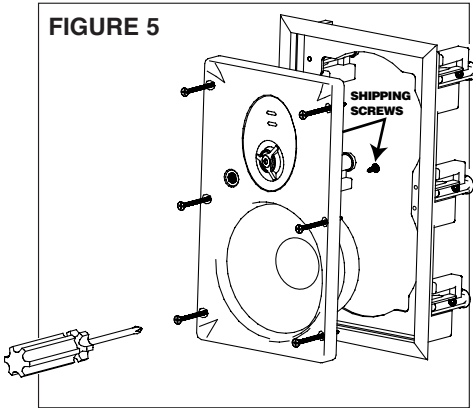
In-Wall speaker frames can be mounted into M Series New Construction Brackets or directly to a stud.

#### Frame-to-Bracket Installation

1. Remove the speaker grille
2. Remove the clamping screws (four on all 5 1/4" in-wall models, six on all 6 1/2" and 8" in-wall models) from the speaker baffle, and the two shipping screws on the back of the speaker. **FIGURE 5, NEXT PAGE**
3. Remove speaker baffle and set aside.

**NOTE:** The Mounting Clamps remain 'captured' even though all screws are removed. **DO NOT** remove the clamps.

**FIGURE 5**



4. Insert the speaker frame into the bracket and secure it to the speaker bracket with supplied rough-in bracket screws. Hand-tighten only. **FIGURE 6**

**NOTE:** The rough-in bracket screws hold the frame in place only. **DO NOT OVER-TIGHTEN** as this may crack the Frame and/or Bracket.

5. Replace the grille.

6. See "Re-installing the In-Wall Speaker Baffle" on Page 8 when you are ready to replace the baffle.

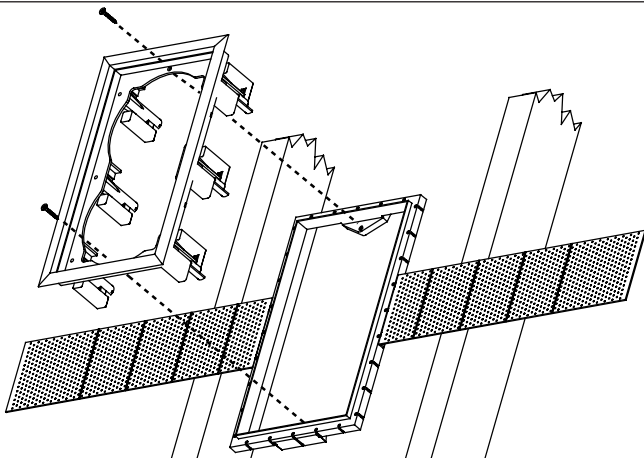
### Direct-to-Stud Mounting

1. Remove the baffle as describe above and set aside.
2. Place the speaker frame into the wall opening and, using drywall screws, secure it to the stud as shown in **FIGURE 7** on the following page.

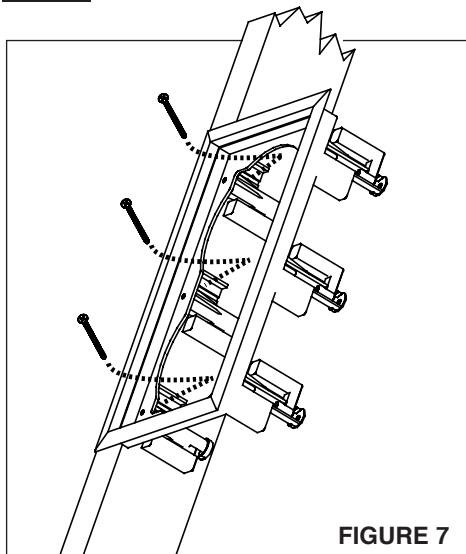
**NOTE:** The screws should seat flush against inside of the stud plate (next to the clamp channels). Under-tightened or poorly seated screws may result in poor frame to baffle fit and unwanted vibration or rattle.

- a. Replace the grille.
- b. See "Re-installing the In-Wall Speaker Baffle" on Page 8 when Ready to replace the baffle.

