

# DS

DIRECTED SOUNDFIELD™

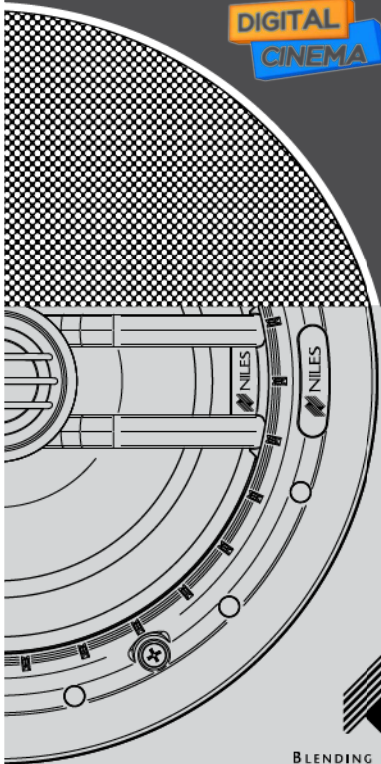
INSTALLATION GUIDE



AVAILABLE AT  
DIGITAL CINEMA

DESIGNER AESTHETICS

ADVANCED TECHNOLOGY



NILES®

BLENDING HIGH FIDELITY AND ARCHITECTURE®

**CONGRATULATIONS!**

Thank you for choosing Niles DS Loudspeakers. 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 LOUDSPEAKERS**


DS7HD



DS8HD



DS7PR



DS8PR



DS7MP

**SURROUND EFFECTS CEILING-MOUNT LOUDSPEAKERS**


DS7FX



DS8FX

**STEREO INPUT CEILING-MOUNT LOUDSPEAKER**


DS7SI

## INTRODUCTION

Niles DS 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 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. Niles' patented Directed Soundfield™ pivoting woofer technology precisely directs the sound to the listening area for the best possible audio performance.

## 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.

### SUPERIOR SOUND QUALITY

Patented Directed Soundfield™ technology\* precisely directs the sound to the listening area for better sound quality. New patent-pending pivot mechanism provides for smooth adjustment and holds the loudspeaker securely in position.

### 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.

\* U.S. Patent 6,070,694

## PARTS GUIDE

### PACKAGE CONTENTS:

#### DS7MP, DS7PR, DS7HD, DS8PR, DS8HD, DS7SI

(1) Niles DS loudspeaker, (1) Magnetically attached round grill, (1) Hole template with painting standoffs, (1) Owner's manual with warranty information

### PACKAGE CONTENTS: DS7FX, DS8FX

(2) Niles DS loudspeakers, (2) Magnetically attached round grilles, (2) Hole templates with painting standoffs, (1) Owner's manual with warranty information

## 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" DS LOUSPEAKERS

These require an 8-1/2" (21.6 cm) diameter hole opening and a minimum of 6" (15.25 cm) depth when measured from the exterior face of the drywall. To the sides of the hole you will need 1" for the mounting tabs to clamp the speaker to the drywall.

### 8" DS LOUSPEAKERS

These require a 9-3/4" (24.8 cm) diameter hole opening and depth of 6" (15.25 cm) from the face of the drywall. To the sides of the hole you will need 1" for the mounting tabs to clamp the speaker to the drywall.

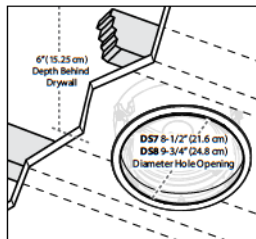


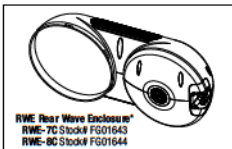
Figure 1. Required dimensions for installation in ceiling.

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**INSTALLATION CONSIDERATIONS CONTINUED**

If you are going to use the optional Niles Rear Wave Enclosure, you will need an additional 2" of depth and 10" clearance to one side of the loudspeaker opening.

**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 S18 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" 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 6" of depth. 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.**

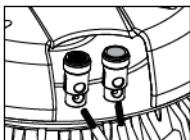
**NOTE: DO NOT INSTALL LOUDSPEAKERS BEFORE THE DRYWALL HAS BEEN COMPLETELY FINISHED AND PAINTED.**

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**INSTALLING THE LOUDSPEAKERS** CONTINUED

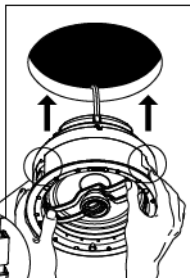
6. Prep the speaker wire by stripping 1/4"-1/2" from each speaker lead. Twist the strands or tin the leads with solder to ensure there are no stray strands that could short and possibly harm the amplifier.
7. If you've chosen to use insulation behind the loudspeaker, place it through the hole and center 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 (S) 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 DS 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 DS loudspeaker.

