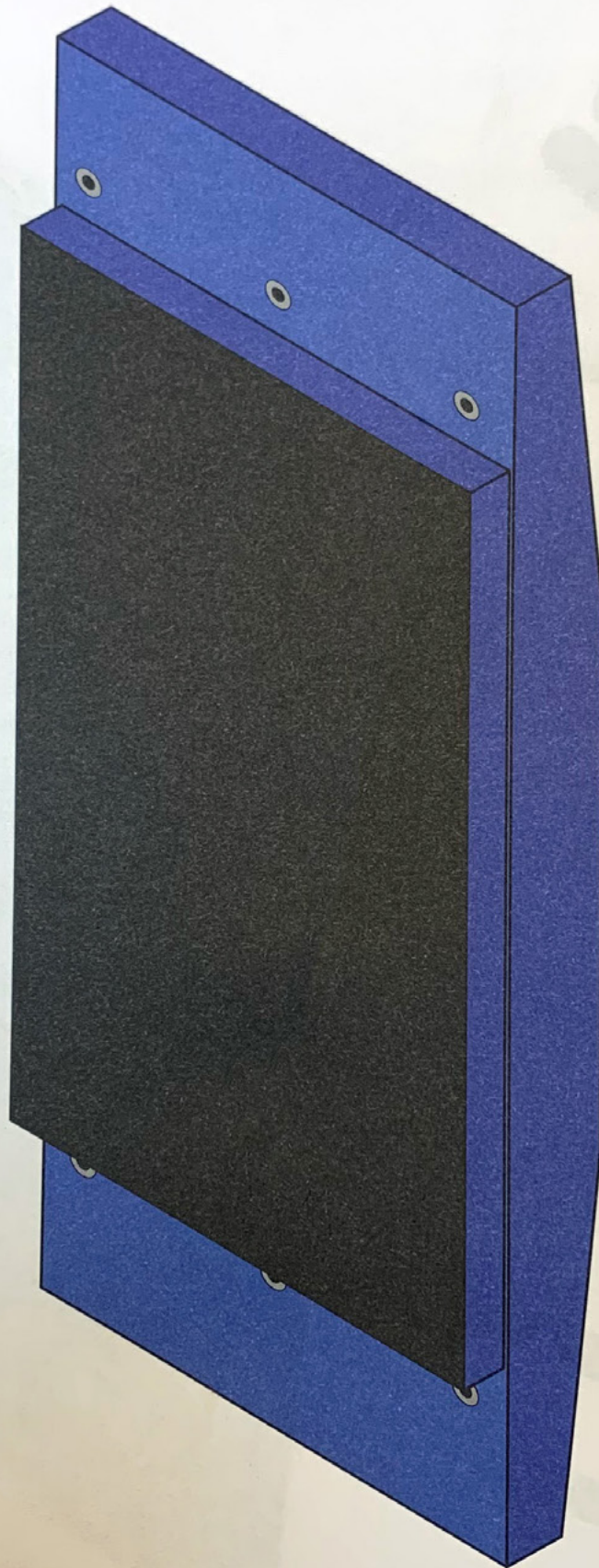
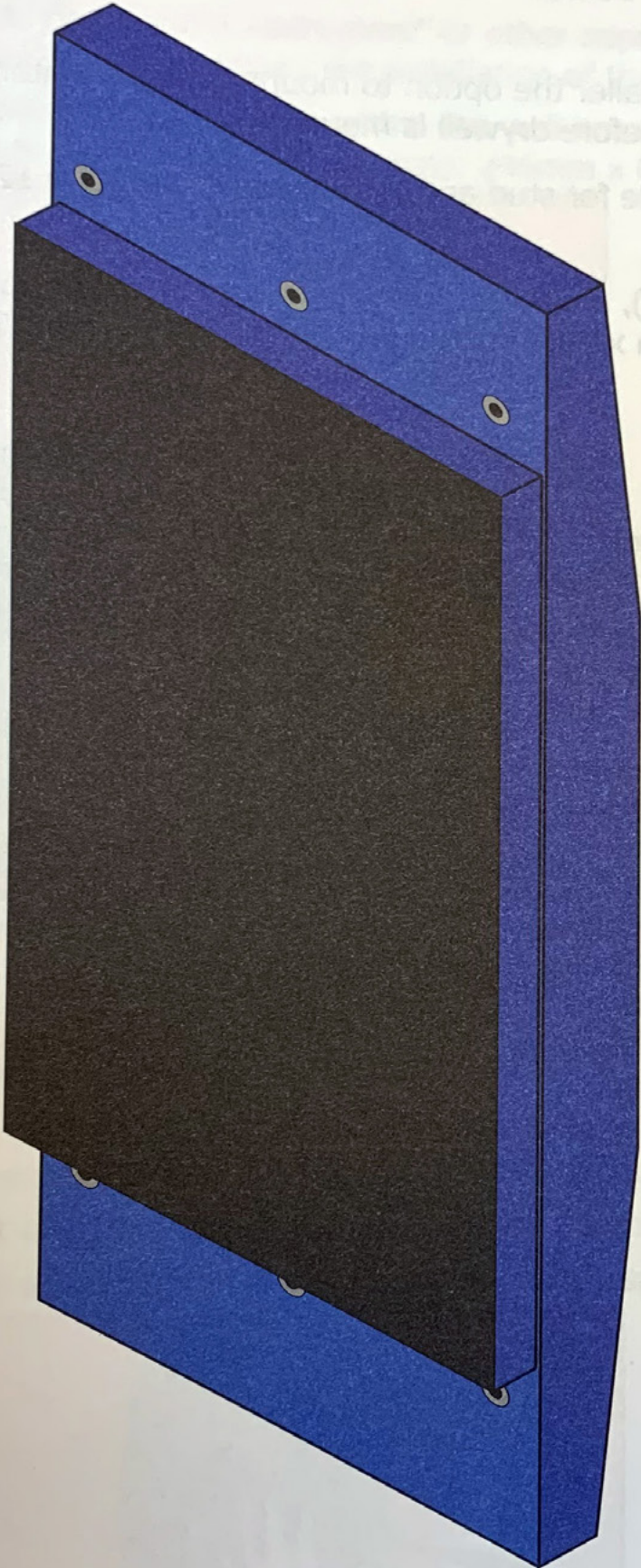


