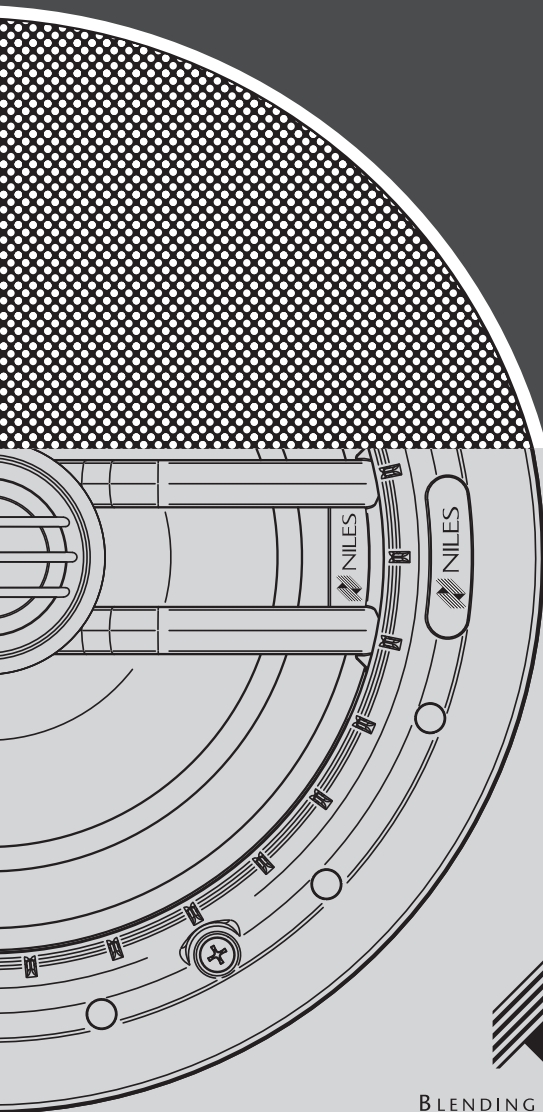


CM

CEILING MOUNT

INSTALLATION GUIDE



DESIGNER AESTHETICS

AUDIOPHILE PERFORMANCE



NILES®

BLENDING HIGH FIDELITY AND ARCHITECTURE®

CONGRATULATIONS!

Thank you for choosing the Niles CM Loudspeaker Series. With proper installation, use, and care, your loudspeakers will deliver years of listening enjoyment. Niles manufactures the industry's most comprehensive line of custom installation components and accessories. For information on our complete product assortment, please visit us at: www.nilesaudio.com.

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LEFT/CENTER/RIGHT CEILING-MOUNT LOUDSPEAKERS



SURROUND EFFECTS CEILING-MOUNT LOUDSPEAKERS



STEREO INPUT CEILING-MOUNT LOUDSPEAKERS



INTRODUCTION

Niles CM Loudspeakers deliver an uncompromising combination of designer oriented aesthetics, superb sound performance, and ease of installation. Small footprint and low profile, MicroThin™ magnetically attached grilles provide the look that today's homeowners desire. Available in 7" and 8" versions, there are left/center/right, surround effects, and stereo input models to satisfy applications ranging from advanced home theaters to distributed audio systems.

FEATURES AND BENEFITS

DESIGNER AESTHETICS

Magnetically attached MicroThin™ round speaker grilles ensure a clean, unobtrusive designer appearance that blends with the room's aesthetics. Optional square grilles provide added design flexibility.

INSTALLATION EASE

Three patent-pending, spring tensioned mounting clamps permit quick installation and compensate for uneven mounting surfaces and varied environmental conditions. Weather-resistant construction enables installation in moist areas such as bathrooms or outdoors under eaves.

INSTALL WITH CONFIDENCE

The best-built loudspeakers deserve the best protection—the Niles Lifetime Limited Warranty.

