

XA60 Tower
Owner's Manual

XA60

Snell

SPECIFICATIONS

Frequency Response ($\pm 3\text{dB}$)	36-22,000Hz
Nominal Impedance	4 ohms
Recommended Amplifier Power	100-300 watts
Sensitivity [2.83v at 1m]	89dB SPL
Driver Complement (all video-shielded)	
Front Tweeter	1-inch (25mm) black-anodized aluminum with separate PVC surround
Midranges	Two 2 1/2-inch (64mm) mounted in separate enclosure
Woofers	Two 8 inch (210mm) with butyl rubber surrounds
Rear Tweeter	1-inch (25mm) fabric dome
Controls	Treble level, boundary bass level, boundary rear tweeter
Cabinet Construction	Heavily braced, veneered MDF (3/4-inch minimum)
Baffle Construction	Rubber isolated, constrained layer damping; low diffraction edge radius
Grille	Frameless perforated metal, minimum 51% open area
Maximum Dimensions (HxWxD)	42 1/4" x 9 1/2" x 16 1/4" (107 x 24 x 41cm)
Net Weight	73 lbs (33kg)
Shipping Weight	80 lbs (36kg)
Finishes	Black Oak, Cherry, others to special order

INTRODUCTION

The XA60 is a high-performance floorstanding speaker utilizing a unique expanding array format (XA). This array was created after several months of intensive computer modeling and study, with a serious review of what is appropriate for both music and home theater usage. With the new XA60 Towers, Snell engineers have created a three-element array with virtually no change in response through ± 15 degrees vertically, yet a desirable, significant drop in response at 30 to 45 degrees above or below axis. While there is no detectable variation within a likely listening window, there is a significant reduction in the amount of sound that is reflected from the floor and ceiling. This reduces the energy of the reverberant field, resulting in a clearer, more articulated sound. This design approach is not only beneficial to the movie lover, but is also much more appropriate for multichannel music listening with the latest discrete music formats.

PRODUCT DESCRIPTION

The special three-element XA provides controlled directivity to 400Hz. The driver complement includes a 1-inch (25mm) black-anodized aluminum dome tweeter flanked by a pair of 2½-inch (60mm) upper midranges mounted on a die-cast aluminum plate. Dual 8 inch (210mm) woofers, mounted in a sizeable enclosure, ensure robust, musical bass response to 36Hz (± 3 dB). A soft-dome rear-firing tweeter is included for added ambiance.

The XA60 Towers feature a high degree of environment tunability. A "boundary" switch ensures smooth bass response in a variety of room positions. The tweeter level control switch and rear tweeter on/off switch make it easy to fine-tune the XA60 to its environment and your tastes. The system is magnetically shielded for use near video monitors.

The XA60 also features hand crafted cabinetry; its stunning styling is fully integrated into its acoustical function.

XA60 FEATURES

1 Multi-Element Expanding Array

Months of study and computer simulation resulted in a scientifically designed three-element array with idealized dispersion characteristics. The XA60's performance is seamless and invariant within any likely listening position. Controlled directivity beyond normal vertical angles reduces room involvement, resulting in a clearer and more detailed image with either movie or multichannel music sources.

2 Platform Baffle

This three-layer sandwich isolates the baffle from the cabinet to decrease panel resonances and coloration, especially in the critical midrange. The Platform Baffle consists of materials of varying density: an extremely dense outer layer to which the tweeter and bass units are mounted, a high loss neoprene middle layer, and a medium density inner layer that attaches to the cabinet.