# Installation Manual

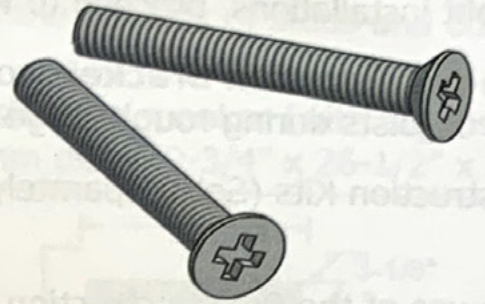


**nakumatone**  
invisible loudspeakers

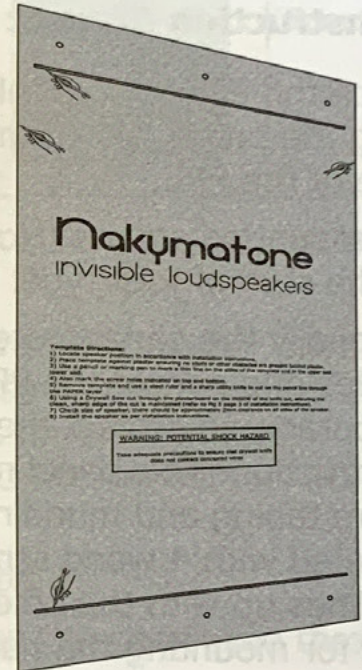
# Box Contents



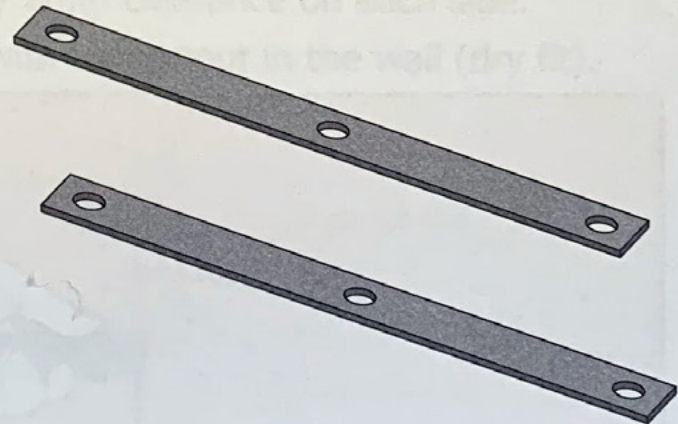
**Nakymatone invisible speaker**



**6 Mounting Screws**



**1 Drywall Scoring Template**



**6 Spacers**  
(For drywall with various thickness)

# Installation - New Construction

For new construction installations follow the steps below.  
For retrofit installations, proceed to **Page 4**.

The **Pre-construction Bracket** provides the installer the option to mount the Nakymatone Speakers to studs or joists during rough stage and installs before drywall is mounted.

