

Owner's Manual

AMC

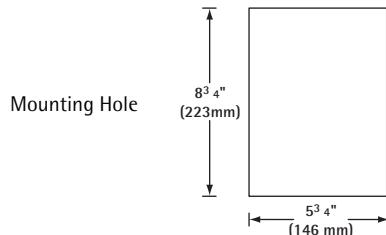
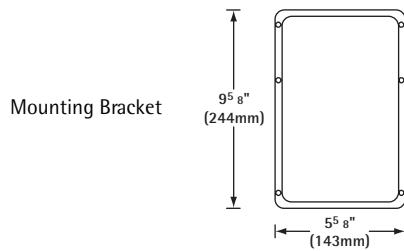
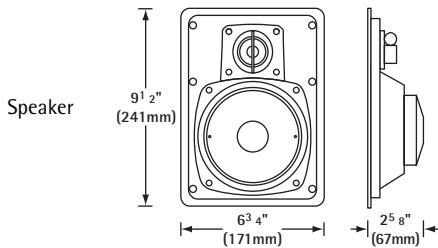
730

770

830

Snell

| SPECIFICATIONS | AMC730 |
|---|---|
| Frequency Response ($\pm 3\text{dB}$) | 65–20,000Hz |
| Recommended Amplifier Power | 50–150 watts |
| Nominal Impedance | 8 ohms |
| Sensitivity [1 watt (2.83v) at 1m] | 87dB |
| Tweeter | 1" (25mm) soft dome |
| Bass Unit | 5 $\frac{1}{4}$ " (135mm) copolymer |
| Crossover Frequency | 2500Hz |
| External Dimensions (HxW) | 14" x 9 $\frac{1}{2}$ " x 3 $\frac{3}{4}$ " |
| Mounting Hole Cutout (HxW) | 12 $\frac{13}{16}$ " x 8 $\frac{5}{16}$ " |
| Shipping Weight | 16 lbs/pr. Net: 6 lbs ea |



AMC770

66–20,000Hz

50–125 watts

8 ohms

87dB

1" (25mm) soft dome

6¹/₂" (165mm) copolymer

2500Hz

17 x 10¹/₂"

15 7/8" x 9 3/8"

22 lbs. pr. Net: 9 lbs ea.

AMC830

70–20,000Hz

50–250 watts

4 ohms

89dB

1" (25mm) soft dome

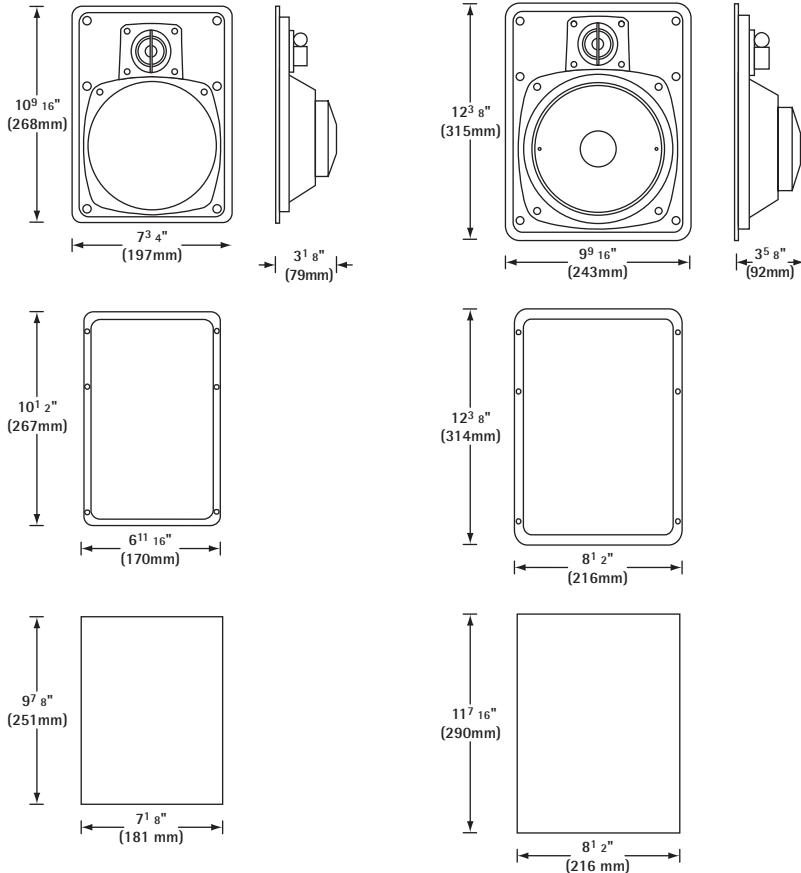
Dual 5¹/₄" (135mm) copolymer

2500Hz

23 1/4 x 13 1/4"

22" x 12"

22 lbs. ea. Net: 19 lbs ea.



INTRODUCTION: WHAT IS A HIGH END IN-WALL?

The new Snell AMC series units bring a novel approach to the design and construction of in-wall loudspeakers, expanding the boundaries of in-wall performance.