3 Radiused Edge Baffle

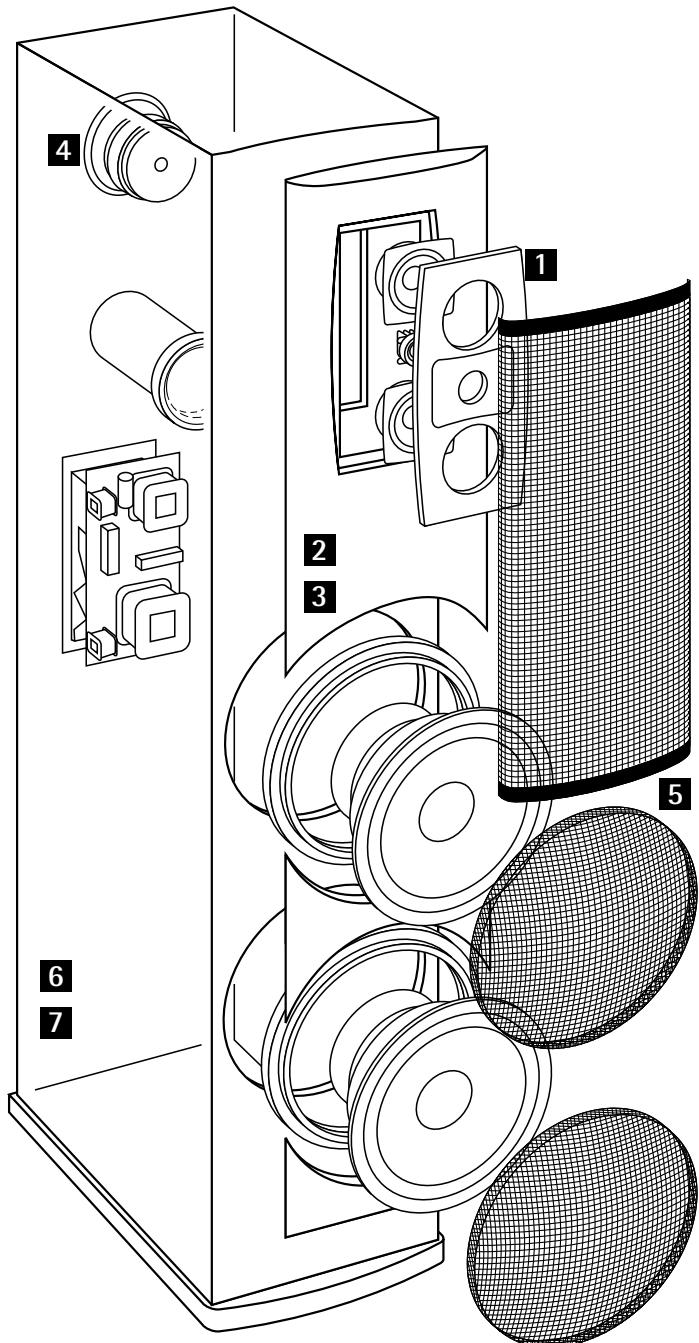
The elliptical radius on our baffle edge reduces re-radiation for a cleaner and smoother response. Snell pioneered this technique in the original Type A speaker system in 1976.

4 Rear-Firing Tweeter

The rear-firing tweeter on the XA60 adds necessary high-end fill to the soundstage, creating a broader, deeper stereo image. An on/off switch allows you to defeat the rear tweeter when the back of the speaker is close to a wall.

5 Grille Design

The custom-perforated metal grille has no frame to cause degrading reflections in the upper frequencies. Rubber mounts isolate the grille from the Platform Baffle.



[6] Handmade Cabinets

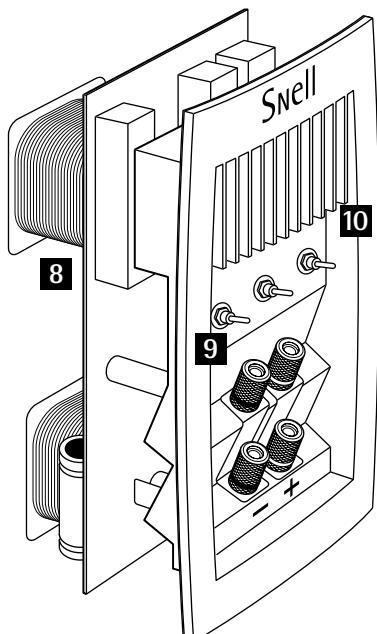
The entire construction and finishing process is done by hand. Each cabinet is assembled by our craftsmen, then sanded several times. Multiple coats of hand-applied finishing oils reveal the great depth of the wood grain. The result is a cabinet of exceptional workmanship, with sharp corners, smooth sides, and natural beauty.