Pre-construction Kits (Sold separately) are available for stud and joist openings that are 12" or 16" on centre.

With the use of the Pre-construction Bracket (PRE), a smaller cavity can be used. The clearances required for this installation are: 246mm x 597mm x 80mm deep (9-3/4" x 23-1/2" x 3-1/8").

## 1) Pre-Construction Bracket installation

1. Attach the PRE to the wall studs or ceiling joists using the pre-drilled countersunk holes along the edge of the PRE.
2. Use mounting screws (Not provided) appropriate for the stud or joist type: wood, metal, etc.
3. Optionally the panel protector (wood piece with 4 holes and part of the PRE kit) can be installed temporarily to protect the speaker panel during construction. This panel needs to be taken off before taping and mudding starts. The panel is mounted with 4 wood screws through the 4 holes and lines up with the holes in the panel that are used for mounting the handle during installation.
4. Proceed to step **4) Handle Preparation** on **Page 5** to continue installation.

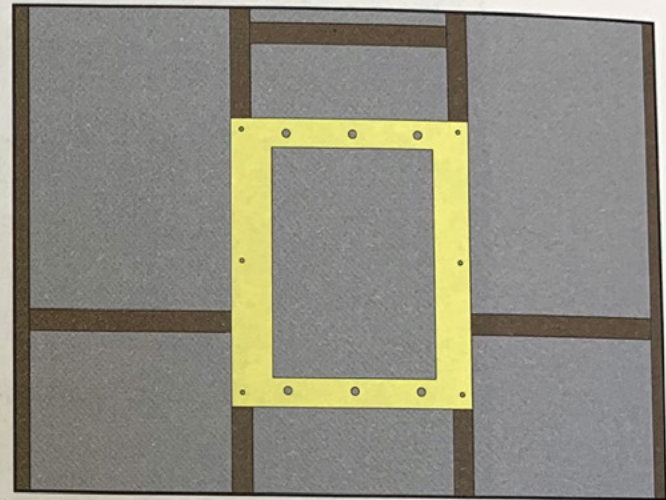


Figure 1.

# Installation - Retrofit

## 2) Marking the wall/ceiling

1. Use a "stud locator instrument" or other approach to mark the location of studs and other items that may obstruct the installation of the speaker.
2. The following clearances within the wall are required to install the speaker (with no obstruction from studs or other wall fixtures): 246mm x 675mm x 80mm deep (9-3/4" x 26-1/2" x 3-1/8").

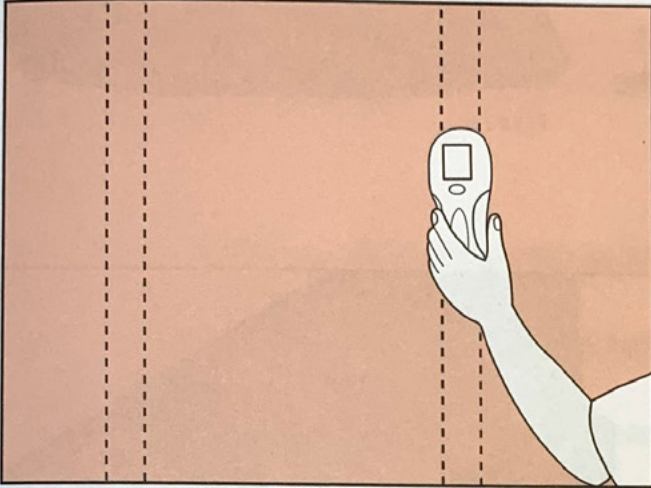


Figure 2.

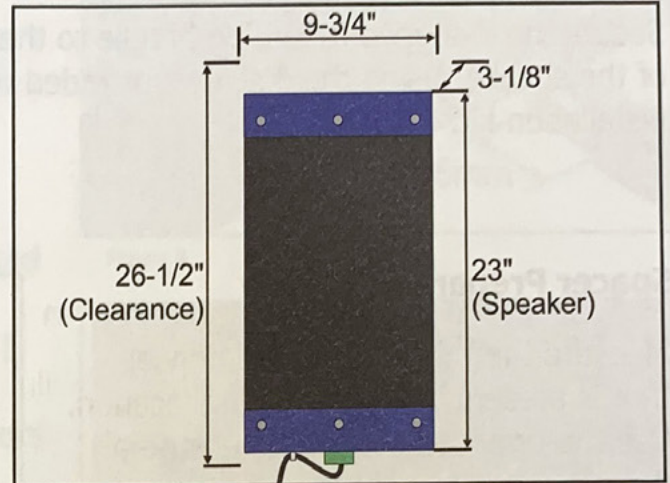


Figure 3.

