

Owner's Manual

AMC

900THX

2000THX

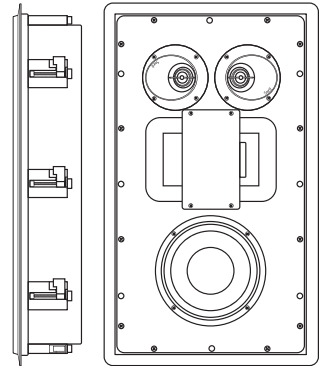
LUCASFILM

THX

U L T R A 2

Snell

SPECIFICATIONS	AMC 900THX
Frequency Response ($\pm 3\text{dB}$)	78 Hz–20 kHz
Recommended Amplifier	10–150W
Nominal Impedance	6 ohms
Sensitivity (2.83v at 1m)	87dB SPL
Tweeter(s)	(2) 1" aluminum dome, ferrofluid cooling and heatsink. "Directed Power" waveguide in dipole configuration
Midrange	3 1/2" Midrange, edge-mounted in dipole configuration
Bass Driver	6 1/2-inch (165mm) copolymer with butyl rubber surround
Crossover Point	400 Hz, 2.5 kHz, 12dB/octave
Composite Baffle	Specialty adhesive between two 1/4" layers of HD fiberboard
Grille	White cloth over MDF frame
Dimensions (HxWxD)	23 1/4 x 13 1/4 x 3 3/4 inches (590 x 336 x 95mm)
Rough Opening Cutout (HxW)	22 x 12 inches (559 x 305mm)
Finish*	White trim, suitable for painting
Shipping Weight	22 lbs (10kg) each



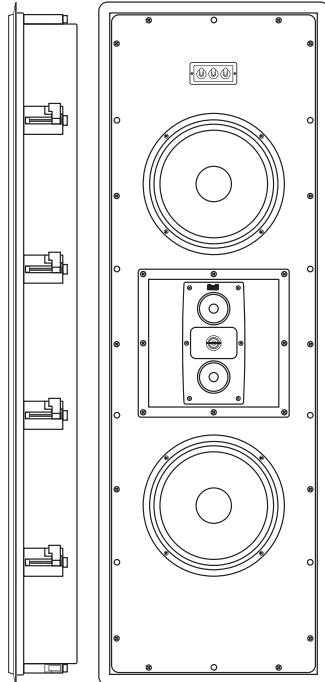
Manufactured under license from Lucasfilm Ltd.
 Lucasfilm and THX are registered trademarks of
 Lucasfilm Ltd.

SPECIFICATIONS

AMC 2000THX

Frequency Response ($\pm 3\text{dB}$)	63 Hz–20 kHz
Recommended Amplifier	75–250W
Nominal Impedance	6 ohms
Sensitivity (2.83v at 1m)	90dB SPL
Tweeter(s)	1" aluminum dome with separate PVC surround and ferrofluid cooling
Midrange	2 - 2 $\frac{1}{2}$ " in separate enclosure
Bass Driver	2 - 8-inch (203mm) copolymer with butyl rubber surround
Crossover Point	400 Hz, 2.5 kHz, 12dB/octave
Composite Baffle	Specialty adhesive between two $\frac{1}{4}$ " layers of HD fiberboard
Grille	Perforated metal, 53% open
Dimensions (HxWxD)	42 x 14 x 3 $\frac{3}{4}$ inches (1067 x 356 x 95mm)
Rough Opening Cutout (HxW)	40 $\frac{7}{8}$ x 12 $\frac{7}{8}$ inches (1039 x 327mm)
Finish*	White trim, suitable for painting
Shipping Weight	45 lbs (20.4kg) each

* Custom paint and grilles are available for an extra charge



INTRODUCTION: WHAT IS A HIGH END IN-WALL?

The 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 LCR7 and C7. 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. Obviously, most 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 AMC 2000THX has an optional angled mounting plate for the high frequency and midrange drivers.

The AMC 900THX uses a different solution – 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.