PARTS GUIDE

PACKAGE CONTENTS FOR: CM7BG, CM7MP, CM7PR, CM7HD, CM7SI, CM8MP, CM8PR, CM8HD AND CM8SI

(1) Niles CM loudspeaker, (1) Magnetically attached round grille, (1) Hole template with painting standoffs, (1) Owner's manual, (1) Warranty card

PACKAGE CONTENTS FOR: CM7FX

(2) Niles CM7FX loudspeakers, (2) Magnetically attached round grilles, (2) Hole templates with painting standoffs, (1) Owner's manual, (1) Warranty card

INSTALLATION CONSIDERATIONS

Recommended tools for installation:

- Cordless screwdriver
- One inch #2 Phillips tip
- 1/8" Drill bit
- Drywall saw
- Laser plumb bob
- 12" -14" Coat hanger wire
- Measuring tape
- Stud finder
- Spackle
- Wire stripper
- Cable ties
- Pencil
- Painters tape
- Drop cloth
- Optional - a 24" x 24" piece of R19 insulation

7" LOUDSPEAKERS

These require an 8-1/2" (21.6 cm) diameter hole opening and a minimum of 4-3/8" (11.1 cm) depth when measured from the exterior face of the drywall. To the sides of the hole you will need 1" (2.54 cm) for the mounting tabs to clamp the speaker to the drywall.

8" LOUDSPEAKERS

These require a 9-3/4" (24.8 cm) diameter hole opening and depth of 4-3/4" (12.1 cm) from the exterior face of the drywall. To the sides of the hole you will need 1" (2.54 cm) for the mounting tabs to clamp the speaker to the drywall.

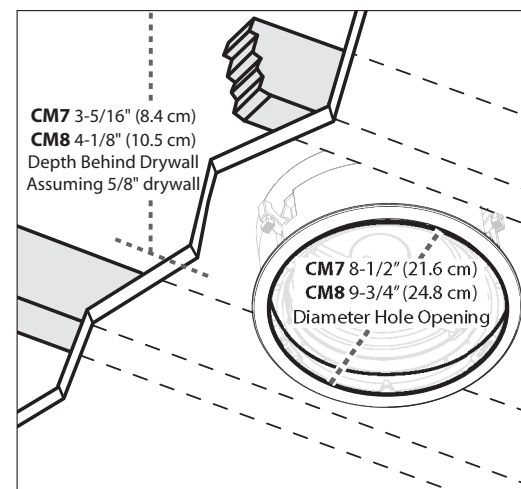


Figure 1. Required dimensions for installation in ceiling.

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INSTALLATION CONSIDERATIONS CONTINUED

NOTE: BE VERY CAREFUL WHEN LOCATING THE SPEAKERS. VERIFY ALL LOCATIONS ARE CLEAR OF OBSTRUCTIONS BEFORE CUTTING THE FIRST HOLE.

Each speaker requires two-conductor wiring of sufficient gauge. The gauge depends on the length of the wire. For recommendations, please refer to **(Figure 2)**. (Stereo Input loudspeakers require four-conductor wiring).

Distance from speaker to amplifier	Wire Gauge
Less than 80 feet	16
80 to 200 feet	14
More than 200 feet	12

Figure 2. Speaker Wire Gauge Guide

When running loudspeaker wire inside walls or ceilings, use special jacketed cable (CL-2 or CL-3 rating) to protect the wire and for fire prevention. In some municipalities, conduit is required. For a trouble-free installation, low voltage wire such as loudspeaker wire must be in accordance with the National Electrical Code and any applicable provisions of the local building code. If you are unsure of the correct installation techniques, wire jacket, or type of conduit to use, consult a professional audio/video installer, building contractor, or the local building and inspection department.

* Not for use with SI Speakers

INSTALLING THE LOUDSPEAKERS

It is often easier to lay the speakers out on the floor and then transfer the locations to the ceiling with a laser plumb bob. If you are using new construction brackets, place string across the centers of the bracket to provide a way to align the bracket to the laser. Remember, you will need 1" (2.54 cm) to the sides of the mounting hole for the mounting clamps to secure the speaker to the drywall.

1. Once you have determined a possible position for the hole cutout, drill a 1/8" pilot hole just barely through the ceiling (1/2" to 5/8" deep in most homes) in the center of your proposed loudspeaker location. **BE VERY CAREFUL NOT TO DRILL THROUGH EXISTING WIRES, PIPES, OR STRUCTURE. IF YOU FEEL ANY EXTRA RESISTANCE AS YOU ARE DRILLING, STOP.**
2. Cut a foot-long piece of coat hanger. Bend the wire (creating a right angle) leaving 5-1/2" at one end (this allows for the extra width of the mounting dogs). Poke the "L-shaped" wire into the pilot hole and turn it in a complete circle and move it into the ceiling cavity to make sure you have approximately 4-3/8" of depth for the CM7 Series and 4-3/4" of depth for the CM8 Series loudspeakers. If the wire's movement is obstructed by anything, fill the hole(s) with spackle and try another location. (If there is any risk of uninsulated electrical connections within the ceiling area, use insulating gloves or other materials or consult with an installation professional before proceeding).
3. If the coat hanger moves freely in a complete circle and you have sufficient depth, tape the template to the ceiling and proceed to layout the other speakers. Once you are comfortable with all speaker locations, use a pencil to lightly outline the circular template.
4. Drill the starting point of your cut with a 1/4" bit.
5. If you are cutting drywall, use a sheetrock or keyhole saw. Cut the hole with the saw at a 45° angle. That way the drywall section can be replaced cleanly if there is an unseen obstruction behind the wall. **IMPORTANT: BE VERY CAREFUL NOT TO SAW THROUGH EXISTING WIRES, PIPES, OR STRUCTURE. IF YOU FEEL EXTRA RESISTANCE AS YOU ARE CUTTING, STOP.**