## 3) Cutting the drywall (\*\*Important: Follow steps for best results)

1. Place the Drywall Scoring Template against drywall ensuring no studs or other obstacles are present behind drywall (see clearance requirements, above). Use a pencil to mark a thin line on the sides and in the slit as marked by the pencil illustrations on the template.  
**Note:** Use the slit **within** the template for marking the top and bottom cutout. Do not mark a cut line along the top or bottom edge of the template.
2. Mark out the six speaker mounting holes shown on the template.
3. Remove template and use a steel ruler and utility knife to cut on the pencil line through the PAPER LAYER only.
4. Using a drywall saw, cut through the drywall on the INSIDE of the utility knife cut, ensuring the clean, sharp edge of the cut is maintained
5. Check size for speaker, there should be approximately 2mm clearance on each side.
6. Check clearance by holding the front of the speaker with the cutout in the wall (dry fit).



Figure 4.

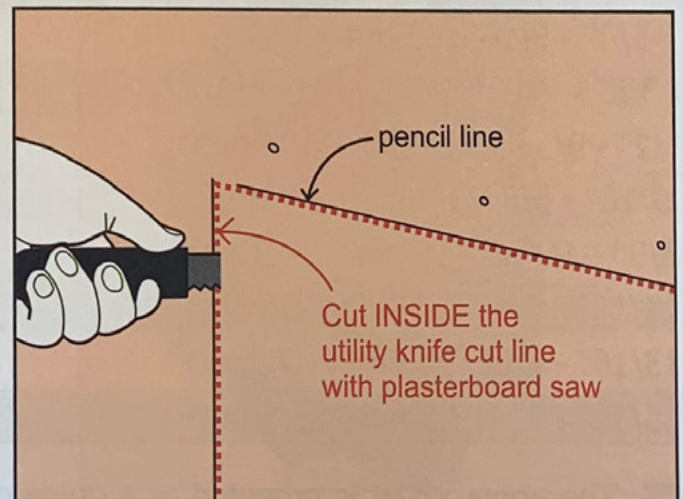


Figure 5.

# Installation

## 4) Handle Preparation

To ease speaker installation and final mounting, use the install handle. Temporarily attach the handle to the speaker, the handle can be removed once the speaker has been mounted in the wall.

Secure the Z-shaped mounting handle to the front of the speaker using the 4 screws provided with the installation kit.

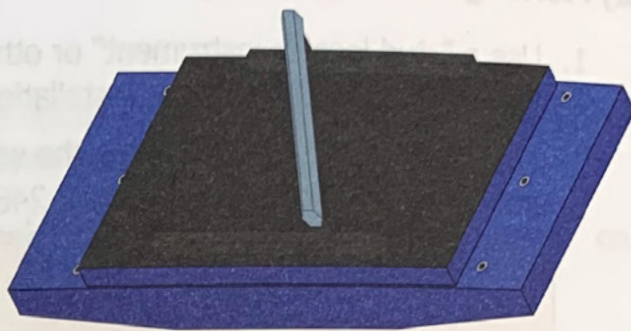


Figure 6.

## 5) Spacer Preparation

Measure the thickness of the drywall that is present at the mounting location. Use the provided spacers to ensure a flush mount. Refer to the chart below to determine the required number of spacers for top and bottom of the face.

Place spacers as needed, secured with tape provided. Place the drywall cutout on the spacer locations to determine amount of spacers required to achieve a maximum 1/16" (1.5mm) recess of the speaker panel.

