Owner's Manual

XA 90ps
XA 75ps
XA 55cr

Snell

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SPECIFICATIONS

	XA 90$_{ps}$	**XA 75$_{ps}$**	**XA 55$_{cr}$**
Frequency Response (±3dB)	32–22,000Hz	34–22,000Hz	55–22,000Hz
Nominal Impedance	4 ohms	8 ohms	4 ohms
Recommended Amplifier Power	100–300 watts	75–300 watts	50–300 watts
Sensitivity [2.83v at 1m (1 watt)]	90dB	88dB	88dB
Driver Complement (all video-shielded)			
Front Tweeter	1" (25mm) black anodized aluminum, separate PVC surround	1" (25mm) black anodized aluminum, separate PVC surround	1" (25mm) black anodized aluminum, separate PVC surround
Midranges	2 x 2.5" (60mm)	2 x 2.5" (60mm)	2 x 2.5" (60mm)
Woofers	2 x 6.5" (160mm) Distortion-reducing magnetic circuit	1 x 6.5" (160mm) Distortion-reducing magnetic circuit	2 x 6.5" (160mm) Distortion-reducing magnetic circuit
Subwoofer(s)	2 x 10" (250mm) Dual spider, heatsink	1 x 10" (250mm) Dual spider, heatsink	none
Rear Tweeter	1" (25mm)	1" (25mm)	none
Subwoofer Amplifier	300 watts	200 watts	none
Controls	Parametric bass EQ, bass level, LFE level, treble level, boundary compensation, rear tweeter	Bass level, LFE level, treble level, boundary compensation, rear tweeter	Treble level, boundary compensation
Cabinet Construction	Heavily braced, veneered MDF ¾" minimum	Heavily braced, veneered MDF ¾" minimum	Heavily braced, veneered MDF ¾" minimum
Baffle Construction	Rubber isolated: constrained layer damping, low diffraction radius	Rubber isolated: constrained layer damping, low diffraction radius	Rubber isolated: constrained layer damping, low diffraction radius
Grille	Frameless perforated metal over 51% open area	Frameless perforated metal over 51% open area	Frameless perforated metal over 51% open area
Maximum Dimensions (HxWxD)	54.5 x 11 x 19.5" (138 x 28 x 50cm)	46 x 11 x 19.5" (117 x 28 x 50cm)	9 x 22.5 x 11" (23 x 57 x 28cm)
Weight, Net	125lbs (57kg)	100lbs (45kg)	39lbs (18kg)
Shipping Weight	198lbs (90kg)	166lbs (76kg)	44lbs (20kg)
Finishes	Black Oak, Cherry, others to special order	Black Oak, Cherry, others to special order	Black Oak, Cherry, others to special order

PRODUCT DESCRIPTION

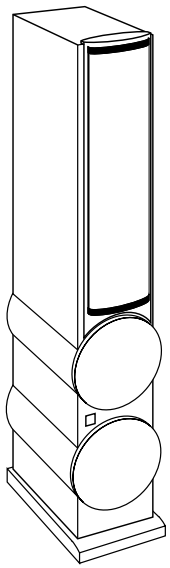
The XA Series of products is an "ultra" high-performance speaker line utilizing a unique expanding array format (XA). This array was created after several months of intensive computer modeling and study, with a serious review of what is appropriate for both music and home theater usage. With the new XA Towers, Snell engineers have created a five-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. There is virtually no variation within a likely listening window, but a significant reduction in energy of the floor and ceiling bounce...which creates a reduced reverberant field for a clearer, more articulate 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.

All XA products feature a high degree of "environment tunability" with boundary switches, treble switches, subwoofer level and rolloff adjustments (XA Towers), and even a parametric equalizer (XA 90_{ps}). They are all magnetically shielded for use near video monitors.

The XA products also feature stunning styling that is fully integrated with their acoustical function.

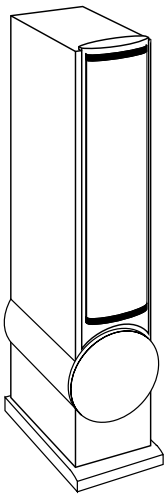
XA 90_{ps}

High-performance floor-standing system
Sophisticated five-element expanding source array XA controls directivity down to 100Hz. Twin 10-inch (250mm) powered subwoofer with 300-watt amplifier. The amplifier includes a parametric equalizer for the ultimate in environment tunability. Remote control offers low- and high-frequency adjustment to optimize for all programs. The driver complement includes a 1-inch (25mm) black anodized aluminum-dome tweeter, flanked by a pair of 2½-inch (60mm) upper midranges; a pair of 6½-inch (150mm) lower midranges further surrounds the central cluster. A soft-dome rear-firing tweeter is included for added ambiance. Below 100Hz, a pair of 10-inch (250mm) bass units provides bass to 32Hz (-3dB). The unique styling allows the use of front-firing 10-inch (250mm) woofers with a slim cabinet and a low diffraction baffle.



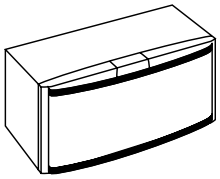
XA 75$_{ps}$

High-performance floor-standing system
Special three-element XA for controlled directivity to 400Hz. 10-inch (250mm) powered subwoofer with level and corner shape switches for room and program optimization. The driver complement includes a 1-inch (25mm) black anodized aluminum-dome tweeter, flanked by a pair of 2½-inch (60mm) upper midranges and a 6½-inch (150mm) lower midrange beneath the XA cluster. A soft-dome rear-firing tweeter is included for added ambiance. Below 100Hz, a 10-inch (250mm) bass unit and a 200-watt amplifier provide bass to 34Hz (-3dB).