NOTE: DO NOT INSTALL LOUDSPEAKERS BEFORE THE DRYWALL HAS BEEN COMPLETELY FINISHED AND PAINTED.

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INSTALLING THE LOUDSPEAKERS CONTINUED

6. Prep the speaker wire by stripping 1/4"-1/2" from each speaker lead. Twist the strands or tin the leads with solder to ensure there are no stray strands that could short and possibly harm the amplifier.
7. If you've chosen to use insulation behind the loudspeaker, place it through the hole and center it on the opening. If using paper-backed insulation, it should be placed so that the paper side is away from the loudspeaker.
8. The speaker has black and red spring-loaded connectors (**Figure 3**). Black is for the negative (-) wire and red for the positive (+). It is important to observe correct wiring polarity. This is especially important for the Stereo Input (SI) Loudspeaker. If you have wire other than black and red, make sure you connect it the same on the amplifier end as the speaker end. Failure to do so will adversely affect the loudspeakers' performance.

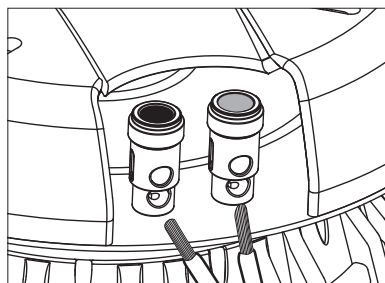


Figure 3. Spring-loaded speaker wire connectors.

9. Once the speaker wires are connected, carefully slide the loudspeaker into the opening hole (**Figure 4**). While holding the speaker in place, tighten the mounting screws to secure the speaker to the drywall. We recommend using a motorized screwdriver. Be careful not to over tighten. The CM loudspeakers feature spring loaded mounting clamps that allow the speaker to remain flush with the ceiling, even if the drywall shifts or expands.

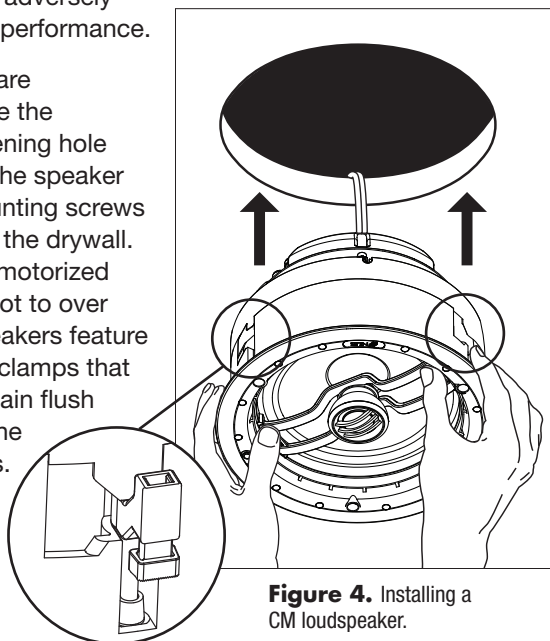


Figure 4. Installing a CM loudspeaker.

NOTE: DO NOT CARRY THE SPEAKER BY THE TWEETER OR TWEETER BRIDGE. THIS MAY DAMAGE THE SPEAKER.

Mounting clamps require 1" clearance to the sides of the hole opening

SWITCH ADJUSTMENTS

TREBLE SWITCH (PR AND HD MODELS)

The three-position tweeter switch allows you to adjust the high frequency output of the loudspeaker to compensate for room acoustics. The center position, marked 0, does not affect the tweeter's output. Moving the switch to the - position reduces the tweeter output by 3 dB to compensate for bright rooms (tile or wood floors, sparse furnishing, tall ceilings). Moving the switch to the + position increases the tweeter output by 3 dB to compensate for absorptive rooms (carpeting, lots of drapery, plush furniture, etc.).