[7] Veneers

We use premium book-matched veneers, chosen for grain consistency and aesthetics, in our cabinets. Each pair of speakers has wood veneer from the same tree, so grain patterns are consistent. Our cabinet shop sequences the veneer, maintaining a match for the top, right/left, and left/right sides of each pair of speakers. We even go so far as to veneer the inside of the cabinet to ensure that it won't warp or come apart at the edges when exposed to changes in humidity.

[8] Hand-Tuned Crossover

These networks adhere to an in-phase or Linkwitz-Reilly design. (Time alignment and coherency are maintained through the transition region from driver to driver.) Each crossover is individually tuned by our production technicians to within $\pm 0.5\text{dB}$ of the master reference, ensuring a consistent sound balance and predictable performance.



[9] Placement Switch

Placement of the system near a boundary, such as a wall, large cabinet or big-screen television, can alter the sound balance, making voices sound "bloated". The Bass Loading switch lets you compensate for the sonic effects of such placement. This Snell feature ensures ideal sound balance in virtually any location.

[10] Heat Sink/Terminal Plate

Heat-producing crossover components are mounted to a die-cast aluminum heat sink for stable, consistent performance at high power. This large heat sink also draws heat from inside the cabinet, keeping critical driver components cooler. The terminal plate has two sets of five-way gold-plated binding posts for bi-wiring or bi-amplifying.

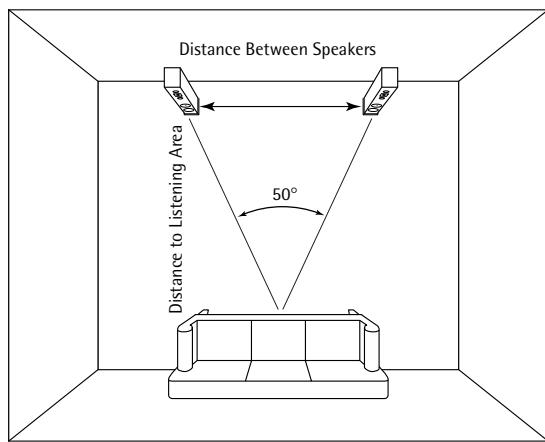
PLACEMENT OF YOUR SPEAKER SYSTEM

The XA60 Towers are designed for either freestanding or boundary placement.

Stereo Image

The distance between the 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 continuum of virtual images from left to right, with an illusion of sound outside, in front of, and behind the speaker systems.

We recommend an angular separation of approximately 50 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 from the listener location.



The creation of sounds that appear to originate between the speakers requires precise placement. The distance from the listener location to left speaker and right speaker should be as equal as possible. We advise using a tape measure to ensure the distance from each of the speakers to the primary listening position is the same. The result will be well worth the time and effort.

Room-Related Bass Effects

Your room dimensions will determine the frequencies of a phenomenon call "standing waves". Where the speakers are placed relative to the stong points and weak points (anti-nodes and nodes) of these standing waves significantly effects the bass characteristics of the system. Experiment until you find the speaker locations that produce the best overall sound for your room. Choose a musical selection with a heavy and continuous bass line. Repeat a short section until you have a firm impression of it in your mind. Then try another speaker location. Repeat this process until you are content with the bass response. Your goal should be even reproduction of each bass note without undue prominence of any of them. Moving your listening position may affect the sound as much as moving the speakers. If practical, try different listening locations as well as speaker locations. (See *Optimizing the Sound* section).

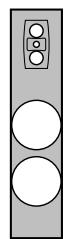
Boundary Effects

Large surfaces near your speakers will affect the level of upper bass and lower midrange frequencies. This can make voices sound unnatural. A feature to counteract this is the Bass Loading switch, with positions for Normal or Boundary. Refer to the switch on the input terminal plate.

