

# CM

CEILING MOUNT

INSTALLATION GUIDE

DIGITAL  
CINEMA

AVAILABLE AT  
DIGITAL CINEMA

DESIGNER AESTHETICS

AUDIOPHILE PERFORMANCE



NILES.

Exceeding High Fidelity and Acousticness®

## CONGRATULATIONS!

Thank you for choosing the Niles CE 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](http://www.nilesaudio.com).

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## LEFT/CENTER/RIGHT CEILING MOUNT LOUSPEAKERS



## SURROUND EFFECTS CEILING MOUNT LOUSPEAKERS



## STEREO INPUT CEILING MOUNT LOUSPEAKERS



## INTRODUCTION

Niles CM Loudspeakers deliver an uncompromising combination of designer-oriented aesthetics, superb sound performance, and ease of installation. Small footprint and low profile, MicroTite™ magnetically attached grilles provide the look that today's homeowners desire. Available in 7" and 8" versions, there are sufficient high, 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 MicroTite™ round speaker grilles ensure a clean, unobtrusive designer appearance that blends with the owner's aesthetic. 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: CM70, CM70R, CM70S, CM70D, CM75, CM80R, CM80S, CM80D AND CM85

(1) Niles CM Loudspeaker (2) Magnetically attached round grill (3) Hole template with painting standoffs (3) Owner's manual (3) Warranty card

### PACKAGE CONTENTS FOR: CM75R

(2) Niles CM75R Loudspeakers (2) Magnetically attached round grilles (2) Hole templates with painting standoffs (3) Owner's manual (3) Warranty card

## INSTALLATION CONSIDERATIONS

### Recommended tools for installation:

- Phillips screwdriver
- One inch 40/Phillips tip
- 1/8" Drill bit
- Drywall saw
- Laser level tool
- 1/2" x 1/2" Coat hanger wire
- Measuring tape
- Stud finder
- Square
- Wire stripper
- Cable ties
- Pencil
- Painters tape
- Drywall
- Optional - a 24" x 24" piece of R19 insulation

### 7" LOUSPEAKERS

These require an 8.125" (21.6 cm) diameter hole opening and a minimum of a 24" (61.1 cm) depth when measured from the exterior face of the drywall. To the side of the hole you will need 1" (2.54 cm) for the mounting tabs to clamp the speaker to the drywall.

### 8" LOUSPEAKERS

These require an 8.625" (21.9 cm) diameter hole opening and depth of a 24" (61.1 cm) from the exterior face of the drywall. To the side of the hole you will need 1" (2.54 cm) for the mounting tabs to clamp the speaker to the drywall.



Figure 5. Typical dimensions for installation in wall.

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## INSTALLATION CONSIDERATIONS (continued)

**NOTE: BE VERY CAREFUL WHEN LOCATING THE SPEAKERS. VERIFY DIMENSIONS AND READ ALL OF INSTRUCTIONS BEFORE CUTTING THROUGH WALLS.**

Each speaker requires two conductor wiring of sufficient gauge. The gauge depends on the length of the wire. For recommendations, please refer to **Figure 8**. (Some input loudspeakers require four conductor wiring.)

Distance from speaker to amplifier	Wire Gauge
Less than 100 feet	18
100 to 200 feet	16
More than 200 feet	12

Figure 8. Input Wire Gauge

When routing 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 protection from rodents, use 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.

<sup>†</sup> See [www.niles.com](#)

## 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 line. If you are using rear construction brackets, place string across the centers of the brackets to provide a way to align the brackets to the laser. Remember, you will need 1" (25.4mm) to the sides of the mounting hole for the mounting clemp to secure the speaker to the drywall.

- Once you have determined a possible position for the hole, cut a 1.67" pilot hole just barely through the ceiling (3/8" to 5/8" deep is most common) in the center of your proposed loudspeaker location. **BE VERY CAREFUL NOT TO DRILL THROUGH EXISTING WIRING, PIPES, OR STRUCTURE. IF YOU FEEL ANY EXTRA RESISTANCE AS YOU ARE DRILLING, STOP.**
- Cut a hole (a long piece of coat hanger) Bend the wire (making a right angle) leaving 6-12" at one end (this allows for the extra width of the mounting clemp). Push the "U-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 6-12" of depth for the CL2 Series and 4-6" of depth for the CL3 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 unreinforced electrical connections within the ceiling area, use insulating gloves or other materials or consult with an installation professional before proceeding.)
- 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.
- Drill the starting point of your cut with a 1/8" bit.
- If you are cutting drywall, use a sheetrock or keyhole saw. Cut the hole with the saw at a 90° angle. That way the drywall surface can be replaced cleanly if there is an uneven distribution behind the wall. **IMPORTANT! BE VERY CAREFUL NOT TO SAW THROUGH EXISTING WIRING, 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 LOUSPEAKERS (continued)

- Prep the speaker site by stripping 1/2" (127) from each speaker lead. Twist the strands or fit the leads with rubber to ensure there are no stray strands that could short and possibly harm the amplifier.
- 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.
- The speaker has black and red spring loaded connectors (Figure 4). 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) Loudspeakers. If you have wires other than black and red, make sure you connect it the same on the amplifier and on the speaker and. Failure to do so will adversely affect the loudspeakers' performance.