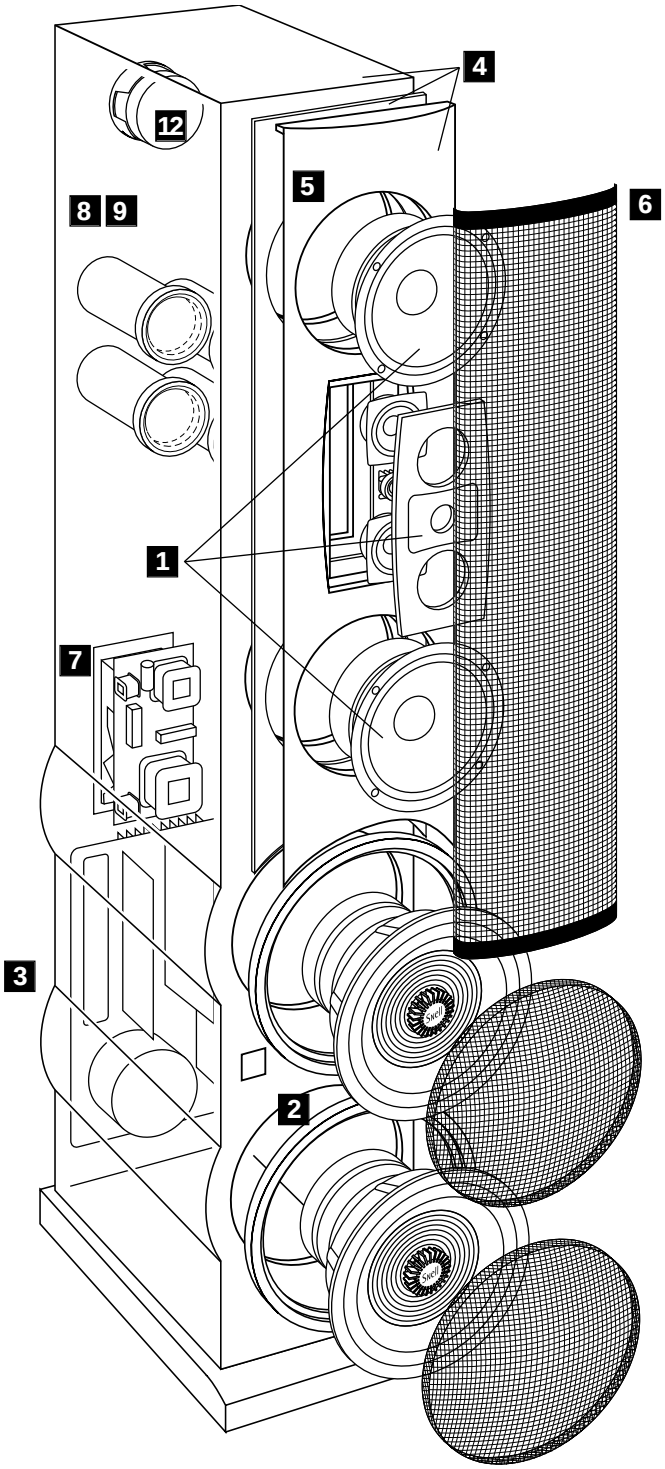


XA 55$_{cr}$

Full-range music- and movie-quality center channel
The XA 55$_{cr}$ center channel is tuned to precisely match the tonal balance of the XA Towers for seamless five-channel movie or music reproduction. It shares an identical three-element XA to the above two models. This three-way design uses a 1-inch (25mm) black anodized aluminum-dome tweeter surrounded by two 2½-inch (60mm) midrange units. The array is flanked by left and right 6½-inch (150mm) bass units in a sealed enclosure. Bass extension is to 50Hz. Video shielding, a placement switch, and smooth off-axis frequency response allow placement above or below a TV or in a cabinet.



XA SERIES FEATURES



1 Multielement Expanding Array
Months of study and computer simulation resulted in a scientifically designed five-element array with idealized dispersion characteristics (three-element in XA 75_{ps} and XA 55_{cr}). The XA's performance is seamless and invariant within any likely listening position. Controlled directivity beyond normal vertical angles reduces room involvement, for a clearer and more detailed image with either movie or multichannel music sources.

2 Integral Powered Subwoofer
An integral subwoofer gives the low-frequency foundation necessary for music or cinema reproduction (XA Towers). Inclusion of an amplified subwoofer allows the upper-range drivers to be optimized for higher sensitivity.

3 Controls for Subwoofer Optimization
Controls on the dedicated subwoofer amplifier allow optimization of subwoofer performance to both the room and program. Parametric Equalization (XA 90_{ps} only) allows correction of room acoustic flaws. Bass level and subwoofer rolloff shape controls (via remote in the XA 90_{ps}, via rear panel in the XA 75_{ps}) allow for adjustment as needed for program material, room, and taste.

4 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 "squishy" neoprene middle layer, and a medium-density inner layer that attaches to the cabinet.

5 Radiused-Edge Baffle
The elliptical radius on our baffle edge reduces re-radiation for a cleaner and smoother response—especially off-axis. Snell pioneered this technique in the original Type A speaker system in 1976.

6 Grille Design

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

7 Hand-Tuned Crossover

These networks adhere to an "in-phase" or Linkwitz Reilly design. (Time alignment and coherency are achieved through the transition region from driver to driver.) In production, each crossover is individually tuned by our technicians to within ±0.5dB of the master reference, assuring an identical sound balance to our master reference system.

8 Handmade Cabinets

Our cabinet department hand assembles each cabinet, and then hand sands each several times. Multiple coats of hand-applied finishing oils reveal great depth to the wood grain. The result is a cabinet of exceptional workmanship, with sharp corners, smooth sides, and natural beauty.