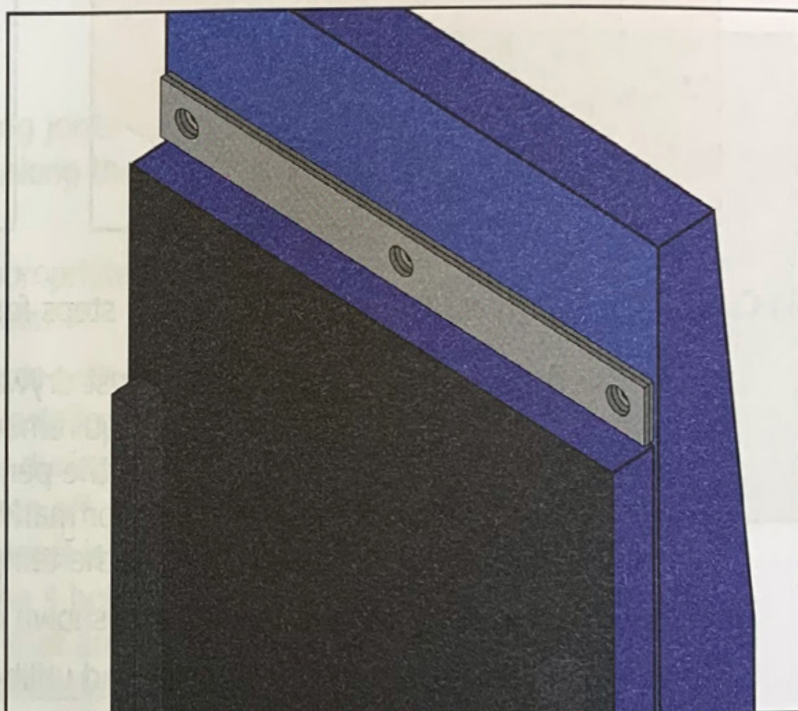


Figure 7.

Spacers required for each speaker side (Top and bottom)

Drywall Thickness	5/16" (8mm) Spacer	1/4" (6.5mm) Spacer	1/8" (3.1mm) Spacer
1/4" - 5/16" (6.5mm - 8mm)	1	1	1
3/8" - 7/16" (9.5mm - 11mm)	1	1	0
1/2" - 9/16" (12.5mm - 14.5mm)	1	0	1
9/16" - 5/8" (14.5mm - 16mm)	0	1	1
5/8" - 11/16" (16mm - 17.5mm)	1	0	0
11/16" - 3/4" (17.5mm - 19mm)	0	1	0
13/16" - 7/8" (20.5mm - 22mm)	0	0	1
15/16" - 1" (23.5mm - 25.5mm)	0	0	0

**NOTE:** The above chart is provided as a guide only. Test fit speaker with spacers before securing.

# Installation

## 6) Connect the wire

1. Terminate the wire in phoenix connector provided.
2. Secure the wire within the phoenix connector using the built in screws.
3. Route the wire with the relief strap and attach the connector to the speaker with the built-in screws.

### Important:

- Connect wires to the correct polarity as indicated on connector.  
(For TWEE model left and left centre Channel 1; right and right centre Channel 2)
- Ensure that exposed copper strands do not short circuit at the terminals of the connector.
- Do not solder the cable in the connector or put solder on the strands as this may cause wiring failure at the connector.
- Ensure the wire connector is secured with the screws to speaker connector during final mounting.
- Make sure the speaker wire is strapped securely in the Relief Strap during final mounting.

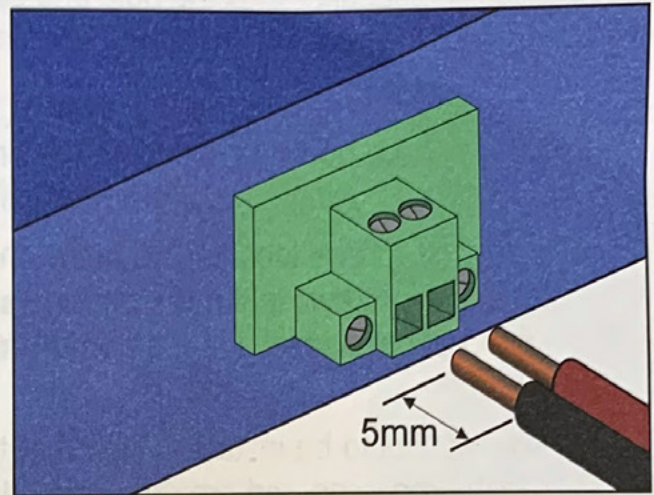


Figure 8.

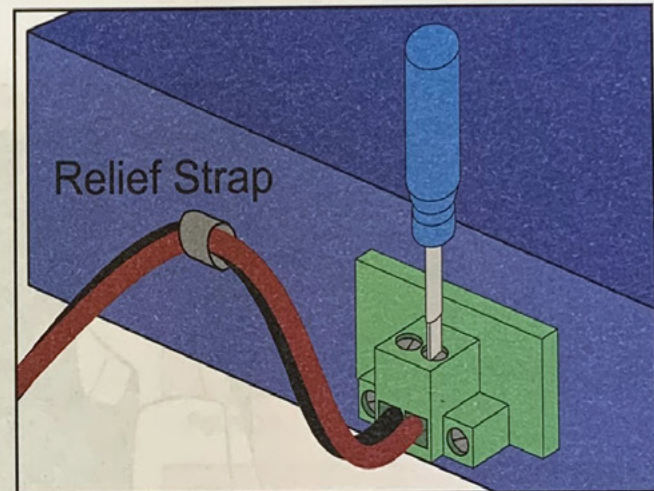


Figure 9.

