

## SENSONIC™ SURROUND SOUND CEILING SPEAKER

**Models: MS-625 (5¼" woofer and ½" dome tweeter)  
MS-626 (6½" woofer and ¾" dome tweeter)**

Congratulations on choosing NuTone loudspeakers! Great care has been taken in their design, choice of material and manufacture to maximize their performance at affordable cost. When used individually with other 8 Ohm stereo speakers in any 8 Ohm stereo amplifier system or in combination with other NuTone 8 Ohm stereo speakers in the "MS" series, they will provide years of excellent, balanced and distortion-free listening pleasure.

### INTRODUCTION

The MS-625 and MS-626 are two-way ceiling speakers. MS-625 consists of a 5¼" woofer and a ½" dome tweeter. MS-626 consists of a 6½" woofer with polymica cone with butyl rubber surround and a ¾" Titanium dome tweeter with Neodymium magnet and is the premium product in this series, specifically designed to reproduce music and speech in an exceptionally clear, crisp manner.

Two of these speakers can be used as front or rear channel speakers in a surround sound system. Multiple speakers can also be used for providing background or secondary music. These speakers are designed for wall or ceiling mounting. When mounted on ceilings, their round shape makes them unobtrusive since they blend easily with other electrical fixtures, which are normally round in shape. They are also ideally suited for mounting on irregularly shaped walls or cathedral type ceilings.

NuTone SENSONIC™ SURROUND SOUND Ceiling Speakers are acoustically matched to other stereo speakers in the "MS" series. A well-balanced home theater system can be built using the optimally-engineered speaker components. The "MS" series includes a variety of two-way and three-way in-wall speakers, center channel speaker, sub-woofer, and two-way indoor/outdoor speakers to complete a system.

### SWIVEL DOME TWEETER

Unlike low frequencies, high frequencies are highly directional. This means that you should be almost directly in front of the tweeter that reproduces the high frequencies to hear them well. Since in practice the ceiling speaker is likely to be installed in an area not directly overlooking the listening area, NuTone ceiling speakers have a tweeter which can be swiveled 360° on its axis at an angle of 15° up or down with respect to its surface. This ensures that every tone in the music is heard clearly no matter where the speaker is installed.

### INSTALLATION

You can mount the ceiling speaker MS-625 or MS-626 easily since they do not require rough-ins. Refer to Figure 1. Using the template provided, cut a hole in the ceiling. Make sure the tabs on the mounting bosses are facing inward. Remove the grille carefully using a screwdriver, taking care to ensure that it is not damaged, and place it aside. Unscrew the four screws on the face of the speaker until they are about ¾ of the way out.

If the grille vibrates, you may apply a small amount of the black acoustic damping material (packed with the speaker in a small plastic bag).

Connecting the ceiling speaker to your amplifier or A/V receiver is simple. Make sure the system is off. Refer to Table 1 for choosing proper gauge wire, which depends on the distance between the speaker and the amplifier/receiver. The lower the gauge, the thicker the wire:

Use oxygen-free speaker cable. Strip about ½" of insulation

<u>Length</u>	<u>Minimum Gauge</u>
Less than 10 feet	18
10-50 feet	16
More than 50 feet	14

from the wire at each end. Connect the wire to "RED" (+) terminals of the speaker and the amplifier/receiver. Make sure that the same wire goes from the "RED" (+) terminal on your TV or amplifier/receiver to the "RED" (+) terminal on the speaker. The "BLACK" (-) terminal of the speaker is connected to the "BLACK" (-) terminal of the amplifier/receiver.

For making connection, simply press the lever on the terminal. Push the wire in the slot and release the lever.

### CEILING MOUNTING

Place the speaker in the hole in the ceiling. Using the

screwdriver, screw in the 4 mounting screws on the face of the speaker until it sits snugly on the ceiling.

If the grille of the speaker vibrates, you may apply a small amount of the black acoustic damping material (packed with the speaker in a small plastic bag) between the grille and the cabinet. The NuTone logo on the grille can be swiveled to any position desired. You may also apply a small amount of the black acoustic damping material to the logo from behind the grille if it is loose.

