

Owner's Manual

AMC

720i

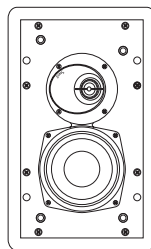
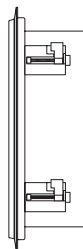
760

800

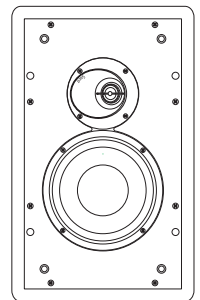
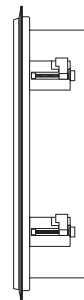
900_{THX}

Snell

| SPECIFICATIONS | AMC720i | AMC760 |
|----------------------------------|--|---|
| Frequency Response (± 3 dB) | 65 Hz–20 kHz | 62 Hz–20 kHz |
| Recommended Amplifier | 10–125W | 10–150W |
| Nominal Impedance | 8 ohms | 8 ohms |
| Sensitivity (2.83v at 1m) | 87dB SPL | 89dB SPL |
| Tweeter(s) | 1" aluminum dome, ferrofluid cooling and heatsink. Steerable "Directed Power" waveguide | 1" aluminum dome, ferrofluid cooling and heatsink. Steerable "Directed Power" waveguide |
| Midrange | n/a | n/a |
| Bass Driver | 5 ¹ / ₄ -inch (132mm) copolymer with butyl rubber surround | 6 ¹ / ₂ -inch (165mm) copolymer with butyl rubber surround |
| Crossover Point | 2.7 khz | 2.7 khz |
| Composite Baffle | Specialty adhesive between two 1/4" layers of HD fiberboard | Specialty adhesive between two 1/4" layers of HD fiberboard |
| Grille | White cloth over MDF frame | White cloth over MDF frame |
| Dimensions (HxWxD) | 14 x 8 ¹ / ₂ x 3 ³ / ₄ inches (356 x 216 x 95mm) | 17 x 10 ¹ / ₂ x 3 ³ / ₄ inches (432 x 267 x 95mm) |
| Rough Opening Cutout (HxW) | 12 ⁷ / ₈ x 7 ³ / ₈ inches (327 x 187mm) | 15 ⁷ / ₈ x 9 ³ / ₈ inches (403 x 238mm) |
| Finish* | White trim, suitable for painting | White trim, suitable for painting |
| Weight | 21 lbs (9.5kg) / pair | 23 lbs (10.5kg) / pair |



AMC720i



AMC760

AMC800**AMC900_{THX}**

65 Hz-20 kHz

78 Hz-20 kHz

10-200W

10-150W

4 ohms

6 ohms

90dB SPL

87dB SPL

1" Aluminum dome, ferrofluid cooling and heatsink. Steerable "Directed Power" waveguide

(2) 1" aluminum dome, ferrofluid cooling and heatsink. "Directed Power" waveguide in dipole configuration

n/a

3 1/2" Midrange, edge-mounted in dipole configuration

6 1/2-inch (165mm) copolymer with butyl rubber surround

6 1/2-inch (165mm) copolymer with butyl rubber surround

600 Hz, 3kHz 2 1/2 way

400 Hz, 2.5 kHz, 12dB/octave

Specialty adhesive between two 1/4" layers of HD fiberboard

Specialty adhesive between two 1/4" layers of HD fiberboard

White cloth over MDF frame

White cloth over MDF frame

23 1/4 x 13 1/4 x 3 3/4 inches
(590 x 336 x 95mm)

23 1/4 x 13 1/4 x 3 3/4 inches
(590 x 336 x 95mm)

22 x 12 inches
(559 x 305mm)

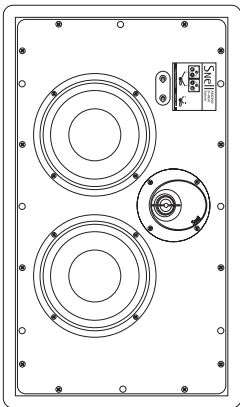
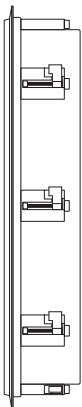
22 x 12 inches
(559 x 305mm)

White trim, suitable for painting

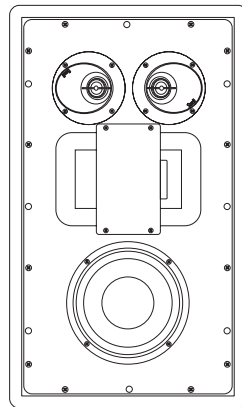
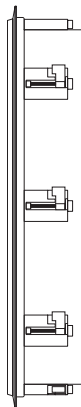
White trim, suitable for painting

22 lbs (10kg) each

22 lbs (10kg) each



AMC800

AMC900_{THX}

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 K.5 mk2 and E.5 mk2. To do this, several issues had to be addressed.