## 7) Mounting the speaker within the wall

1. After ensuring the wire is securely connected and the relief strap is installed (see Step 6, above), insert all the loose wiring into the wall cavity.

While supporting the speaker using the installation handle (see Step 4, above), insert the speaker by sliding it up/down into hole until the other side of the speaker can clear the hole.

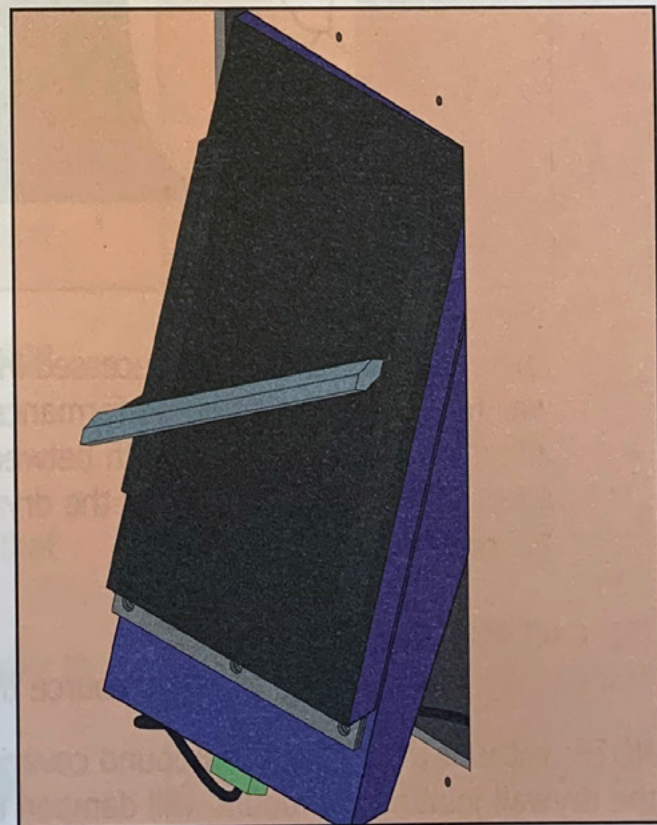


Figure 10.

# Installation

2. Push the speaker into the hole and slide to align the speaker face with the hole opening.
3. Use the 6 speaker mounting screws (3 at the top, 3 at the bottom) to secure the drywall to the speaker using a no. 2 size Phillips driver bit.

Screw all screws loosely into holes and then tighten all screws in small increments until the sound panel is inset  $1/16''$  (1.5mm) from drywall surface

Screws should be installed such that they are slightly recessed and create a small dimple without breaking the paper.

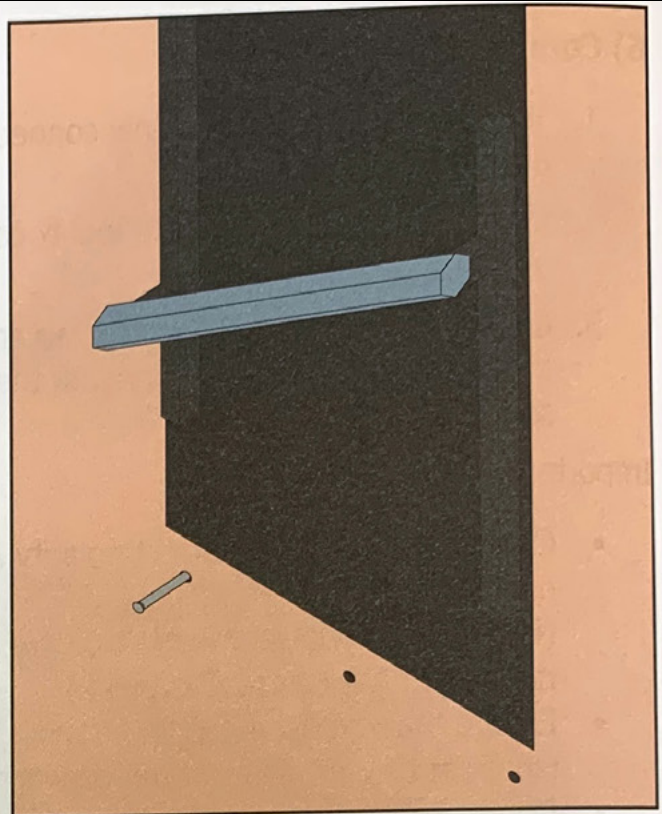


Figure 11.