Figure 4. Strip 1/2 inch wire covers.

- 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 ratchet/wrench combination to ease tightening. The CM Loudspeakers feature spring loaded mounting clamps that allow the speaker to remain flush with the ceiling, even if the drywall shifts or separates.



Figure 4. Mounting a Loudspeaker.

**NOTE: DO NOT LOOSEN THE SCREWS OF THE TWISTER OR FUNCTION BRIDGE. THIS MAY DAMAGE THE SPEAKER.**

Mounting screws require 1" insulation in the hole of the hole opening.

## SWITCH & ADJUSTMENTS

### TREBLE SWITCH (FR AND RD MODELS)

The three position treble 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 treble's output. Moving the switch to the + position reduces the treble 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 treble output by 3 dB to compensate for absorptive rooms (carpeting, lots of drapery, plush furniture, etc.).

### DIFFUSE / DIRECT SWITCH (DRFR)

Use the Diffuse setting for music 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 5.1 channel surround sound systems, use the Diffuse setting on the side effects loudspeakers and the Direct setting for the rear effects loudspeakers.

## PAINTING THE GRILLS

The CM loudspeaker grills can be painted without priming, but the fabric scrim must first be removed. The installation template has six cutouts that can be used to position the grills off the ground while painting. Use several light coats applied 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 rotate the paint to prevent it from clogging the grill holes.

## INSTALLING THE GRILLS

The Niles MovieFlex™ 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 seats flush against the ceiling at all edges.

## APPLICATIONS

Niles CE Loudspeakers are designed to be installed in any standard ceiling. When choosing elevation, 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 ratings, models with Four-Way 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, loudspeakers should be on the same horizontal plane (Figure 6). Avoid installing loudspeakers near corners to prevent a "boom" or diffracted sound. Also note that the lower the ceiling, the closer the loudspeaker should be placed to the listener.



Figure 6. Stereo loudspeakers.

### 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).



Figure 7. Home Theater applications.

**Side Surround Effects (DSPE)** - 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 8).

**Rear Surround Effects (RSPPE)** - 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 9).

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## APPLICATIONS (continued)

### SINGLE SPEAKER STEREO INPUT APPLICATIONS (DOME, OMBE)

Single 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 "boom" or diffracted sound.



Figure 8. Single loudspeaker stereo input application.

**SPECIFICATIONS**

Model	Model	Number of Storage	Maximum Number of Users	Serial Interface	Total Storage with 2 TB	RAID Configurations	Approx. Weight
00000	17" Full Height Rack Server	1000 Slots	100 Users	Serial ATA	10 TB (20 x 500 GB)	RAID 0, 1, 5, 6, 10	100 lbs (45 kg)
00001	17" Full Height Rack Server	750 Slots	75 Users	Serial ATA	7.5 TB (15 x 500 GB)	RAID 0, 1, 5, 6, 10	75 lbs (34 kg)
00002	17" Full Height Rack Server	500 Slots	50 Users	Serial ATA	5 TB (10 x 500 GB)	RAID 0, 1, 5, 6, 10	50 lbs (23 kg)
00003	17" Rack Server	250 Slots	25 Users	Serial ATA	2.5 TB (5 x 500 GB)	RAID 0, 1, 5, 6, 10	25 lbs (11 kg)
00004	17" Rack Server	150 Slots	15 Users	Serial ATA	1.5 TB (3 x 500 GB)	RAID 0, 1, 5, 6, 10	15 lbs (7 kg)
00005	17" Rack Server	100 Slots	10 Users	Serial ATA	1 TB (2 x 500 GB)	RAID 0, 1, 5, 6, 10	10 lbs (4.5 kg)
00006	17" Rack Server	75 Slots	7.5 Users	Serial ATA	750 GB (1.5 x 500 GB)	RAID 0, 1, 5, 6, 10	7.5 lbs (3.4 kg)
00007	17" Rack Server	50 Slots	5 Users	Serial ATA	500 GB (1 x 500 GB)	RAID 0, 1, 5, 6, 10	5 lbs (2.3 kg)
00008	17" Rack Server	25 Slots	2.5 Users	Serial ATA	250 GB (0.5 x 500 GB)	RAID 0, 1, 5, 6, 10	2.5 lbs (1.1 kg)
00009	17" Rack Server	15 Slots	1.5 Users	Serial ATA	150 GB (0.3 x 500 GB)	RAID 0, 1, 5, 6, 10	1.5 lbs (0.7 kg)
00010	17" Rack Server	10 Slots	1 User	Serial ATA	100 GB (0.2 x 500 GB)	RAID 0, 1, 5, 6, 10	1 lb (0.45 kg)

BY PHONE (IN USA)

1-800-BUY-NIF (287-6234)

BY PHONE (OUTSIDE USA)

1-562-712-0993

CUSTOMER SERVICE HOURS

8:00 AM to 8:00 PM PT

TECHNICAL SUPPORT HOURS

8:00 AM to 8:00 PM PT

ON THE WEB

[www.nilesworld.com](http://www.nilesworld.com)

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