**FIGURE 6**



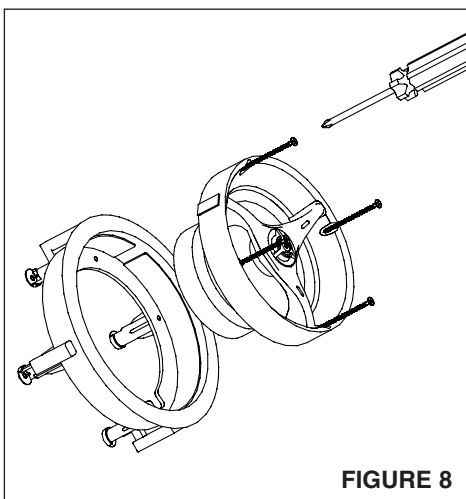




**FIGURE 7**

### Re-Installing the Ceiling Speaker Baffle

1. Return the baffle to the frame and rotate until the 'key' lines up and the baffle slides down into the frame.
2. Secure with the clamping screws (four). **FIGURE 8**

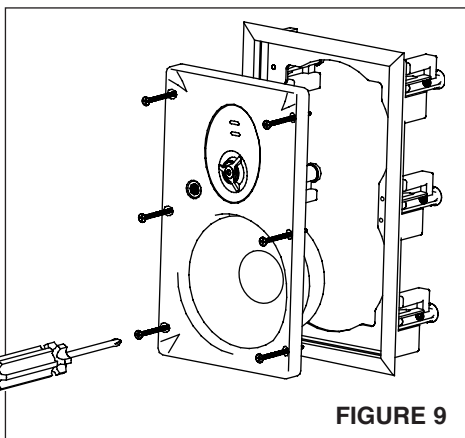


**FIGURE 8**

### Re-Installing the In-Wall Speaker Baffle

1. Return the baffle to the frame and secure with the clamping screws (four on all 5 1/4" in-wall models, six on all 6 1/2" and 8" in-wall models). **FIG 9**

**NOTE:** If the Frame was mounted directly to a stud, the mounting clamps adjacent to the stud will only partially deploy when the clamping screws are tightened. **DO NOT OVER-TIGHTEN.**

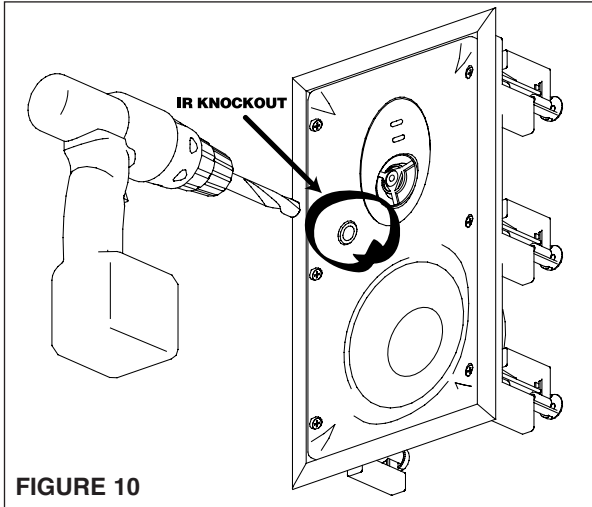


**FIGURE 9**

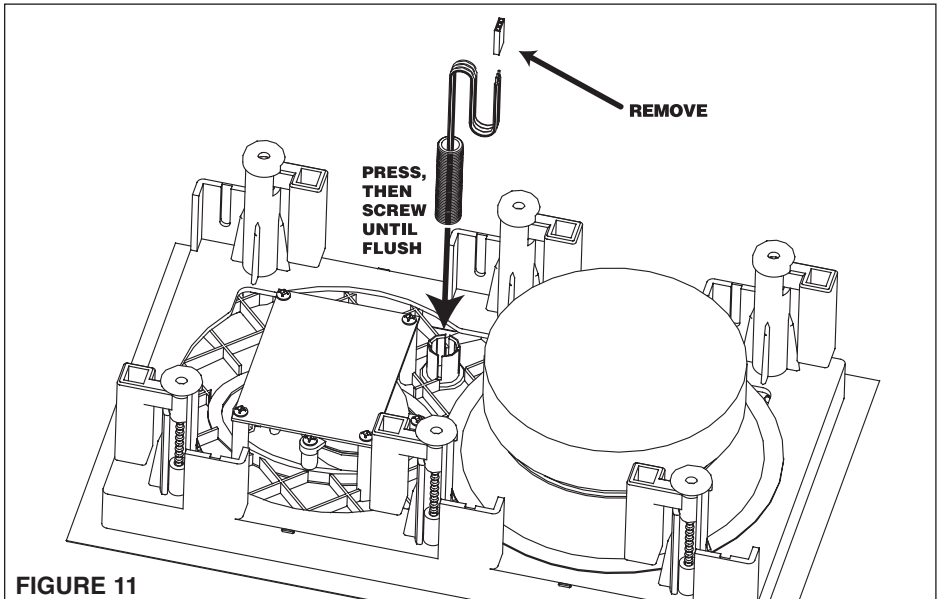
### INSTALLING THE ELAN IR TUBE IN M SERIES IN-WALL SPEAKERS

1. Locate IR knockout on face of speaker baffle.
2. Place the speaker FACE-DOWN on its carton
3. Using a 7/16" bit, drill the knockout free. **FIGURE 10**
4. Trim away flash and rough edges.