9 Veneers

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

10 Placement Switch

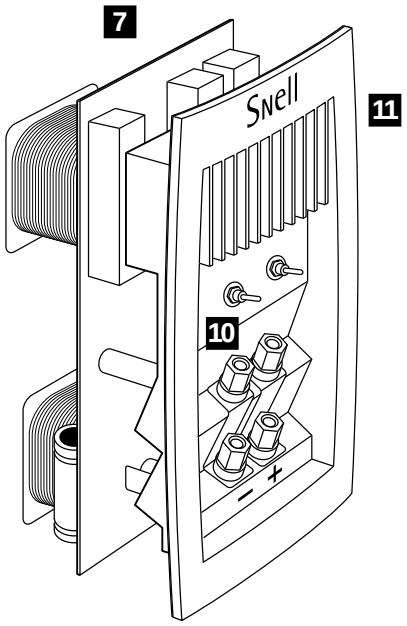
This switch "normalizes" the speaker if it is placed in a cabinet or next to a large object, like a big-screen TV. This Snell feature assures the proper balance of your speaker in less than ideal placements.

11 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.

12 Rear-Firing Tweeter

The rear-firing tweeter on the XA Tower models adds necessary high-end "fill" to the soundstage, creating a broader, deeper stereo image when the speaker is placed away from a back wall. An on/off switch allows you to defeat the rear tweeter when placed up against a back wall.

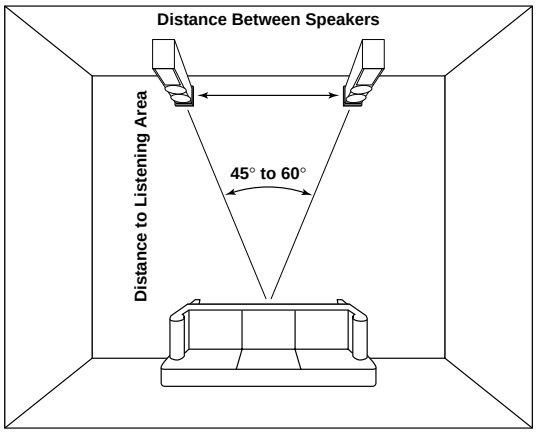


XA Towers

The XA 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, and behind the speaker systems.

- *We recommend an angular separation between 45° and 60° (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.

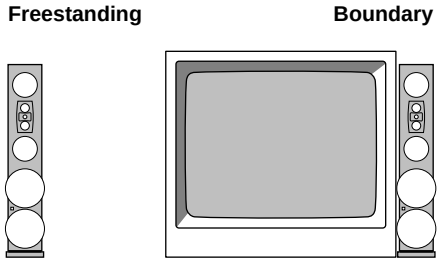
Creation of sounds *between* the speakers requires some precise placement. The distance from the left speaker, right speaker, and center channel to the listener location should all be as equal as possible. We advise using a tape measure to equalize these two distances to the primary listening position.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

Room-Related Bass Effects
Experiment until you find the best overall sound for your room. Choose a source with a heavy and continuous bass line, repeat a short section until you have a firm impression of it in your mind, and then try another speaker location. Repeat this process until you are content with the bass response you are getting. Aim for 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. Bass level controls (XA 75_{ps}) will allow you to help improve the bass balance at whatever final location you choose. Additionally, the parametric equalizer of the XA 90_{ps} will allow you to electronically correct one major bass aberration per speaker, thus making placement even less critical. (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.

- *Away from large furniture*
- *Not close to walls*
- *Set Boundary switch to Freestanding*



Boundary placement refers to a situation in which the XA Tower is bounded on at least one side by a large object.

Set Boundary switch to Boundary if:

- *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 listening location. Toe in is a matter of taste. As the degree of toe in increases, the stereo effect becomes more sharply defined, becoming more like that of headphones. Toe in also improves the stereo effect for off-center listeners. Having your speakers aligned with their backs parallel to the wall gives a more spacious sound with a less well-defined central image.

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

XA 55$_{cr}$ Center Channel

The center channel keeps musical or soundtrack information centered in the listening area. Therefore, its placement relative to the left and right speakers is critical.

Place the speaker on top of or beneath your TV with its front edge as far forward as practical. Try to keep the front of the speaker flush with the front of the screen.

When possible, place the height of the XA 55$_{cr}$ near the tweeter height of the XA Towers (about 40 inches (1m) above the floor). If you need to place the speaker significantly higher or lower, angle it toward ear level.

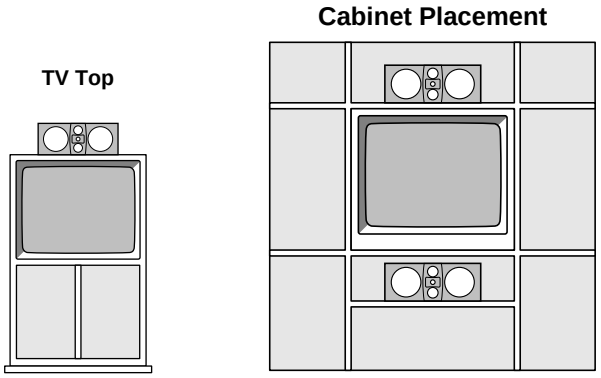
The XA 55$_{cr}$ can compensate for either TV top or cabinet placement. Refer to the switch on the input terminal plate. This is achieved by the right switch, on the input terminal plate.

Normal refers to a situation in which the XA 55$_{cr}$ is:
- *On top of a 30-inch (76cm) or smaller TV, and the TV is free-standing in your room*
- *Stand mounted away from boundaries*

(If in doubt, use whichever position makes voices sound more natural.)