DIFFUSE / DIRECT SWITCH (CM7FX)

Use the Diffuse setting for movies and general music listening since most films are mixed using non-localized surround effects and music is usually recorded in a favorable acoustic environment. Use the Direct setting for discrete multi-channel recordings that equally emphasize front and surround sounds. For 7.1-channel surround sound systems, use the Diffuse setting on the side effects loudspeakers and the Direct setting for the rear effects loudspeakers.

PAINTING THE GRILLES

The CM loudspeaker grilles can be painted without priming, but the fabric scrim must first be removed. The installation template has die cut standoffs that can be used to position the grille off the ground while painting. Use several light coats sprayed from different sides and angles to cover all surfaces and not fill in any holes. If you do fill some holes, use compressed air to open them before the paint dries. It may be helpful to slightly dilute the paint to prevent it from clogging the grille holes.

INSTALLING THE GRILLES

The Niles MicroThin™ speaker grille installs magnetically over the speaker. Carefully center the grill over the speaker and let the magnets do their work, verifying that the grill sets flush against the ceiling at all edges.

APPLICATIONS

Niles CM Loudspeakers are designed to be installed in any standard ceiling. When choosing a location, thought should be given to the sound coverage of the loudspeaker, and ease of running the speaker wire. Niles manufactures a large variety of speaker models for many different applications, with special models for shallow depth ceilings, models with Rear Wave Enclosures to minimize any sound bleeding through to adjacent rooms, etc.

STEREO SOUND APPLICATIONS

The best stereo effect will be achieved if both loudspeakers are at an equal distance from the listening area. Ideally all loudspeakers should be on the same horizontal plane (**Figure 6**). Avoid installing loudspeakers near corners to prevent a “boomy” or diffracted sound. Also note that the lower the ceiling, the closer the loudspeaker should be placed to the listener.

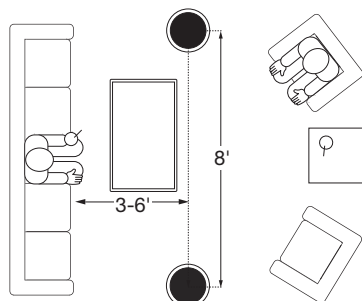


Figure 6. Stereo Sound Application.

HOME THEATER APPLICATIONS

Left/Center/Right – Position the center channel loudspeaker directly over the television, with the left and right speakers equidistant from the center. The separation between the left and right should not be more than the distance to the primary seating area (**Figure 7**).

Side Surround Effects (CM7FX) – Position surround effects loudspeakers to the sides of the listening area with the tweeters in-line with the listener. The tweeters should point to the front and rear of the room (**Figure 7**).

Rear Surround Effects (CM7FX) – Position surround effects loudspeakers behind the listening area, to the inside of the front left and right speakers. The tweeters should point to the sides of the room (**Figure 7**).

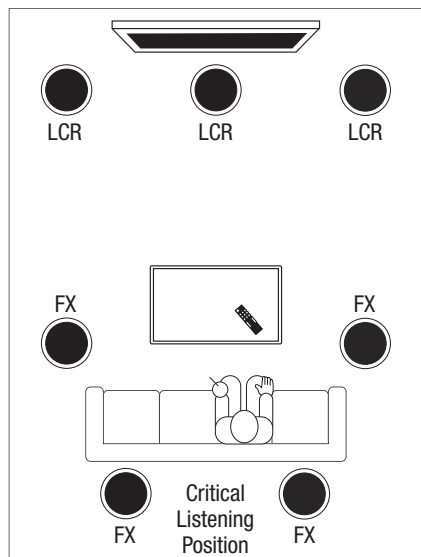


Figure 7. Home Theater Application.

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APPLICATIONS CONTINUED

SINGLE SPEAKER STEREO INPUT APPLICATIONS (CM7SI, CM8SI)

Stereo Input loudspeakers are ideal for small rooms where positioning two loudspeakers is not practical. Examples would be a small kitchen, bathroom, hallway, or small bedroom. Locate the loudspeaker as close to the center of the room as possible for the most even distribution of sound (**Figure 8**). Avoid installing the loudspeaker near a corner to prevent a “boomy” or diffracted sound.