5. Connect 12V, GND, and SIGNAL as per IR Tube instructions.
6. Press the tube firmly in place, and screw down until nearly flush with front of baffle. **FIGURE 11**



**NOTE:** Due to the grill, IR receiving range will be reduced from 27 feet to approximately 15 feet.



# DUAL-CHANNEL AND SUBWOOFER PRODUCT APPLICATIONS



**MP800S**



**MP800D**



**MM650D**



**ME525D**

The ELAN M Series Specialty Speaker line was designed to provide custom installers with performance-oriented solutions. These speaker systems are intended to maximize the performance of distributed audio and home theater systems utilizing ELAN M Series speakers

## M SERIES DUAL-CHANNEL SPEAKERS

ELAN's MM650D, and MP800D models feature dual tweeters, dual voice coil woofers, and a total of four speaker-level inputs (L+, L-, R+, R-). The ME525D features a "whizzer cone" design to provide installers with a cost effective dual-channel solution.

These features enable the custom installer to reproduce both channels (left and right) of stereo program material with a single speaker.

Dual-channel speakers are ideal for bathrooms, large walk-in closets, hall ways, foyers, laundry rooms, kitchens, and other locations where space does not permit the installation of a pair of speakers. Dual-channel speakers are also ideal when used in conjunction with a

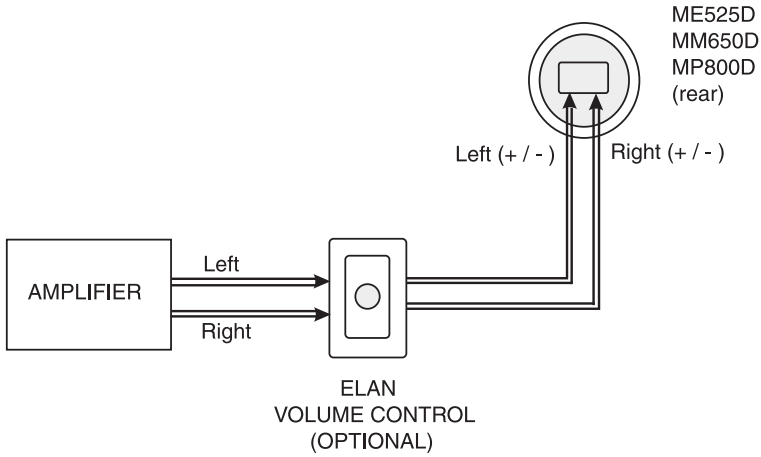
standard pair of in-ceiling speakers to reproduce the rear channels in a home theater with an "L" shaped seating area (FIGURE 13). **NOTE:** The rear channel amplification must be able to drive a 4 Ohm speaker load.

## M SERIES PASSIVE IN-WALL SUBWOOFER

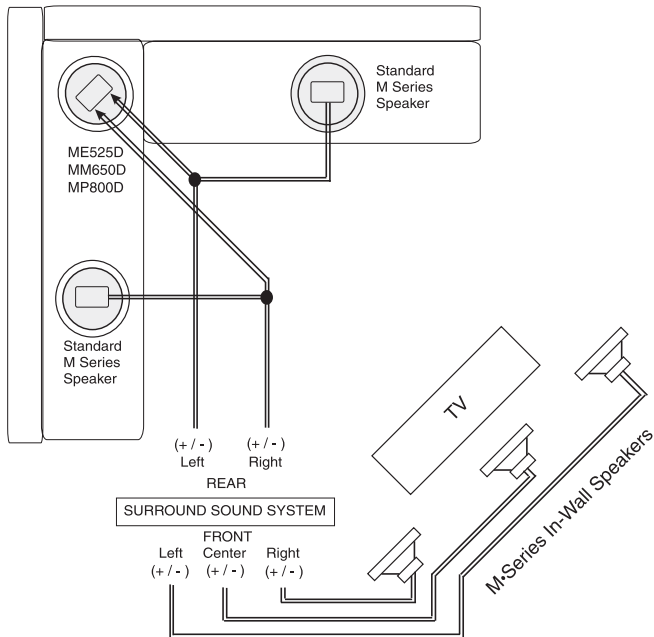
ELAN's MP800S speaker features:

- An 8" carbon fiber woofer featuring 1.5" dual voice coils.
- Low and high-pass circuitry (with a 80Hz high-pass output to the satellite speakers)
- A three-position low-pass frequency selector switch (80Hz, 100Hz, and 120Hz)
- Four speaker-level inputs (L+, L-, R+, R-), and four speaker level outputs (L+, L-, R+, R-).