Boundary placement refers to a situation in which the XA 55$_{cr}$ is:
- *On top of a TV larger than 30 inches (76cm)*
- *On top of a TV that is placed in an audio/video cabinet*
- *Below a TV or on a shelf*

(If in doubt, use whichever position makes voices sound more natural.)



Center channel—Setting the Placement Switch
- *TV top placement:* Set the Placement Switch to *NORMAL*.
- *Voices sound "thin":* Set the Placement Switch to *NORMAL*.
- *Cabinet placement:* Set the Placement Switch to *BOUNDARY.*
- *Voices sound "thick" or "heavy":* Set the Placement Switch to *BOUNDARY.*

Attaching the Bumpers
Four rubber bumpers are included with the XA 55$_{cr}$. Stick them to the bottom of the speaker cabinet to protect the finish on your TV.

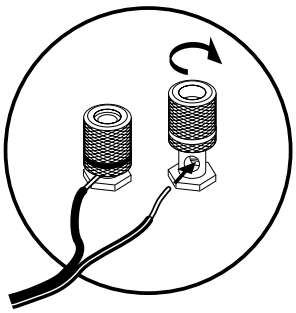
For All Models

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

Connecting with Bare Wire
Insert bare wire into holes and tighten.

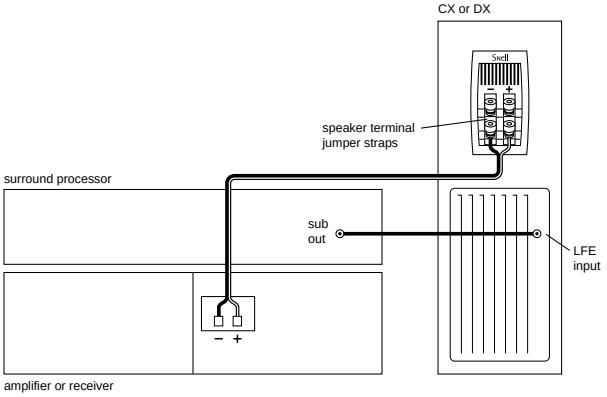
Connecting with Banana Plugs, Spade Lugs, or Pins
The binding posts accept standard banana plugs and pins, and can accommodate 5/16" or larger spade lugs.

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



Connecting the XA Towers

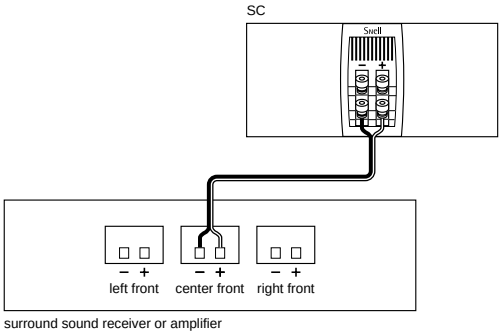
Basic Connections
- *Keep the speaker terminal jumper straps in place.*
- *When making connections, be sure to connect + to + (red) and – to – (black).*



Connecting the XA 55$_{cr}$

Connecting the XA 55$_{cr}$ to a Surround Processor
- *Select the "small" or "normal" setting on your receiver or processor for the center channel. This routes all bass information (typically below 120Hz) to the subwoofers of the XA Towers.*
- *When making connections, be sure to connect + to + (red) and – to – (black).*

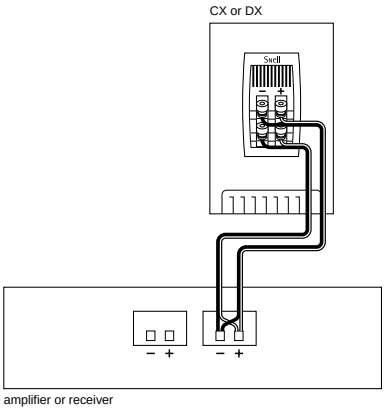
Match the sound levels of each speaker.
- *Your home theater system most likely includes a test signal that simplifies level matching. Refer to the instructions provided with these electronics.*



Bi-Wiring and Bi-Amping (All Models)

Bi-Wiring

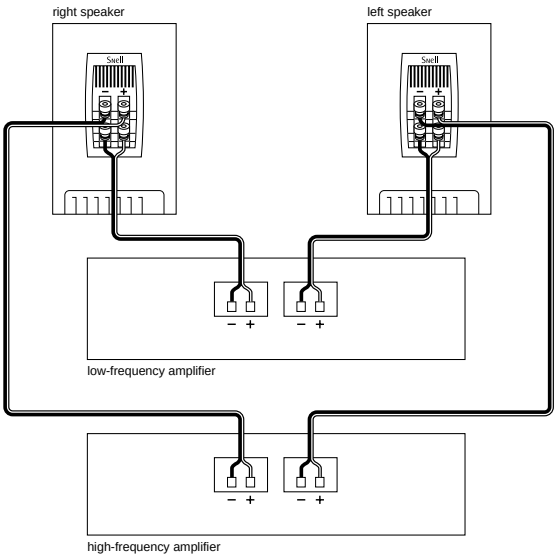
1. *Use equal lengths of the appropriate wire when bi-wiring each speaker. Consult your dealer for cable options.*
2. *Unscrew both sets of terminals and remove the jumper straps.*