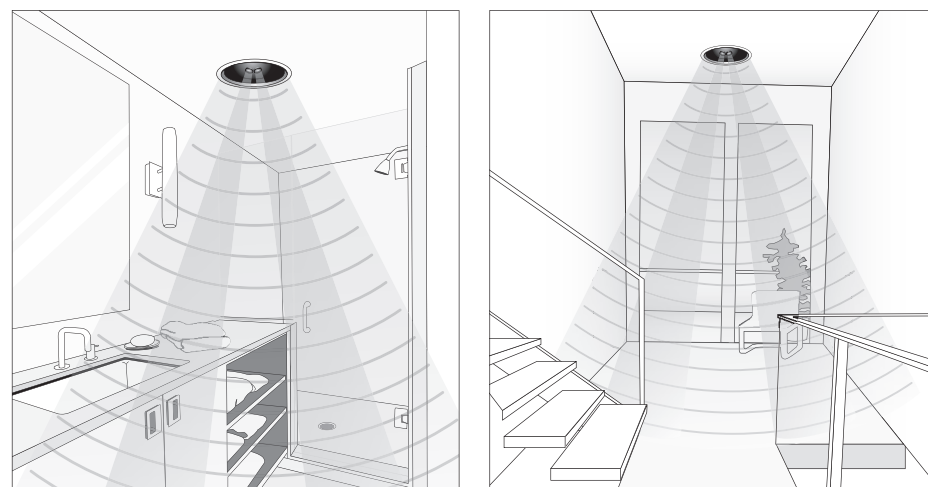


Figure 8. Single Loudspeaker Stereo Input Application.

SPECIFICATIONS

Model	Woofers	Tweeter / Midrange	Recommended Amplifier Power	Normal Impedance	Frame Dimensions with Grille	Hole Cut-Out Dimensions	Depth (5/8" Drywall Ceiling)
CM7BG	7" Polypropylene woofer cone	13mm Kaladex	10-75 watts	8 ohm nominal; 6 ohm minimum	9-7/8" (25.1 cm)	8-1/2" (21.6 cm)	3-3/4" (9.5 cm)
CM7MP	7" Black Glass Fiber Tight Weave woofer cone	1" Ultra Silk	10-130 watts	8 ohm nominal; 6 ohm minimum	9-7/8" (25.1 cm)	8-1/2" (21.6 cm)	3-3/4" (9.5 cm)
CM7PR	7" Black Glass Fiber Tight Weave woofer cone	1" Teteron	10-130 watts	8 ohm nominal; 6 ohm minimum	9-7/8" (25.1 cm)	8-1/2" (21.6 cm)	3-3/4" (9.5 cm)
CM7HD	7" Aluminum Ceramic woofer cone	1" Nano Al/Cer/Tita	10-160 watts	8 ohm nominal; 6 ohm minimum	9-7/8" (25.1 cm)	8-1/2" (21.6 cm)	3-3/4" (9.5 cm)
CM7SI	7" Black Glass Fiber Tight Weave woofer cone	Dual 1" Ultra Silk	10-130 watts	8 ohm nominal; 6 ohm minimum	9-7/8" (25.1 cm)	8-1/2" (21.6 cm)	3-3/4" (9.5 cm)
CM7FX	7" Black Glass Fiber Tight Weave woofer cone	Dual 1" Teteron	10-140 watts	8 ohm nominal; 6 ohm minimum	9-7/8" (25.1 cm)	8-1/2" (21.6 cm)	3-3/4" (9.5 cm)
CM8MP	8" Black Glass Fiber Tight Weave woofer cone	1" Ultra Silk	10-140 watts	8 ohm nominal; 6 ohm minimum	11-3/8" (28.9 cm)	9-3/4" (24.76 cm)	4-1/8" (10.5 cm)
CM8PR	8" Black Glass Fiber Tight Weave woofer cone	1" Teteron	10-140 watts	8 ohm nominal; 6 ohm minimum	11-3/8" (28.9 cm)	9-3/4" (24.76 cm)	4-1/8" (10.5 cm)
CM8HD	8" Aluminum Ceramic woofer cone	1" Nano Al/Cer/Tita	10-160 watts	8 ohm nominal; 6 ohm minimum	11-3/8" (28.9 cm)	9-3/4" (24.76 cm)	4-1/8" (10.5 cm)
CM8SI	8" Black Glass Fiber Tight Weave woofer cone	Dual 1" Teteron	10-130 watts	8 ohm nominal; 6 ohm minimum	11-3/8" (28.9 cm)	9-3/4" (24.76 cm)	4-1/8" (10.5 cm)

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