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 .5 and XA series 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.

Conventional in-wall speakers also suffer from poor stereo imaging. Freestanding speakers can be angled inward to produce a better central image and make listening position much less critical. In-wall speakers obviously cannot be angled in this way. Some in-wall speakers use a pivoting post-mounted tweeter in attempt to overcome this limitation. The pivoting mechanism produces reflections that adversely affect the tweeter's response and sound. Also, the small baffle area of the pivoting tweeters means that only the highest frequencies can be angled inward.

The Snell solution is a unique tweeter that incorporates a waveguide with a fixed 20 degree angle. The DPT ("Directed Power Tweeter") waveguide design controls reflections to ensure smooth response. The waveguide is also large enough to function effectively over the full range of the tweeter. The DPT driver can be easily unfastened and rotated to any of eight positions in 45 degree increments. This, together with the designed-in angle of the driver, lets you direct the sound inward to focus a stereo image. Or the sound can be directed away from the listening area to produce a more diffuse sound field when the AMC 720i, AMC 760 or AMC 800 are used as surround speakers.

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

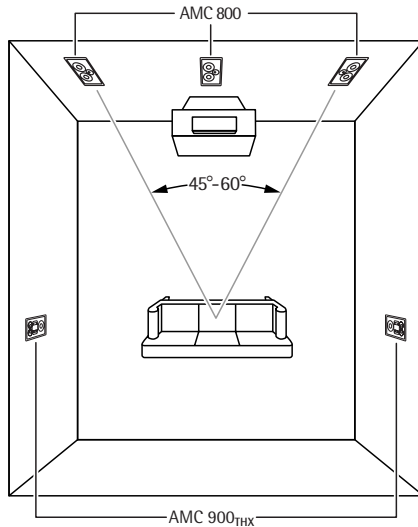
PLACEMENT OF THE FRONT CHANNEL SPEAKERS

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. If speakers must be installed more than 2-3 feet above or below the ideal position, take advantage of the DPT rotating feature. For example, aim the tweeter downward when the speakers are mounted high on the wall. For more information, refer to the "Aiming the DPT" section.

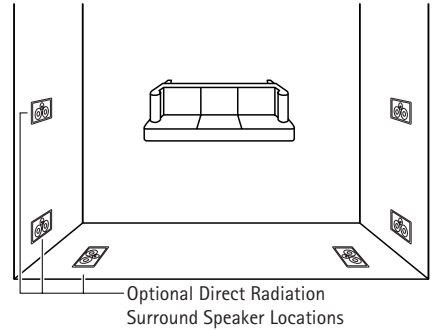


PLACEMENT OF THE SURROUND SPEAKERS

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 720i, AMC 760 or AMC 800 (direct speakers).

When selecting installation locations for the AMC 720i, AMC 760 or AMC 800, remember that you can increase the diffusion of their sound by aiming their DPT drivers away from the listening area (see the "Aiming the DPT" section). The tweeters can be aimed toward a reflecting surface, or a surface that will scatter the sound, such as a shelf full of books or other irregular surface. The AMC 900_{THX} tweeters should *not* be repositioned.

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.

Special Considerations for the AMC 900THX

Placement of a dipole surround speaker, such as the AMC 900THX, requires another consideration. For a dipole to give a properly diffuse sound the listeners should be on or near the "null plane". Imagine a line running down the middle of the front of the AMC 900THX (along the longer dimension), between the two tweeters and across the center of the woofer. A plane sticking straight out from this line (at 90 degrees to the wall) defines the null plane. For any listener on this plane, the output of the two tweeters and the midrange will be at maximum cancellation. A listener at this position will hear the speaker only via multiple wall reflections. This is why the dipole sounds diffuse.

So the AMC 900THX should be installed where the null plane will run through the primary listening area. This can be achieved either with the AMC 900THX installed in a side wall (with the long axis of the speaker oriented vertically) or on the ceiling (with the long axis of the speaker oriented across the width of the room).