Bi-Amplifying

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

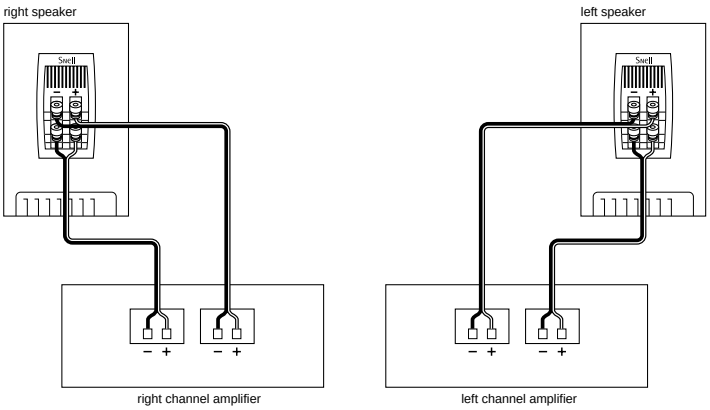
1. *Unscrew both sets of terminals and remove the jumper straps.*
2. *Connect the cables from the bottom set of terminals to the low-frequency amplifier driving the bass units.*
3. *Connect the cables from the top set of terminals to the high-frequency amplifier driving the tweeters.*
4. *Do not use 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 amplifier's right channel.*
3. *Connect the cables from the top set of terminals to the first amplifier's left channel.*
4. *Repeat steps 2 and 3 above for the second amplifier.*



The growth of multichannel formats has greatly increased our opportunity for realism and involvement in reproduced movies and music. Unfortunately, it has also complicated system setup. The next sections explain how to connect the Snell XA 90_{ps}, XA 75_{ps}, and XA 55_{cr} in a multichannel system and how to configure your surround processor. *Note:* We make assumptions about your surround processor based on what is *typical* in the market. Consult your processor's manual for the specifics.

Usually, the XA Towers will be connected in the same way as a normal full-range speaker. Although they contain a powered subwoofer, full crossover is included, and an external crossover is neither necessary nor desirable. In a two-channel system, they will be connected as any other system, with the exception of the need for a power connection to the tower's subwoofer amplifier. A stereo power amplifier or two monoblock amplifiers will feed full-range signal to the multiway binding post inputs.

If used with a home theater system, the most probable configuration will be that the left and right towers are larger than center and surround speakers and therefore will have more bass extension and bass power-handling. You will then want to use the towers as the subwoofers for the other channels. Still, this will be accomplished via the normal speaker-level inputs.

Most multichannel processors have setup options that designate each channel's loudspeaker to be "Large" or "Small." When set to "Small," the bass for that channel will be sent to another channel that is designated "Large," or perhaps to a subwoofer. Set the processor so that the front left and front right channels are "Large" and all other channels are "Small." Generally, the bass of the left surround will go to the left front channel, the bass of the center channel will split equally between left and right front, etc. This is the ideal configuration. One benefit is that you will have stereo bass; whereas, with virtually all processors, any system using a subwoofer will have mono bass.

Use with External Subwoofers

First, Should You?
Unless an external woofer has more surface area than the four 10-inch units contained within a pair of XA 90_{ps}'s, or the twin 10-inch units within a pair of single XA 75_{ps}'s, you are better off not using it. It will reduce the output capability compared to the alternative of sending all bass to the active towers.

If you already have a subwoofer 18-inches or larger, then it might be worthwhile to use the subwoofer as an LFE-only channel. (See page 13 for discussion of "LFE Input.") The rest of the system will be still be configured as above with the left front and right front towers designated as "Large."

- *Select the "Large" setting on your receiver or processor for your main speakers. This routes all bass information (typically below 120Hz) to your XA Towers.*

- *Select the "Small" or "Normal" setting on your receiver or processor for your center and surround channels. This routes all bass information (typically below 120Hz) to the XA Towers, where it will be directed to the built-in subwoofers.*

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.*

LFE Input

LFE (Low-Frequency Effects) refers to the ".1" channel of a "5.1" channel recording. Normally, all signals will come to the active towers via the normal speaker-level inputs. However, your Snell XA Towers include an alternative line-level input for bass signal connection. If your processor allows you to feed all five-channel bass to the front left and right channels, and by so doing leaves only the LFE (.1 channel) at the processor's subwoofer output, then a coaxial lead can be run to each tower's LFE input.

To understand its use, a little background about multichannel formats is in order. Dolby® AC-3 and other 5.1 systems are configured as five full-frequency range channels and one additional bass-only channel dubbed the .1 channel. Since the five channels are full range, there is no restriction of what type of signals can go into each. Certainly, the bass frequencies of the background music of a movie will be sent to each channel in line with all other components of the musical mix.

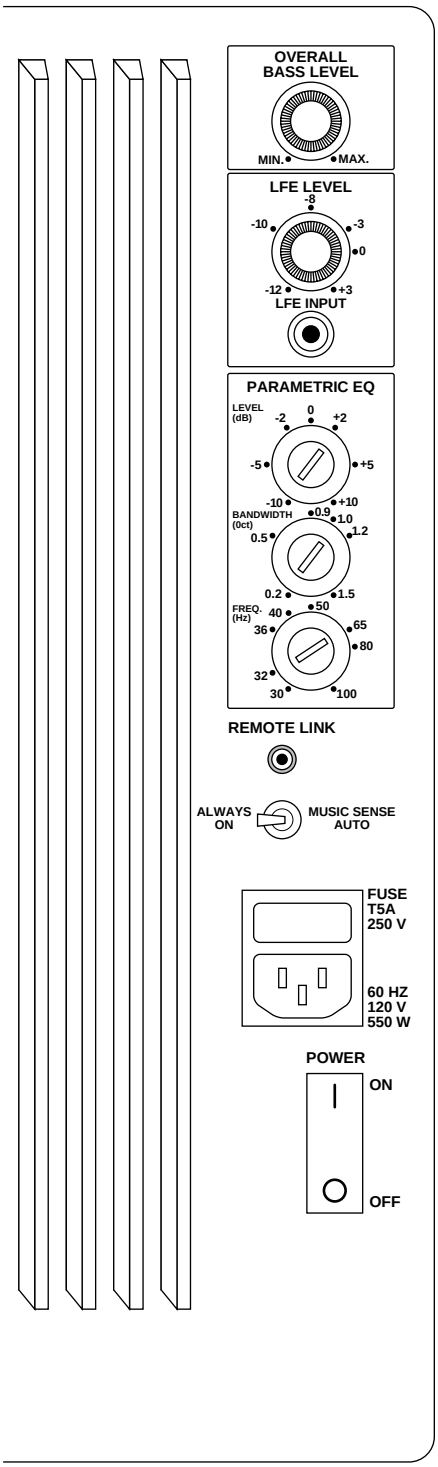
Explosions and sound effects are another story. It evolved in movie cinema practice that theater owners wanted a separation of normal soundtrack material from explosions and effects. This separate track became known as the LFE or Low Frequency Effects channel (later the .1 channel). Theater owners could then decide if they wanted to invest in large theater subwoofers. If they decided not to invest, they knew that explosions and such would not be overloading the main system because they were on a separate channel that could be ignored.