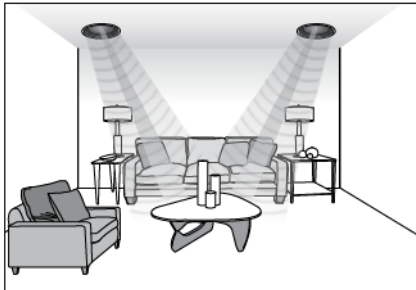
Mounting clamps require 1" clearance to the sides of the hole opening

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

**ADJUSTING THE PIVOTING WOOFER AND TWEETER**

DS loudspeakers feature the patented Directed Soundfield™ woofer pivot mechanism that enables the loudspeaker to direct the sound to the listening area (Figure 5). The tweeter(s) pivot independently of the woofer to provide additional control of the sound. Adjusting the woofer angle will affect the tweeter angle, so always begin by adjusting the woofer.

1. Press the outside edge of the woofer on the plastic, not the rubber, and slide the speaker until it is facing the primary listening position. The woofer adjusts approximately 15-degrees. Do not force the speaker.
2. After adjusting the woofer, adjust the tweeter by pressing on the outside edge of the tweeter to point to the listening area.



**Figure 5.** Aim woofer and tweeter towards listener area.

## SWITCH ADJUSTMENTS

**TWEETER SWITCH  
(DS7MP, DS7PR, DS7HD, DS8PR, DS8HD, DS7SI)**

The three-position tweeter switch allows you to adjust the high frequency output of the loudspeaker to compensate for room acoustics. The center position does not affect the tweeters output. Moving the switch to the - position reduces the tweeter output by 3 dB to compensate for bright rooms (tile or wood floors, spare 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.).

**DIALOG COMPENSATION SWITCH  
(DS7MP, DS7PR, DS7HD, DS8PR, DS8HD, DS7SI)**

This switch provides additional definition at critical midrange frequencies where the human voice is reproduced. This switch is generally used only for home theater center speaker applications. Engage the switch if you wish to enhance the dialog.

**DIFFUSE / DIRECT SWITCH (DS7FX, DS8FX)**

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 DS 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 dilute the paint.

## 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 DS 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.

## 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.

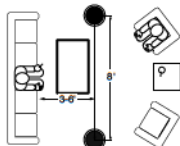


Figure 6. Stereo Sound Application.

## 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** – 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** – 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).

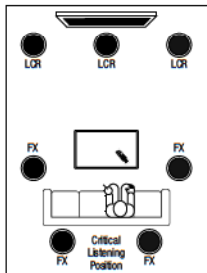
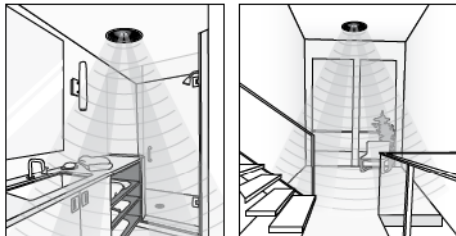


Figure 7. Home Theater Application.

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**APPLICATIONS CONTINUED**
**SINGLE SPEAKER STEREO INPUT APPLICATIONS**

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	Woofer	Tweeter / Midrange	Recommended Amplifier Power	Normal Impedance	Frame Dimensions with Grille	Side Cut-Out Dimensions	Depth (5/8" Drywall Ceiling)
<b>DSMP</b>	7" glass fiber woofer cone	1" Ultra8™ soft dome	10-130 watts	8 ohm nominal; 6 ohm minimum	9-77" Ø (1.15 cm)	8-1/2" (21.6 cm)	5-5/16" (13.6 cm)
<b>DSPR</b>	7" glass fiber woofer cone	1" fluid-cooled Isoterra™ dome	10-130 watts	8 ohm nominal; 6 ohm minimum	9-77" Ø (1.15 cm)	8-1/2" (21.6 cm)	5-5/16" (13.6 cm)
<b>DS7HD</b>	7" IMPACT (Improved Aluminum Ceramic Technology) cone	1" nano-coated IMPACT dome	10-160 watts	8 ohm nominal; 6 ohm minimum	9-77" Ø (1.15 cm)	8-1/2" (21.6 cm)	5-5/16" (13.6 cm)
<b>DS7FX</b>	7" glass fiber woofer cone	Dual 1" fluid-cooled Isoterra™ dome	10-140 watts	8 ohm nominal; 6 ohm minimum	9-77" Ø (1.15 cm)	8-1/2" (21.6 cm)	5-5/16" (13.6 cm)
<b>DS7SD</b>	7" glass fiber woofer cone	Dual 1" Ultra8™ soft dome	10-130 watts	8 ohm nominal; 6 ohm minimum	9-77" Ø (1.15 cm)	8-1/2" (21.6 cm)	5-5/16" (13.6 cm)
<b>DSPR</b>	8" glass fiber woofer cone	1" fluid-cooled Isoterra™ dome / 1-1/2" fluid-cooled Isoterra™ dome	10-140 watts	8 ohm nominal; 6 ohm minimum	11-11" (28.52 cm)	9-3/4" (24.76 cm)	5-5/16" (13.6 cm)
<b>DS7HD</b>	8" IMPACT (Improved Aluminum Ceramic Technology) cone	1" nano-coated IMPACT dome	10-160 watts	8 ohm nominal; 6 ohm minimum	11-11" (28.52 cm)	9-3/4" (24.76 cm)	5-5/16" (13.6 cm)
<b>DS7FX</b>	8" IMPACT (Improved Aluminum Ceramic Technology) cone	Dual 1" nano-coated IMPACT dome	10-160 watts	8 ohm nominal; 6 ohm minimum	11-11" (28.52 cm)	9-3/4" (24.76 cm)	5-5/16" (13.6 cm)