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 AMC 2000^{THX}

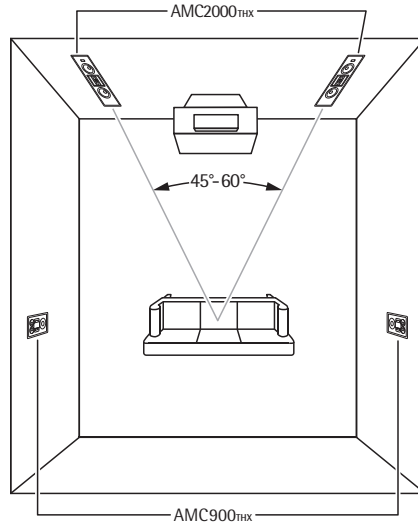
A home theatre system includes three loudspeakers placed across the front of the listening room. The distance between the left and right speakers determines the width of the stereo image. If the speakers are placed too close together, the image will be too narrow; too far apart and the blend will suffer, 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.

Note: If the AMC 2000^{THX}'s must be installed so the separation angle is larger than 60°, consider using the optional angled mounting plate for the tweeter and midrange speakers. This produces a "toe in" effect while still being mounted flush with the wall. Contact your Snell retail dealer or e-mail Snell Tech Support at info@snellacoustics.com for more information.

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 AMC 900THX

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.

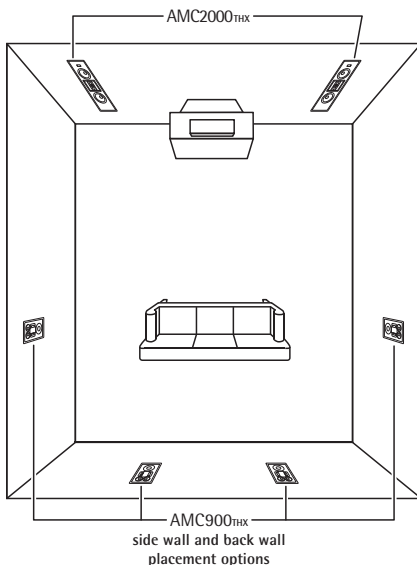
In a typical 5.1 surround system a dipole surround speaker, such as the AMC 900THX, performs best when it is mounted directly to the sides of the listener plus or minus 15 degrees or so. This places the listener in the "null plane" of the speaker. For a listener positioned on the null plane, the output of the two tweeters and the midrange will be at maximum cancellation. The listener will hear the speaker only via multiple wall reflections—producing the most diffuse sound.

Whenever possible mount the AMC 900THX's high on the side walls of the room, at least one foot above the height of a standing listener.

The second preferred position is on the back wall. If may be necessary to mount the speakers closer to the center line of the room to keep the listening area in the $\pm 15^\circ$ null plane.

If neither of these positions can be used, mounting the speakers in the ceiling can be considered. Ceiling mounted speakers 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 AMC 900THX may 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.



AN IMPORTANT NOTE ABOUT INSTALLATION

This manual assumes that the installer possesses skill in the proper use of hand and power tools, knowledge of local building and fire codes, and a familiarity with the environment behind the wall or ceiling in which the speakers will be installed. If you do not have the necessary skills and knowledge, have the speakers installed by a professional.

Optional preconstruction brackets are available for the AMC 900THX.

PAINTING THE SPEAKERS

If you intend to paint the speakers, it is best to do so before installation.

- 1) Remove the speaker grille.
- 2) Mask the baffle.
- 3) After painting, carefully remove the paint mask.

Note: Custom paint and grilles are available for an extra charge.

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:

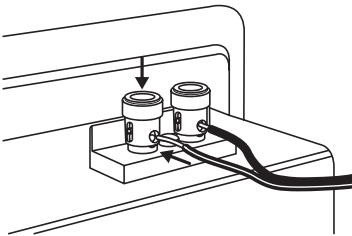
- 1) A utility knife, an electric jigsaw, or other means of cutting a hole in the mounting surface.
- 2) A #2 Phillips screwdriver.
- 3) A wire cutter or stripper for preparing the speaker wires.

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 AMC 900THX and AMC 2000THX 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.