The MP800S is designed to enhance the low frequency performance of any pair of ELAN M Series in-wall or in-ceiling speakers. See next two pages for wiring options.

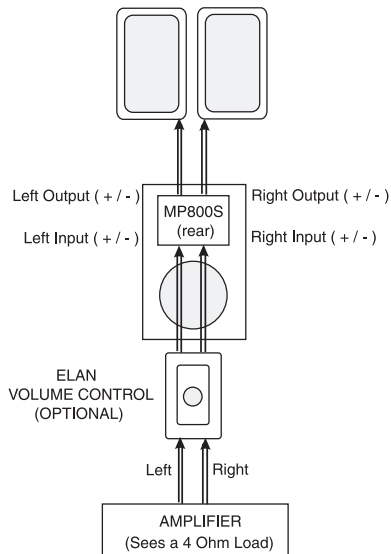


**FIGURE 12** Standard wiring diagram for an ELAN M Series Dual Channel Speaker. Notice that all four conductors (L+,L-,R+, R-) are run to the single speaker's installation location.

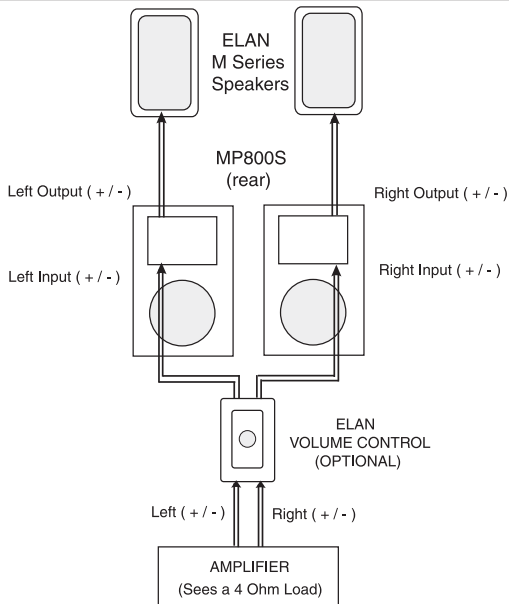


**FIGURE 13** Paralleling the rear outputs of a Surround Sound System to drive a pair of in-ceiling speakers and an ELAN M Series Dual Channel Speaker to adequately cover an "L" shaped seating area.

**NOTE:** Rear outputs must be able to drive a four Ohm speaker load.



**FIGURE 14** Using the dual voice coils of the ELAN MP800S passive sub to enhance the low frequency performance of smaller in-wall (or in-ceiling) satellite speakers.



**FIGURE 15** Using two ELAN MP800S subs to substantially increase the low frequency performance of smaller in-wall (or in-ceiling) satellite speakers

## M SERIES SPECIFICATIONS AND DRIVER COMPONENTS

The ELAN M Series In-Wall/In-Ceiling Loudspeaker line is constructed using the finest materials available to provide a lifetime of listening enjoyment.

Specs	MC (Level 1)	ME (Level 2)	MM (Level 3)	MP (Level 4)
<b>Tweeter Material</b>	PEI	Silk	Silk	Aluminum and Magnesium Composite
<b>Woofers Cone</b>	Polypropylene	Mineral Filled Polypropylene	Injection Molded Mica	Woven Glass Fiber
<b>Woofers Surround</b>	Inverted Butyl	Inverted Butyl	Inverted Butyl	Inverted Butyl
<b>Woofers Basket</b>	Stamped	Stamped	Stamped	Glass Fiber Composite
<b>Crossover Response</b>	6dB/octave	6dB/octave	12dB/octave	Linkwitz/Riley
<b>Crossover Switches</b>	None	None	Treble	Treble/Bass
<b>Interconnect Wire</b>	20AWG	20AWG	18AWG	16AWG
<b>Input Connectors</b>	Spring Terminals	Spring Terminals	Gold-Plated Push Terminals	Gold-Plated Push Terminals
<b>Hardware</b>	Black Oxide	Black Oxide	Stainless Steel	Stainless Steel
<b>Nominal Impedance</b>	8 Ohms	8 Ohms	8 Ohms	8 Ohms
<b>Sensitivity Range</b>	87dB (1W/1Meter)	87-90dB (1W/1Meter)	88-91dB (1W/1Meter)	89-93dB (1W/1Meter)
<b>Power Handling</b>	6.50"= 5-50W	5.25"= 5 - 40W 6.50"= 5 - 65W 8"= 5 - 80W	5.25"= 5 - 50W 6.50"= 5 - 75W 8"= 5 - 90W	5.25"= 5 - 60W 6.50"= 5 - 85W 8"= 5 - 100W