In order to have adequate headroom for effects, Dolby specifies that, after decoding and D to A conversion, the ".1" channel should be boosted 10dB. Whatever level the other five channels can achieve, the .1 channel has the headroom to play up to 10dB louder. Hopefully, the recording engineers will use this extra headroom sparingly. Unfortunately, the recording of the .1 channel seems to always be recorded at its maximum level. This can lead to problems of balance with a normal home theater system for the following reason: If small speakers are used with a subwoofer, the subwoofer does double duty by reproducing a combination of the bass from the five channels (music and dialog) and the .1 effects channel. For the music to sound full and balanced, an exact setting of subwoofer level is required. This might be a gain setting that often reproduces the .1 channel (potentially 10dB louder) at too high a level, causing overdrive or at least an excessive effects level.

Some processors are now giving setup options that allow trimming of the LFE from Dolby-specified full gain (+10dB) down to a lesser level. The music and cinema XA Towers also allow you to set LFE level *if you use* a separate LFE input with its own level adjustment potentiometer. This control is calibrated relative to a processor with the Dolby-required +10dB LFE gain. That is, setting it to 0 will give the same overall level. Setting it to -8 would be 8dB less than "normal," which is in fact 2dB of gain relative to other channels. (The LFE gain calibration marks assume your power amplifier has a voltage gain of about 26dB.)

This will allow you to control the LFE level independently of other bass. When the LFE mix-level knob is set to 0dB, LFE material will be reproduced at the full Dolby-specified mixed level. Settings less than 0dB will change the proportion of the effects level (explosions and the like) to music bass levels. This is best set by finding a disc with a preponderance of LFE energy and setting the knob until the balance between explosions and the rest of the soundtrack seems "realistic." *Hint:* One way of determining a good level is to set it to give (at a typical loud listening level) a bit of gut feel to the explosions and gun shots. Extreme settings will become fatiguing over time.

The above procedure is by no means mandatory. If you do not wish to use separate connections for LFE, most processors will send it to any channels designated "Large" with a configuration choice of "no subwoofer." In all cases, it is important to consult the processor manual because some manufacturers have different interpretations of what these designations mean.



XA 90_{ps} Rear Panel

Subwoofer Amplifier Settings

The amplifier of your XA Towers contains a number of rear panel controls, some of which should be set upon installation and then generally left alone. The remote control (XA 90_{ps}) contains additional controls for user adjustment according to taste or program material.

It is best if a qualified installer aids in this initial setup, hopefully with a ⅓-octave real-time spectrum analyzer and a pair of good ears.

Overall Bass Level

This control sets gain for the bass amplifier that determines bass level for the normal (speaker level) input and also the LFE line-level input. *Note:* In the XA 90_{ps}, overall bass level is a combination of the levels set by this knob and by the remote control. Use the remote control to set the amplifier to the 0 position. Adjust the bass level to give a solid but not overblown bass level. Confirm this on a variety of program material. If using a spectrum analyzer, set to a level so that frequencies below 100Hz are flat (or up to 3dB up from flat). The remote control (XA 90_{ps}) will then give a range of ±6dB in 2dB steps from this central position.

Parametric Equalizer (XA 90_{ps} only)

The XA 90_{ps} is unique in including a bass parametric equalizer. Through several years of experience with the amazing RCS1000 digital equalizer, we have learned firsthand the damaging effects of the room on bass reproduction, and how careful equalization can greatly reduce these effects. The dimensions and materials of a room create "standing waves." The locations of speakers and listener relative to these standing waves create uneven bass response. The parametric equalizer of the XA 90_{ps} allows you to pick the room's dominant bass problem and correct it. The end result is bass response that will be more even, more musical, and less "resonant."

The term parametric equalizer stems from the fact that all parameters of an equalizer section are adjustable. This includes bandwidth (also called Q), frequency, and level. With the parametric equalizer, you have the option of making broad effects (more or less low bass; more or less mid-bass) or tackling narrow band effects, such as notching out a room resonance at 70Hz.

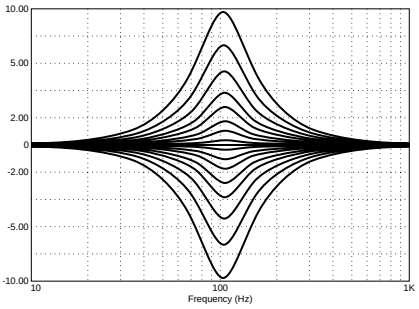
Although such a system could be tuned via a skillful ear, it is better to enlist the help of a real-time analyzer. This is a piece of instrumentation that analyzes the spectrum of any signal received by the microphone. Pink noise (which has a flat perceived spectrum) is fed from the instrument to the input of the amplifier or processor. The resulting spectrum will show room effects. The parametric analyzer can then be adjusted to dramatically improve the typical room response. Correcting the room response will create a more even, musical, and faster-paced bass performance.