Model	Description	Additional Depth Behind Ceiling	Additional Side Clearance
<b>RW5FC</b>	7" Rear Wave Enclosure	1-13/16"	10"
<b>RW8C</b>	8" Rear Wave Enclosure	1-15/16"	10"

**LIMITED WARRANTY**

Niles Audio Corporation ("NILES") warrants to the original retail purchaser only that this product will be free of manufacturing defects in material and workmanship for the following periods and subject to the limitations and exclusions set forth below:

Active Warranty

All Passive Loudspeaker Products (those not requiring AC or battery power).

Two years from the date of purchase

All Other Passive Products (those not requiring AC or battery power).

Two years from the date of purchase

All Active Products (those requiring AC or battery power).

This warranty is not transferable to subsequent purchasers of the product. To obtain warranty service, contact the authorized dealer where you purchased your product or take the unit to the nearest authorized NILES dealer (with proof of purchase - claims made without proof of purchase will be denied) who will test the product and, if necessary, forward it to NILES for service. If there are no authorized NILES dealers in your area, you must contact NILES to receive a factory Return Authorization Number. DO NOT RETURN ANY UNIT WITHOUT FIRST RECEIVING WRITTEN AUTHORIZATION AND SHIPPING INSTRUCTIONS FROM NILES.

Upon examination, NILES will, at its discretion and expense, repair or replace any product found to be defective. NILES will return the repaired or replaced unit to you via its usual shipping method from the factory to your address in the United States of America or Canada only. Any shipping costs for addresses outside of the United States or Canada shall be the responsibility of the purchaser. In the event that the model is no longer available and cannot be repaired effectively, NILES, at its discretion, may replace it with a different model of equal or greater value, or refund the original purchase price plus freight. THE FOREGOING ARE YOUR EXCLUSIVE REMEDIES FOR BREACH OF WARRANTY.

This Warranty does not include service or parts to repair damage caused by improper use or handling, including but not limited to damage caused by accident, mis-wiring, improper installation, commercial use, abuse, negligence, or normal wear and tear or any defect caused by repair to the product by anyone other than NILES.

This warranty does not cover reimbursement for your costs of removing and transporting the product for warranty service evaluation, or installation of any replacement product provided under the warranty.

This Warranty will be void if:

- the Serial Number on the product has been removed, tampered with or defaced;
- the product was not purchased from an authorized dealer or reseller;

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Notwithstanding the above, if you qualify as a "consumer" under the Magnuson-Moss Warranty Act, or applicable state laws, then you may be entitled to any limited remedies allowed by law for the Warranty Period. Further, some states do not allow limitations on how long an implied warranty lasts or allow the exclusion or limitation of consequential damages, so such limitations may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

For the name of your nearest authorized NILES dealer contact: NILES AUDIO CORPORATION, 1989 Kellog Avenue, Carlsbad, CA 92008, or call 1-800-239-4434, 1-760-710-0992. Please be advised that NILES only sells its products via the Internet through a select group of authorized Internet dealers. These are listed on our website at [www.nilesaudio.com](http://www.nilesaudio.com). Products offered on the Internet through unauthorized Internet dealers are not covered by the NILES warranty and may be either:

- 1) goods acquired on a secondary or gray market
- 2) counterfeit or stolen goods
- 3) damaged, or defective goods

Please fill in your product information and retain for your records.

Model _____	Serial No. _____	Purchase Date _____
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**ATTENTION TO OUR VALUED CONSUMERS**

To insure that consumers obtain quality pre-sale and after sale support and service, NILES products are sold exclusively through authorized dealers. This warranty is VOID if the products have been purchased from an unauthorized dealer.

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