## M SERIES INSTALLATION GUIDELINES

5.25" Model	Cutout Dimensions	Dimensions w/ Frame	Total Depth
ME525D	6-13/16" (173mm) diameter	8" (203mm) diameter	4-1/8" (104mm)
ME525C	6-13/16" (173mm) diameter	8" (203mm) diameter	4-1/8" (104mm)
ME525W	6-1/8" x 10-1/4" (156x260mm)	7-3/8" x 11-9/16" (187x294mm)	3-3/4" (94mm)
MM525C	6-13/15" (173mm) diameter	8" (203mm) diameter	4-5/8" (116mm)
MM525W	6-1/8" x 10-1/4" (156x260mm)	7-3/8" x 11-9/16" (187x294mm)	4-3/4" (94mm)
MP525W	6-1/8" x 10-1/4" (156x260mm)	7-3/8" x 11-9/16" (187x294mm)	3-3/4" (94mm)

6.50" Model	Cutout Dimensions	Dimensions w/ Frame	Total Depth
MC650C	8-1/16" (205mm) diameter	9-1/4" (235mm) diameter	3-5/8" (92mm)
MC650W	7-1/8" x 12-1/4" (181 x 311mm)	8-1/4" x 13-1/2" (210 x 343mm)	3-5/16" (83mm)
ME650C	8-1/16" (205mm) diameter	9-1/4" (235mm) diameter	4-1/4" (107mm)
ME650W	7-1/8" x 12-1/4" (181 x 311mm)	8-1/4" x 13-1/2" (210 x 343mm)	3-3/4" (94mm)
MM650C	8-1/16" (205mm) diameter	9-1/4" (235mm) diameter	4-1/2" (111.5mm)
MM650W	7-1/8" x 12-1/4" (181 x 311mm)	8-1/4" x 13-1/2" (210 x 343mm)	3-3/4" (94mm)
MM650D	8-1/16" (205mm) diameter	9-1/4" (235mm) diameter	4-1/2" (111.5mm)
MP650 C	8-1/16" (205mm) diameter	9-1/4" (235mm) diameter	4-13/16" (122mm)
MP650 W	7-1/8" x 12-1/4" (181 x 311mm)	8-1/4" x 13-1/2" (210 x 343mm)	3-13/16" (96mm)

8" Model	Cutout Dimensions	Dimensions w/ Frame	Total Depth
ME800C	9-3/4" (248mm) diameter	11" (278mm) diameter	4-13/16" (122mm)
MM800C	9-3/4" (248mm) diameter	11" (278mm) diameter	4-13/16" (122mm)
MM800W	8-5/8" x 15-3/16" (219 x 386mm)	9-7/8" x 16-1/2" (251 x 419mm)	4" (102mm)
MP800C	9-3/4" (248mm) diameter	11" (278mm) diameter	5" (127mm)
MP800W	8-5/8" x 15-3/16" (219 x 386mm)	9-7/8" x 16-1/2" (251 x 419mm)	4" (101mm)
MP800S	8-5/8" x 15-3/16" (219 x 386mm)	9-7/8" x 16-1/2" (251 x 419mm)	4" (101mm)
MP800D	9-3/4" (248mm) diameter	11" (278mm) diameter	5-1/2" (139mm)

# Limited Lifetime Warranty

ELAN HOME SYSTEMS, L.L.C. ("ELAN") warrants to the original retail purchaser only that all M Series speakers and speaker brackets will be free from defects in materials and workmanship, provided that the product was purchased from an authorized ELAN Home Systems Dealer.

If the above purchaser discovers such item was not as warranted above and promptly notifies ELAN writing, ELAN shall repair or replace the items 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 authorized ELAN 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 any 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 and be limited 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.



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