Figure 12.

4. Ensure the speaker is not recessed into the wall too deeply as sound performance will be affected. The maximum depth between the speaker face and the front of the drywall is 1.5 mm or  $1/16''$

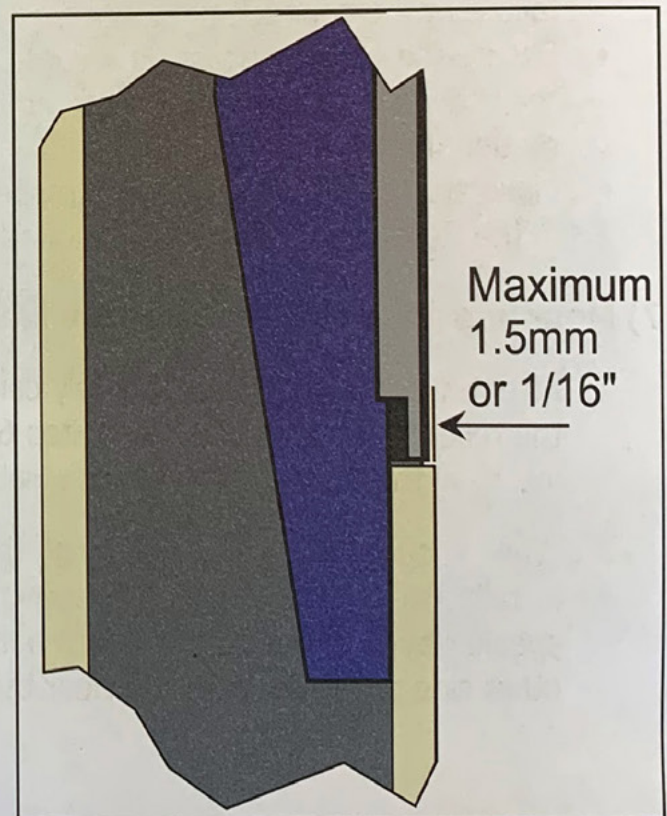


Figure 13.

## IMPORTANT STEP:

Test speaker by providing an audio source through the installed wiring and speakers.

NOTE: without the drywall compound covering the speaker, it will sound 'bright'. The application of the drywall jointing compound will dampen the sounding board of the speaker.

# Finishing

## Choosing compound taping and finishing compounds

### Compound Types

1. Joint taping compound is stronger than topping compounds, and should be used for the first coat to minimize the chances of cracking.
2. Topping compound is easier to work to a smooth finish and will form a lighter coating with less SPL (sound volume) dampening.
3. All-purpose compound can be used but is not as strong as a finishing compound due to its' poor level of finish.

### Pre-mixed and Setting Compounds

1. Pre-mixed provides a convenient form for both taping and topping compounds.
2. Setting compounds have the potential to speed up the installation with multiple coats in one day.

**IMPORTANT:** Take care to use minimal taping compound over the sound board of the speaker as the strength and density will decrease the SPL (sound volume) of the speaker.

### Tapes

Paper or fibreglass tapes can be used in accordance with manufacturer's directions.

### First coat and tape

1. Apply a thin coat of high quality primer on the speaker surface and area around the cut-out.
2. Fill in any gaps between the speaker and drywall edge with drywall compound.
3. Apply tape over the seams.
4. Covered tape with drywall compound in a manner that requires minimal sanding.
5. Apply a thin coat over the sound board of the speaker to create a flat surface with the surrounding drywall.
6. Skim drywall compound over mounting screw heads.

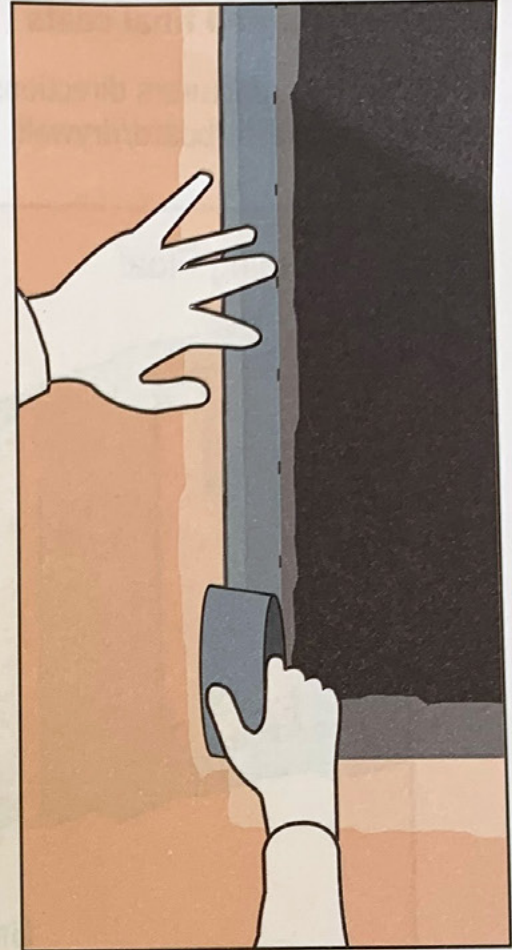


Figure 14.