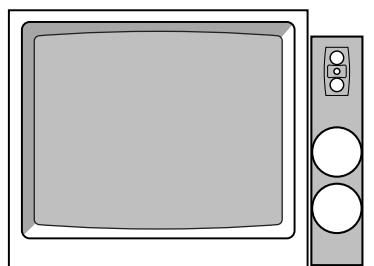
Normal or Freestanding placement refers to a situation in which the XA Tower has at least a 12 inch (30cm) clearance on all four sides. Set the Bass Loading switch to Normal when the speaker is:

- Away from large furniture.
- Not close to walls.

Freestanding



Boundary



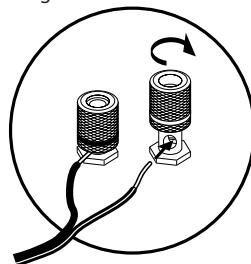
CONNECTING THE SPEAKERS

Choosing Cable

We recommend high-quality, minimum 16 gauge speaker cable for runs up to 25 feet (8m) and 12-gauge wire or thicker for longer runs. (We use a custom-configured 14-gauge oxygen-free cable in our crossover networks.)

Connecting with Bare Wire

Insert bare wire into holes and tighten.



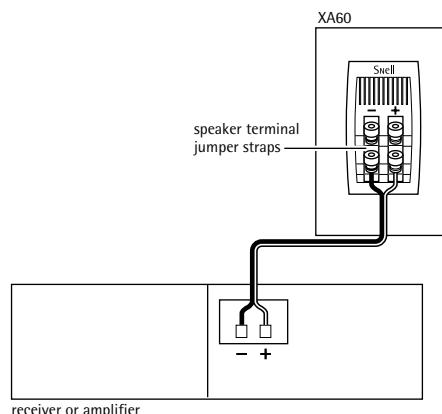
Connecting with Banana Plugs, Pins or Spade Lugs

The binding posts accept standard banana plugs and pins, and can accommodate 5/16" or larger spade lugs.

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

Basic Connections

- Keep the speaker terminal jumper straps in place.
- When making connections, be sure to connect + to + (red) and - to - (black).



Boundary placement refers to a situation in which the XA Tower is bounded on at least one side by a large object. Set the Bass Loading switch to Boundary when the speaker is:

- Placed beside a TV.
- Placed beside a bookshelf or an audio/video cabinet.
- Placed next to a wall.

See the section entitled *Optimizing the Sound* for more on adjustments related to these placements.

Toe-In

Toe-in refers to the angling of the speaker systems toward the listener location. Toe-in is a matter of taste. As the degree of toe-in increases, the stereo effect becomes more sharply defined, that is, more like listening to headphones. Toe-in also improves the stereo effect for listeners seated in off-center positions. Having your speakers aligned with their backs parallel to the wall gives a more diffuse sound with a less defined central image.

Toeing-in should be the last step in the placement of your speaker system. After finalizing speaker position and listener location, place the speakers with their backs parallel to the back wall or cabinet. Experiment from there, turning the speakers toward the listening area in 10 degree increments, until you achieve the desired effect.

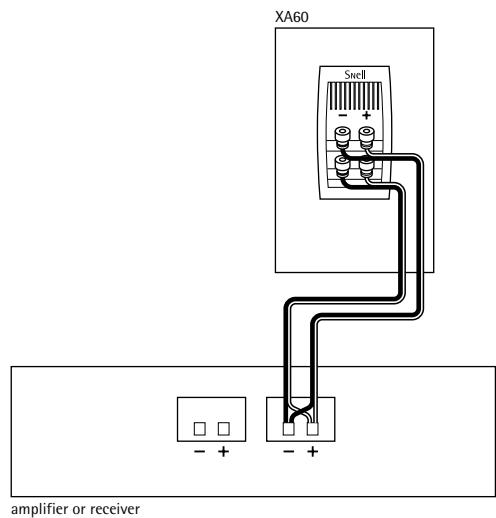
Setting the Carpet Spikes

Four steel spikes (#5/16-18 thread) are included with the XA. Use them to balance the speaker when placing the XA on carpet.