Our primary goal was to develop loudspeakers that delivered performance that was as close as possible to that of our highly regarded freestanding loudspeakers, like the K7, M7, LCR7 and D7.

The bass performance of conventional loudspeakers mounted in wall cavities is very unpredictable. Cavity volume can be large, which should be good for bass performance. However, with one very short dimension (approximately 4") and one very long dimension (up to 8'), the wall cavity takes on the characteristics of a closed-end organ pipe. This creates a strong resonance that tends to null out the bass. Lining this cavity with fiberglass will reduce the "Q" of the notch but not restore the bass. What is needed is a defined volume of a more regular size. This is best done with fully enclosed in-wall speakers.

The Snell AMC loudspeaker enclosure is a thin, but strong, aluminum tub. It is both damped and braced. This largely contains the back radiated sound of the woofer within the enclosure. An added benefit of containing the woofer output is a reduced chance that resonances will be excited in the house walls. Furthermore, sound "bleed through" to adjacent rooms is reduced.

To minimize resonances in the Snell enclosure, the speaker baffle uses a technique first pioneered on our furniture loudspeakers. The baffle is a three part composite with MDF (fiberboard) outer layers around a thin, but highly effective, damping layer. This controls the panel resonances of the baffle that can obscure midrange clarity. As we have found with our freestanding loudspeakers, a better loudspeaker cabinet means a better sounding loudspeaker.

In addition to these unique solutions, all traditional Snell attributes are retained. Highly coherent in-phase crossover networks ensure a seamless blend from driver to driver. Drivers are designed for smooth, wide range response and low distortion. Long sessions of listening and adjusting give each system that special, characteristic Snell sound.

Finally, the Snell sound is guaranteed in every production pair by Snell's proprietary 0.5dB production tuning techniques.

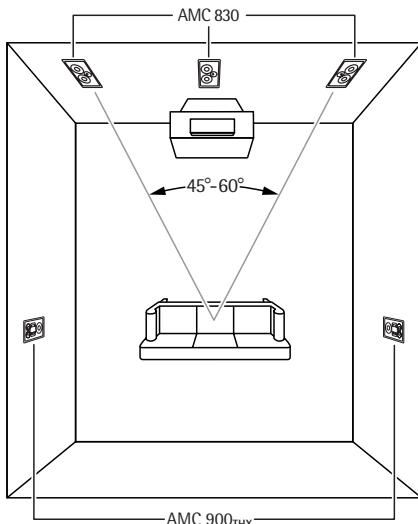
PLACEMENT OF THE FRONT CHANNEL SPEAKERS

A home theatre system includes three loudspeakers placed across the front of the listening room. The distance between the left and right speakers determines the width of the stereo image. If the speakers are placed too close together, the image will be too narrow; too far apart and the blend will suffer, creating a hole in the middle. When properly placed, your speakers will create a continuous "virtual image" from left to right, with an illusion of sound outside, in front of, and behind the speaker systems.

We recommend an angular separation between 45 degrees and 60 degrees (when viewed from above). This is equivalent to a separation between the speaker systems that is about 85% of the distance to either of the speakers.

Creation of sounds between the speakers requires some precise placement. The distance from the left speaker, right speaker, and center channel to the listener location should all be as equal as possible. We advise using a tape measure to equalize these two distances to the primary listening location.

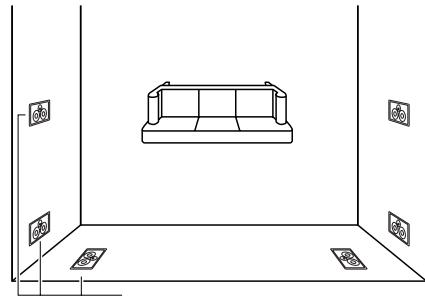
Ideally the front channel speakers should be installed at the same height as the ears of a seated listener. Try to keep the front channel tweeters within two vertical feet of that height.



PLACEMENT OF THE SURROUND SPEAKERS

There are many opinions about where surround or "rear" speakers should be mounted. The following is based on the findings of the best academics, and on our experience with many installations. These placement recommendations apply to all the AMC models, whether you are using AMC 900_{THX} (dipole surrounds) or AMC 730, AMC 770 or AMC 830 (direct speakers).

If two surrounds are used in a standard 5.1 configuration (not 7.1 or EX), they are best mounted to the sides of the listening area. This means straight to the sides of the listener or in line with the primary row of seating, plus or minus 15 degrees. This is preferred over back wall mounting for several reasons: It places the surrounds at locations where the difference between left ear and right ear discrimination is at a maximum. This gives the maximum sense of "envelopment" or being surrounded by sound. Rear mounted speakers force a huge angular gulf between the front primary speakers and the rear speakers. The sound image is inherently discontinuous. Also, front to rear aural discrimination is not very strong. Differentiation between front and rear speakers will not be as strong as the effect of adding speakers to the side. 7.1 or EX systems that use side and rear speakers together overcome all of these obstacles and give both maximum envelopment and a more continuous surround effect.