To make an adjustment, first choose the aberration to correct, then match the filter to its frequency. Starting with extreme settings of the other two controls (highest Q and full cut or boost) can most easily do this. Then, while watching the spectrum analyzer, the frequency can be adjusted up and down until your correction frequency and aberration frequency are seen to coincide. This adjustment of bandwidth and level (+ or –) will flatten the response. Caps are provided to seal the parametric controls once they are optimally set.

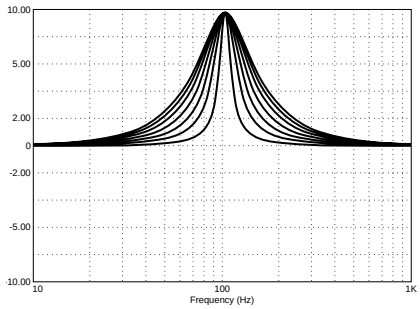
Hints:

- *Live with the system for awhile to learn its bass character. Then tune to correct its dominant flaw.*
- *Measure the bass of each channel over a variety of positions encompassing the listening area. Correct for the average curve of the area.*
- *Use your ears to confirm the final settings. Dial in the boost or cut amount by ear. Don't worry if the final setting disagrees somewhat with the "best" setting according to the spectrum analyzer.*
- *Adjustment of the parametric equalizer may require further adjustment of bass level. Juggle the settings of one control against the other.*
- *It is important to have a good match between the final response of both channels.*

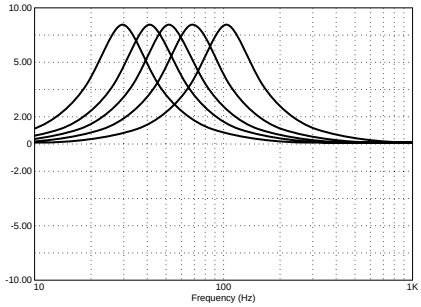
Parametric Equalizer Range



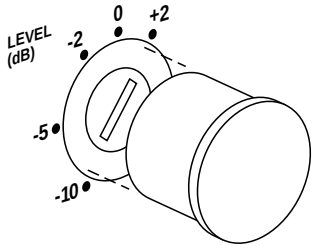
Level



Bandwidth

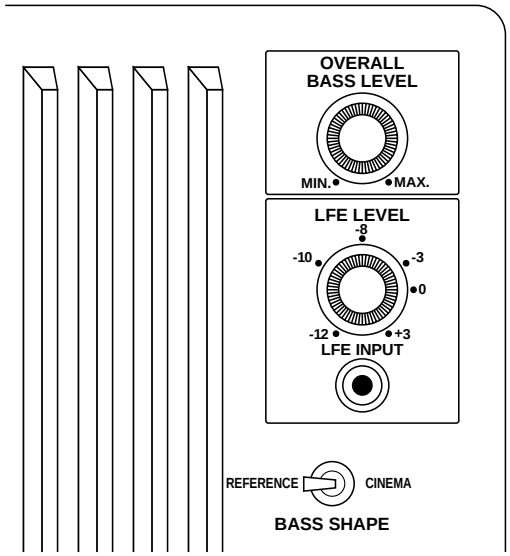


Frequency



Control Cap

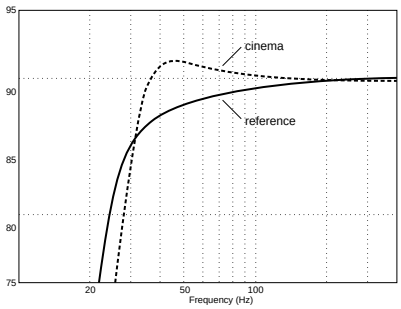
XA 75$_{ps}$ Rear Panel



Bass Shape Control

The rolloff rate and the shape of the low-frequency corner of a subwoofer affect its sound. For example, a subwoofer with a "soft" corner and a gradual rolloff rate below its range of operating frequencies will generally give a tight and rhythmically "fast" character. A system with a low-frequency corner that is squarer and rises slightly before falling off quickly will provide a more robust low-frequency sound. Additionally, the faster rolloff will give a better compromise in terms of apparent bass output versus woofer power capability. The Snell XA Towers offer both options via a rear panel switch on the XA 75$_{ps}$ and via the remote control of the XA 90$_{ps}$. Some people prefer the "Reference" position for music and the "Cinema" position for movies. Try either setting and use whichever one suits your mood, your room acoustics, or your program material.

Bass Shape Effect



XA Towers, Crossover Controls

Setting the Placement Switch (Input Terminal Plate, far left switch)

Freestanding placement:

Set the Placement Switch to NORMAL.

Boundary placement:

Set the Placement 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.

Setting the Treble Level (Middle Switch XA 75$_{ps}$, Remote Control XA 90$_{ps}$)

- *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 much recorded music will be preferred in the - position.*
- *The - position is similar to a processor cinema "re-EQ" setting.*

Setting the Rear-Firing Tweeter (far right)

- *The rear-firing tweeter adds spaciousness and ambiance 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.*

Center Channel—Setting the Placement Switch

TV top placement:

Set the Placement Switch to NORMAL.

Cabinet placement:

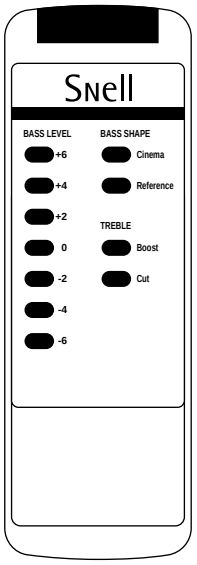
Set the Placement Switch to BOUNDARY.