BI-WIRING AND BI-AMPING

Bi-Wiring

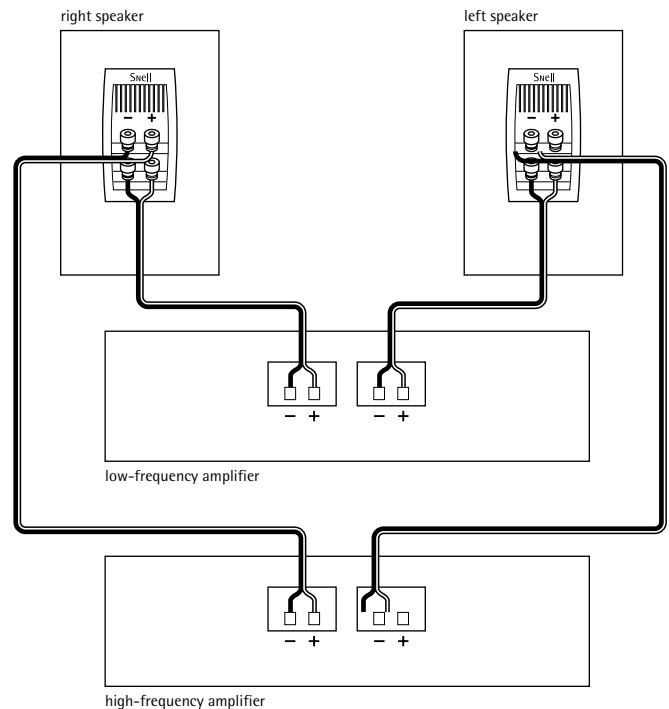
1. Use equal lengths of the appropriate wire when bi-wiring each speaker. Consult your dealer for cable options.
2. Unscrew both sets of terminals and remove the jumper straps.



Bi-Amplifying

Using one amplifier for the bass and one for the high end

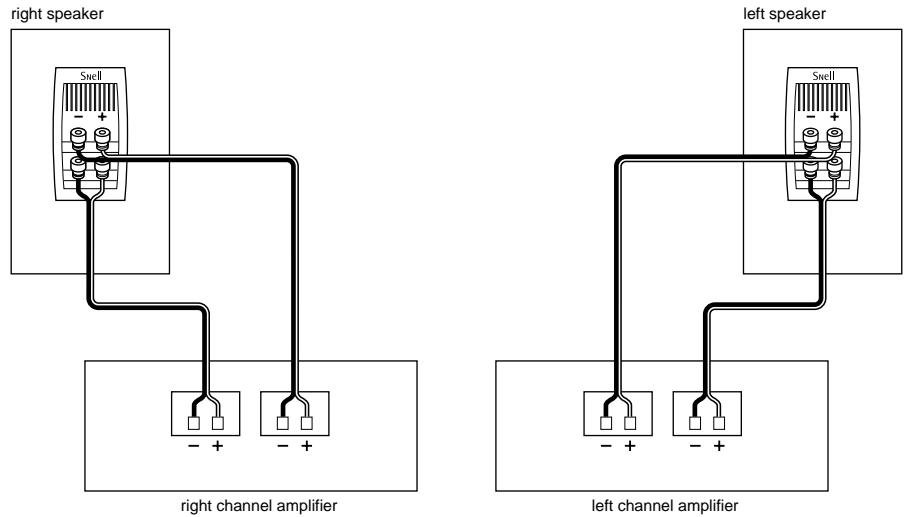
1. Unscrew both sets of terminals and remove the jumper straps.
 2. Connect the cables from the bottom set of terminals to the low frequency amplifier driving the bass units.
 3. Connect the cables from the top set of terminals to the high frequency amplifier driving the tweeters.
- *Do not use an external crossover. It will interfere with the phase and frequency response.*