You can now place the grille on the face of the speaker and gently push it in. In case you need to remove the speaker, simply remove the grille. Using the screwdriver, unscrew the 4 screws as before until the speaker comes loose from its seating on the ceiling.

As mentioned above, the ceiling speakers are equipped with a unique tweeter which can be rotated. Hence, you may wish to turn/swivel the tweeter so that it points to the main listening area. You may wish to adjust the position at various angles while listening to high notes in music to determine the position that gives the best result. Once adjusted in this way for a particular installation situation, you do not need to adjust it again.

## OPERATIONAL CHECK

After making all connections, check for proper operation. Switch on the system. Play music and slowly increase the volume. You should hear sound from the speakers. If no sound is heard from any or all speakers, switch off the system immediately and check for open or loose connections, wrong polarity or shorts.

## VOLUME CONTROL

If desired, the volume from the ceiling speaker can be

controlled by using the 150 Watt NuTone autoformer stereo volume control SVC-101 for MS-625 or SVC-102 for MS-626. Refer to the stereo volume control instruction sheet for further details.

**CAUTION: The ceiling speakers MS-625 and MS-626 are not designed to be used with NuTone Radio Intercom Systems.**

## HOME THEATER SYSTEM

For best stereo/surround sound reproduction you must use all speakers of the same brand in the system. The new NuTone SENSONIC™ SURROUND SOUND 8 Ohm speakers are all acoustically matched. Therefore, they can all be used in combination to create sonically-balanced sound as it moves across the screen in a home theater surround sound system. For the most accurate and exciting reproduction of bass frequencies, a separate sub-woofer should be used.

A basic surround sound system consists of a pair of front channel speakers, a pair of rear channel speakers and a center channel speaker. You can use the in-wall speakers MS-825, MS-828, MS-838K, or even ceiling speakers MS-625, MS-626 as front and rear channel speakers. You can also use the surface mount speaker MS-525 as a rear channel speaker.

The front channel speakers should be mounted at approximately ear level from a seated audience at the front.

Rear channel speakers should be placed on the side walls about  $\frac{1}{2}$  to  $\frac{3}{4}$  of the distance from the viewing screen or the front of the room to the rear of the room. The bottom of the speaker cabinet should be at least 2 feet above the ear level of the seated audience. Rear channel speakers can also be placed at the rear or back wall at about 2 feet higher than the ear level of the seated audience as before. For best surround effect, the distance to the rear speakers from the audience should be no more than 6 feet.

One important aspect of surround mode is the speaker delay.