SPECIAL FEATURES

Infra Red Control, Command Cable
The remote control for the XA 90ps uses Infra Red (IR) to send commands to both speakers. Generally, both speakers will see commands through uninterrupted distances of up to 30 feet. Sometimes, one of the speakers might not see the IR signal, so we have included a cable to transfer commands from one tower to the other. You might find a time where you are at the limits of reception, with one speaker blocked, or perhaps aiming toward one system and away from the other. In these cases, the system that receives the commands will pass them on to the other, thus assuring the best reception and that the two speakers remain in sync.

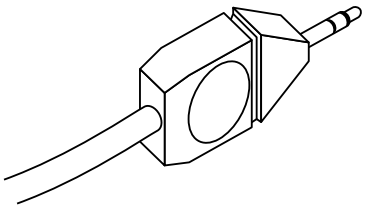
Connect the supplied cable from speaker to speaker through the jacks marked “remote link.” If a longer cable is required for a special routing or for running wires through walls, it can be custom-made using well-shielded coaxial and standard mono ⅛-inch minijacks.

The control handset gives you control of bass level (in 2dB steps) of bass rolloff shape, and of treble level.



Remote Control
(XA 90ps)

Turn On Mode
The XA Towers include a feature for automatic turn on. The subwoofer amplifier will come out of its low-power standby mode when it senses a signal. A multicolored LED will designate what state the amplifier is in. Yellow indicates standby, and green indicates on. After the signal ceases, the system will revert to standby mode in approximately 8 to 10 minutes. Both speakers will not necessarily turn off at the same moment. As an alternative to automatic turn on, the speaker can be set to be always on. To choose between these two options, use the switch marked “MUSIC SENSE-AUTO/ALWAYS ON.”



Remote Link Cable

In some systems, the electrical noise floor (due to hum, refrigerator, or furnace-turn-on pops, etc.) is such that Music Sense-Auto turn on is erratic. In this case, we recommend that the switch be set to ALWAYS ON and manual switching via the main power switch be used.

Power On
The main power switch is situated below the power input lead. It is a rocker-type switch marked with a ”1” and a ”0.” Pressing the end marked ”1” will turn on the main power to the system. Some people prefer to turn off the main power if they know that they will be gone from the house for an extended period of time.

SPECIAL FEATURES (CONT.)

Amplifier Protection

The subwoofer amplifier contains protection against fault conditions of excessive DC output or thermal overload. If triggered, the rear panel LED will glow red. Protection circuitry is not self-resetting. To reset, turn off the main power switch, wait several minutes for the unit to cool (if hot), and restore the power. If this does not reset the LED to yellow or green, disconnect the input and repeat. If this still does not remedy the fault, contact your dealer or Snell Acoustics for service. If disconnecting the system's input restores the system to normal, associated equipment is suspect and should be checked.

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 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.

HOW TO CARE FOR YOUR SPEAKERS

For Painted Finishes

Including fronts, backs, bases, and metal grilles.

- *Use a soft terry cloth towel slightly dampened with water 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.*

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 and lifeless.*

Note: Your veneer's appearance and color will 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.

SAFETY INSTRUCTIONS

Warning: To reduce the risk of fire or electric shock, do not expose this product to rain or moisture.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

1. Read Instructions: All the safety and operating instructions should be read before the product is operated.

2. Retain Instructions: The safety and operating instructions should be retained for future reference.

3. Heed Warnings: All warnings on the product and in the operating instructions should be adhered to.

4. Follow Instructions: All operating and other instructions should be followed.

5. Water and Moisture: The product should not be used near water—for example, a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc.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6. Carts and Stands: The product should be used only with a cart or stand that is recommended by the manufacturer. A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.

7. Wall- or Ceiling-Mounting: The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

8. Ventilation: The product should be situated so that its location or position does not interfere with its proper functioning. For example, the product should not be situated on a bed, sofa, rug, or similar surface that may obstruct the heat sink surfaces; nor placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air near the heat sink surfaces.

9. Heat: The product should be situated away from heat sources such as radiators, stoves, or other products that produce heat.

10. Power Sources: The product should be connected to a power supply only of the type described in the operating instructions or as marked on the product.

11. Grounding or Polarization: This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

12. Power Cord Protection: Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords and plugs, convenience receptacles, and the point where they exit from the product.

13. Cleaning: The product should only be cleaned as recommended by the manufacturer.

14. Nonuse Periods: The power cord should be unplugged from the outlet when left unused for long periods of time.

15. Object and Liquid Entry: Care should be taken so that objects do not fall into and liquids are not spilled into the inside of the product.

16. Damage Requiring Service: The product should be serviced if any of the following events occur:

A. The power supply cord or the plug has been damaged;

B. Objects have fallen or liquid has been spilled into the product;

C. The product has been exposed to rain;

D. The product does not appear to operate normally or exhibits a marked change in performance; or

E. The product has been dropped or the enclosure damaged.

17. Servicing: The user should not attempt to service the product beyond what is described in the operating instructions. For all other servicing, consult your dealer or contact Snell Acoustics.

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 the drivers (woofer, midrange, tweeter) of the XA 90_{ps}, XA 75_{ps}, or XA 55_{cr} without charge for parts and labor. For two years from the date of purchase, Snell Acoustics will repair for the original owner any defect in materials or workmanship that occurs in the amplifier of the XA 90_{ps} or XA 75_{ps}, without charge for parts and labor.

Your responsibilities are to use the system according to the instructions supplied, to provide safe and secure transportation to an authorized Snell Acoustics service representative, and to present proof of purchase 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 which 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, POB 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. After it has been repaired, we will return it freight-prepaid in the U.S. or Canada. Reuse your original packaging for all shipping.

Part #542-1005

Snell

300 Jubilee Drive, P0B 3717
Peabody, MA 01961-3717
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