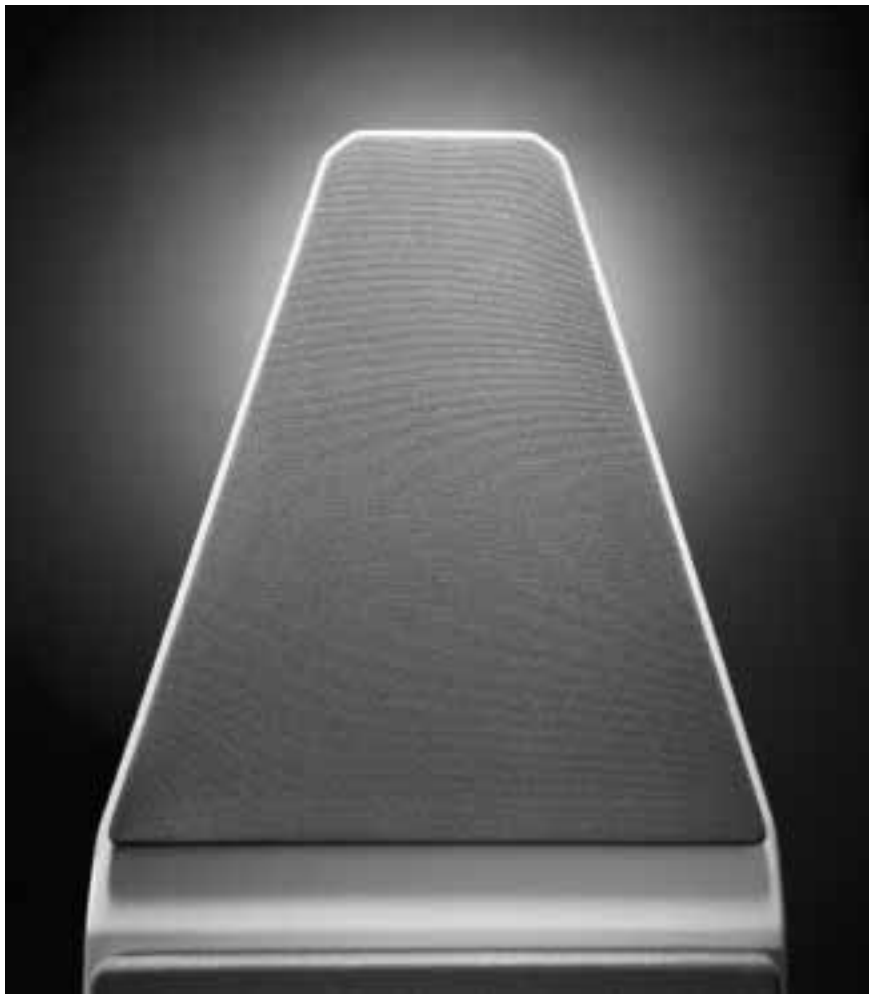


SOPHIA™

Sophia Series 2 Owner's Manual



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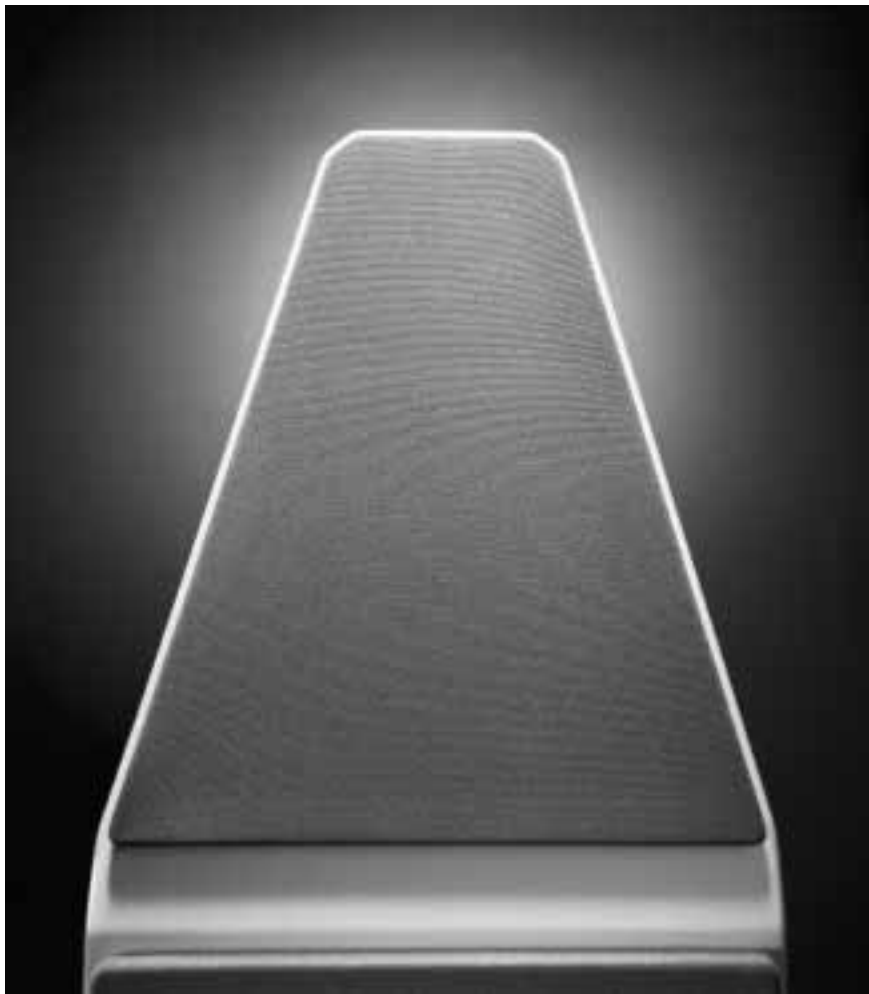
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Introduction



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Section 1 - Introduction

Since its initial release, Sophia has changed the way many think of high-end loudspeakers. Wilson proved that qualities we once thought contradictory – high resolution with musicality; prodigious bass in a compact, floor standing package; dynamic alacrity with an easy to drive load; extraordinary musical experience with inexpensive electronics – could be married in one, elegant package. In its short history, Sophia has become a true classic, beloved for musical beauty.

It is no small thing to improve upon something so special as Sophia. The risk is that some elusive ingredient key to her magic would give way in the process of pushing another area of performance. The design team knew that in developing Alexandria X-2, MAXX Series 2, and the new Duette they had uncovered new technologies that, if applied to Sophia, would improve her performance. So, with a protective eye on preserving those qualities that imbued Sophia with intrinsic grandeur, Wilson Audio set out to improve on Sophia's strengths through an application of these new technologies.

Wilson Audio introduces the Sophia Series 2.

New Tweeter

There is some confusion in the market place as to what technical qualities are important to musically correct high-frequency performance. While other manufacturers blindly pursue dubious performance parameters such as ultra-wide bandwidth or gratuitously exotic materials, Wilson continues to focus on those