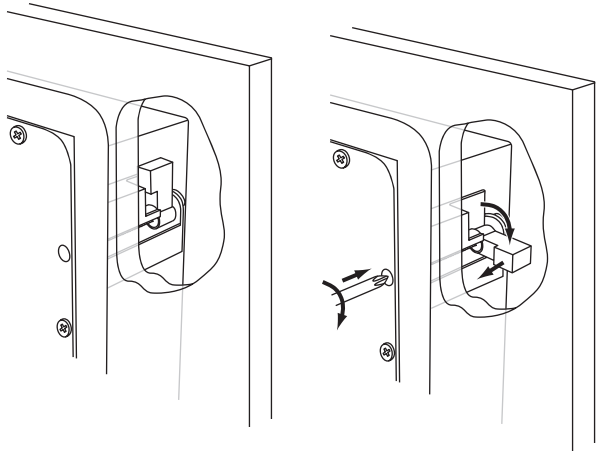
Important: Typically, one side of the wire is smooth. Connect this side to the - (black) speaker terminal. The other side has a rib or stripe. Connect this to the + (red) speaker terminal. Connect wire at the amplifier in the same way. Failure to do so will result in degraded sound.

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 and level it.
- 6) Tighten (drive clockwise) the screws that turn the mounting clamp dog and tighten them. Try to tighten each clamp the same amount, being careful not to over tighten them. See diagram below for details.

Turn the mounting clamps against the enclosure, then place the speaker in the mounting hole. Use a phillips head screwdriver to deploy the mounting clamps and pull them against the back of the drywall.



- 7) Replace the speaker grille.

Note: The AMC 900THX is sold in pairs. On the cabinet, near the input terminals, is a temporary label to specify screen direction. The response will be slightly superior in this direction. Install the two AMC 900THX's so that the arrows BOTH point toward the screen. If listeners are not going to be located on or near the center axis of the speaker, the speaker should be oriented with the arrow toward the listener location (even if this is away from the screen).

SETTING THE AMC 2000THX CONTROL SWITCHES

The AMC 2000THX has three switches that let you adjust its sound to suit your listening environment.

Bass Loading – When a speaker is placed close to a corner (or boundary), it can emphasize the bass output. Setting the Bass Loading switch to the Boundary position slightly reduces bass output, thus preventing the "heavy" sound quality that can result from a speaker being placed close to a corner. When the AMC 2000THX is positioned at least 18" from the corner the Normal switch position will usually produce the best sound balance.

Treble Level – This switch controls the "brightness" of the AMC 2000THX. Set the switch to "+" to increase the high-frequency output in situations where the speaker sounds "dull". This can occur when the listening room has a lot of heavy carpeting, drapes, etc. that absorbs high frequency sound. Set the switch to "-" when the AMC 2000THX sounds too bright, which can happen in rooms with more hard, reflective surfaces.

Perforated Screen – The AMC 2000THX provides compensation for the sound attenuation of a speaker placed behind a perforated screen. When the speaker is behind a screen, set the switch to With Screen. In systems where the speaker is not behind a screen, set the switch to No Screen.

IMPORTANT: The With Screen setting of the Perforated Screen switch overrides the treble level adjustment normally provided by the Treble Level switch. If you want to use the Treble Level switch the Perforated Screen switch must be set to No Screen.

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.

LIMITED WARRANTY

For five years from the date of purchase, Snell Acoustics will repair for the original owner any defect in materials or workmanship that occurs in normal use of the speaker system, without charge for parts and labor.

Your responsibilities are to use the product according to the instructions supplied, to provide safe and secure transportation to an authorized Snell Acoustics service representative, and to present proof of purchase from an authorized Snell dealer in the form of your sales slip when requesting service.

Excluded from this warranty is damage that results from abuse, misuse, accidents, shipping, repairs, or modifications by anyone other than an authorized Snell Acoustics service representative. This warranty is void if the serial number has been removed or defaced.

This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

If Service Seems Necessary

Contact the dealer from whom you purchased the speaker system. If that is not possible, call us at 978-538-6262, or write to:

Snell Acoustics
300 Jubilee Drive, P.O. Box 3717
Peabody, MA 01961-3717

We will promptly advise you of what action to take. If it is necessary to return your speaker system to the factory, please ship it prepaid in the original factory packaging. Please note that Snell Acoustics will not be held liable for shipping damage due to improper packaging. After it has been repaired, we will return it freight prepaid in the U.S. or Canada.

©2007 Snell Acoustics. All Rights Reserved.
Specifications are subject to change without notice.
Covered by patents issued and/or pending.
Part #542-1028

Snell

300 Jubilee Drive, P.O. Box 3717
Peabody, MA 01961-3717
phone: 978-538-6262
fax: 978-538-6266
email: info@snellacoustics.com
www.snellacoustics.com