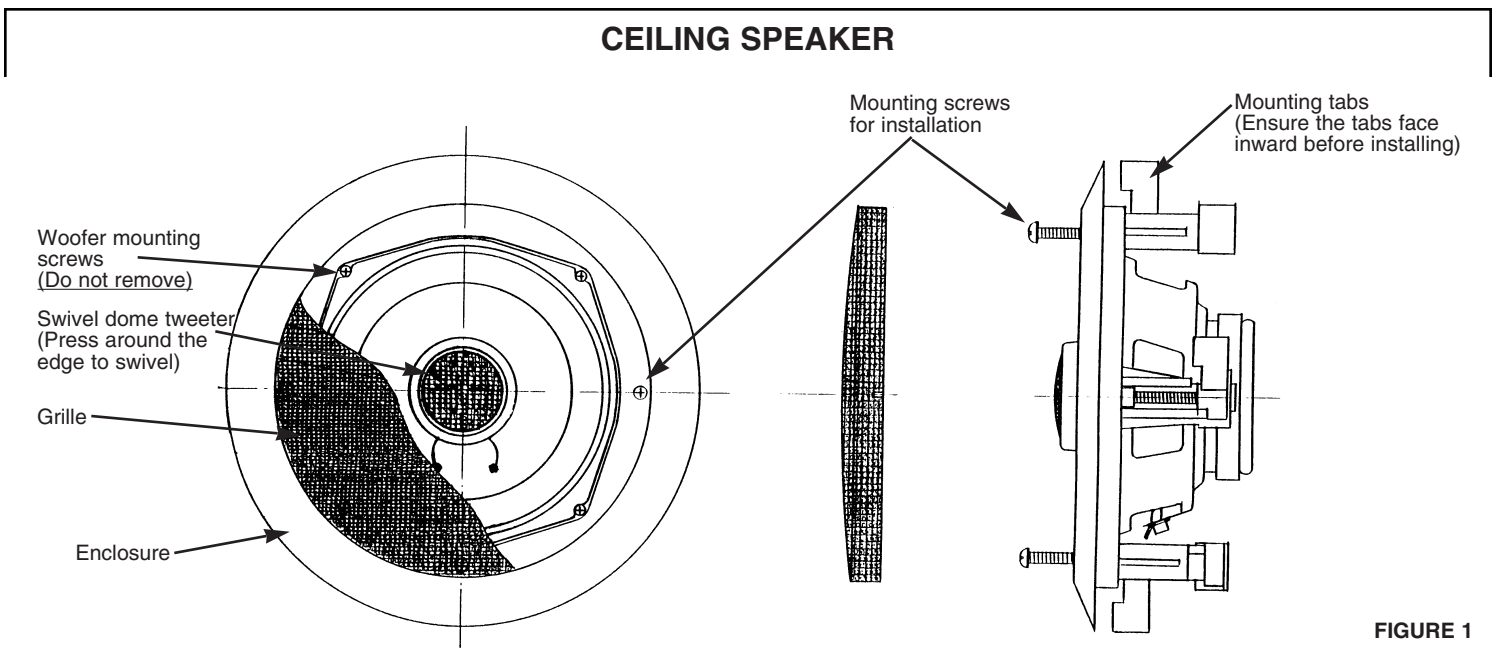


FIGURE 1

In other words, the sound to the rear speakers can be delayed with respect to the front speakers to create the effect of vastness of space. In most A/V receivers, this delay can be controlled depending on personal taste. Usually in the Pro-Logic mode, this delay is controllable between 15-30 milliseconds.

For best sound imaging, place the center channel speaker MS-725 above or below your TV in line with your main front left and right channel speakers, and aim it directly at the audience. Placing it beside the TV may not result in coinciding the sound and picture, which is very important for optimum surround effect.

MS-725 has one surface of the cabinet which is sloping. Hence, if you place it below your TV, you can tilt it upwards to face the audience. If you place it above the TV on its flat surface, you can direct sound straight out to the audience.

A more elaborate sound system can be made by adding MS-418 sub-woofer to enhance the bass frequency reproduction. Placement of MS-418 in a room is not critical since it primarily reproduces low frequency sounds, which are non-directional. Place the sub-woofer in any convenient location commensurate with your aesthetic and listening preferences.

## FEATURES

### MS-625

- 5¼" woofer with polymica cone and poly foam surround.
- ½" polycarbonate tweeter with Ferrofluid cooled ferrite magnet
- Impedance: 8 Ohms
- Power handling capacity: 70 Watts
- Frequency Response: 45-22,000 Hz +/- 3 dB typ.
- Sensitivity, 1 m @ 1 W: 86 dB

### MS-626

- 6½" woofer with polymica cone with butyl rubber surround,
- ¾" swivel Titanium tweeter with Ferrofluid cooled Neodymium magnet
- Impedance: 8 Ohms
- Power handling capacity: 100 Watts
- Frequency Response: 45-22,000 Hz +/- 3 dB typ.
- Sensitivity, 1 m @ 1 W: 88 dB
- Protection: Tweeter in MS-626 overload protected by polyswitch

# NuTone®

## Five Year Limited Warranty

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Date of Installation

Builder or Installer

Model No. and Product Description

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Product model number • Date and Proof of purchase • The nature of the difficulty

**Residents of Alaska or Hawaii should write to:** NuTone Inc. Attn: Department of National Field Service, Madison and Red Bank Roads, Cincinnati Ohio 45227-1599.

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