Figure 15.



# Finishing

## Intermediate and final coats

Follow manufacturers directions for applying intermediate and finishing coats for jointing and patching plasterboard/drywall.

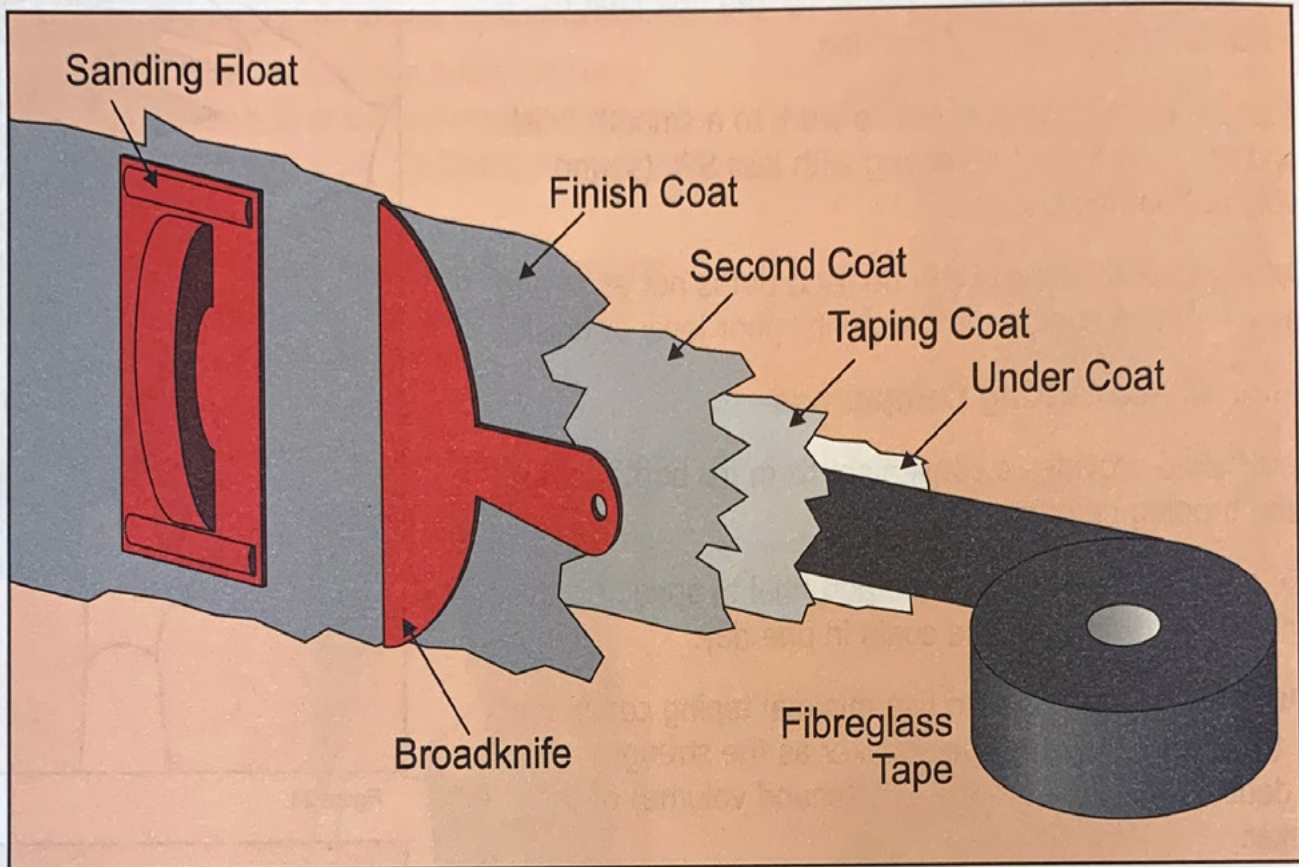


Figure 16.

## Painting and wallpapering

Finish the wall with paint or wallpaper in the usual manner.



Figure 17.



Figure 18.