Using one amplifier for each speaker

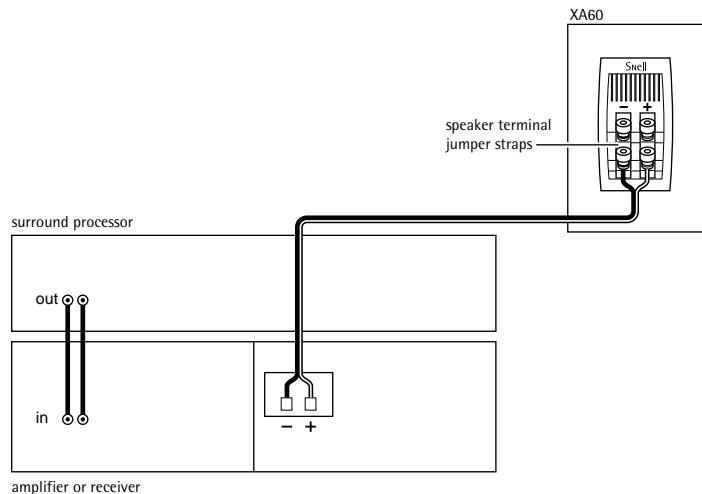
- Make sure that the amplifiers are identical.

 1. Unscrew both sets of terminals and remove the jumper straps.
 2. Connect the cables from the bottom set of terminals to the first amplifiers right channel.
 3. Connect the cables from the top set of terminals to the first amplifiers left channel.
 4. Repeat steps 2 and 3 above for the second amplifier.



Using with a multichannel Surround Processor

1. Select the Large setting on your receiver or processor for your main speakers. This routes all bass information (typically below 100Hz) to your XA Towers.
 2. Match the sound levels of each speaker.
- Your home theater system most likely includes a test signal that simplifies level matching. Refer to the instructions provided with these electronics.



OPTIMIZING THE SOUND

XA 60 Crossover Controls

Setting the Placement Switch

(Input Terminal Plate, far left switch)

Freestanding placement:

- ▶ Set the Bass Loading Switch to Normal.

Boundary placement:

- ▶ Set the Bass Loading Switch to Boundary.

Asymmetrical placement:

- ▶ Based on your room layout, you might find that one speaker performs best in the Boundary setting, and the other in the Normal setting. Use the following information as guidelines. Don't be afraid to make final settings by ear to suit your taste.

Setting the Treble Level

(Middle Switch)

- ▶ The Treble Level Control contours the brightness of the XA Tower. Turn the Treble Control to "+" to increase the high-frequency output in situations in which the XA Tower sounds dull.
- ▶ Turn the Treble Control to "-" when the XA Tower is overly bright, especially in highly reflective rooms.
- ▶ The "+" position is closer to anechoically flat, although the "—" position is preferable for many recordings.
- ▶ The "—" position is similar to a processor "cinema re-EQ" setting.

Setting the Rear-Firing Tweeter

(Input Terminal Plate, far right switch)

- ▶ The rear-firing tweeter adds spaciousness and ambience to the soundstage, and is particularly effective when the XA Tower is placed at least 12 inches (30cm) from a back wall.

Turn the Rear-Firing Tweeter OFF When:

- ▶ The XA Tower is placed directly against a back wall.
- ▶ The soundstage sounds too bright for your taste.

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 a modest amplifier if it is producing distortion. If you hear a gritty noise or other signs of strain, *immediately 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.

CARING FOR YOUR SPEAKERS

For Painted Finishes (Including baffles, backs, bases, and metal grilles.)

- ▶ 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. Be very careful to not apply pressure to the fronts of the drive units.
- ▶ Do not use abrasive cleaners or any cleaner containing chemicals harsher than those found in glass cleaner.

For Oiled Natural Wood Finishes

To remove dust and fingerprints, use the same technique as above.

- ▶ If your veneer begins to dry, apply a light coat of rose or lemon wood oil. This should return the wood to its original richness.
 - ▶ Do not use spray waxes. These will create a buildup and eventually cause the veneer to appear dull.
- Note:** Your veneers appearance and color will naturally mature and perhaps darken over time.
- ▶ Avoid placing speakers in extreme conditions. If direct sunlight is unavoidable, be sure that there is nothing partially covering the veneer in order to prevent "tan lines".
 - ▶ Avoid placing speakers where they could be subjected to standing water. It will cause the wood to swell, breaking apart glue joints and ruining the air seal.

Grilles

You can remove the grilles from the speaker system and wipe them with a damp cloth to remove any dust.

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 978-373-6114, or write to:

Snell Acoustics
143 Essex Street
Haverhill, MA 01832

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.

Snell

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