A second factor to consider is the evenness of sound coverage over the seating area. Most surround processors have features for setting the balance of all channels. A circulating noise signal is adjusted in each channel until the apparent or measured sound level is even. Of course, moving to another seat will shift this balance somewhat. Well-placed surround speakers will minimize the level variation from seat to seat. The best way to achieve evenness is to increase the distance of the surround speakers from the listening area. Mount them high on the side walls or even on the ceiling. As a good rule of thumb, surrounds should be on the side walls at least one foot above the height of a standing listener. If the speakers are ceiling-mounted, they should be close to the side walls, well away from an overhead position.

If a large theater room with three or more rows of seats is planned, then more than one pair of surround speakers should be used to give more even coverage and a more diffuse sound field. We recommend that a pair of surrounds be used for every other seating row (the first, the third, the fifth, etc.). This follows standard cinema practice.

PREPARING FOR INSTALLATION

Map out the wiring paths from the speakers to the amplifier. We recommend 16-gauge wire for runs up to 25 feet, and 14-gauge wire for longer runs. Be sure the speaker wire does not rest or rub against any sharp or pointed objects.

The speakers should be mounted on a flat surface to form a good seal between the speaker flange and the mounting surface.

When connecting more than two speakers per amplifier channel, you should use series/parallel wiring. In all cases, make certain that the total impedance does not fall below the amplifier's rating. If you are not sure, contact your Snell Acoustics dealer.

You will Need:

- 1) A utility knife, an electric jigsaw, or other means of cutting a hole in the mounting surface.
- 2) A #2 Phillips screwdriver.
- 3) A wire cutter or stripper for preparing the speaker wires.

With the supplied hardware, the speaker can be installed in existing walls or ceilings from 1/2" (12mm) to 1 1/2" (38mm). For thinner walls, you will need to use spacers for the mounting legs (contact your Snell dealer for this optional rubber part).

INSTALLATION

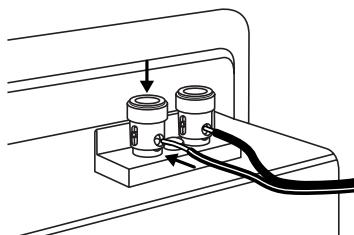
For convenient installation, the Snell AMC730, AMC770, and AMC 830 use a dog-leg mounting system (see illustrations below). This provides a quick and clean install. Furthermore, the dog-legs can be removed if a particular situation requires to speaker to be directly attached to a stud.

- 1) Make an appropriate size speaker mounting cutout in the wall material.
- 2) Run the wire from the amplifier to the cutout. Allow an extra foot of wire at the cutout. Strip 1/2" (12mm) off the wire, and tightly twist the wire strands together.
- 3) Remove the speaker grille.
- 4) Insert the speaker wires into the spring terminal binding posts.

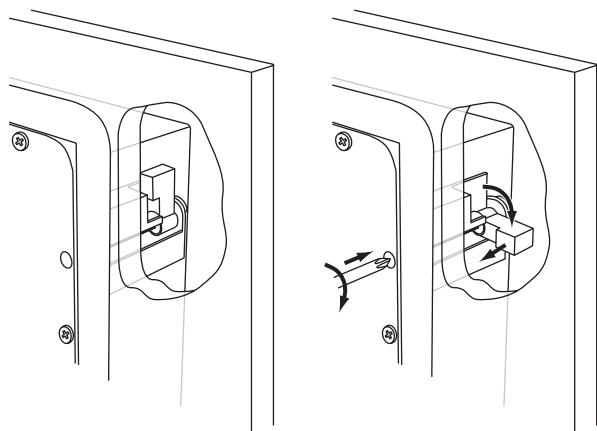
Important: Typically, one side of the wire is smooth. Connect this side to the - (black) speaker terminal. The other side has a rib or stripe. Connect this to the + (red) speaker terminal. Connect wire at the amplifier in the same way. Failure to do so will result in degraded sound.

Warning! To prevent electrical shock, always switch off the amplifier or receiver when making connections to the speaker system.

Continued



- 5) Place the speaker into the rough opening.
- 6) Level the speaker and tighten the screws, being careful not to over tighten them. See diagram below for details.



- 7) Replace the speaker grille.

LISTENING LEVELS AND POWER HANDLING

The power recommendation for the system assumes you will operate the amplifier in a way that will not produce distortion. All speakers can be damaged by even a modest amplifier if it is producing distortion. If you hear a gritty noise or other signs of strain, turn down the volume. Prolonged or repeated operation of your speakers with a distorted signal can cause damage that is not covered by the warranty. It is especially important that you do not overdrive the bass capability of smaller speakers. Watch for noises, such as pops, caused by the music's bass line. Use of the loudness control and/or full bass boost at louder volumes is likely to overdrive the woofer. Use such controls sparingly.

HOW TO CARE FOR YOUR SPEAKERS

Use a soft terry cloth towel slightly dampened with water, glass cleaner, or a diluted mild detergent. The towel should be just damp enough to wipe the surface clean without leaving a trail of moisture.

Do not use abrasive cleaners or any cleaner containing chemicals harsher than those found in glass cleaner.



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