technologies that truly contribute to better performance. The MAXX Series 2 featured new proprietary tweeter technology that significantly reduced spurious noise artifacts generated in the rear of the tweeter. The result was high frequencies with unprecedented transparency and resolution combined with a much lower noise floor. This same technology has been applied to the new Sophia Series 2 tweeter. Sweet, delicate highs were already a hallmark of Sophia. The Series 2 tweeter builds on these strengths with greater air, sweetness, resolution, and an utterly grainless sense of purity. Highs emerge from a silent, black background.

Revised Crossover

David Wilson and the Wilson engineering team are ever searching for the sources of time-domain distortion. During the development of Alexandria, Wilson discovered that the interaction between the high and low pass filters created propagation delay noise they dubbed “crossover jitter.” Dave and the engineers created crossover strategies and topologies that reduced this deleterious interaction. The reduction in distortion-noise allowed Dave and the design team to hear into the loudspeaker, detect and parse out problems previously obscured by the noise. Thus the breakthrough not only improved the areas of performance directly related to the anti-jitter technology, but also allowed enhancements to be made in other areas of the loudspeaker as well. This process was applied during the development of MAXX Series 2, and now has been employed in the Sophia Series 2. In the Sophia Series 2, low-level details, previously obscured by noise, now shine forth from a black background. Midrange beauty, clarity, and musicality, already a

strong point of Sophia, are noticeably better in the Series 2. Instrument texture and timbre are more convincingly rendered and complete.

Recessed Diffraction Pad and Alexandria-Style Pin Grill

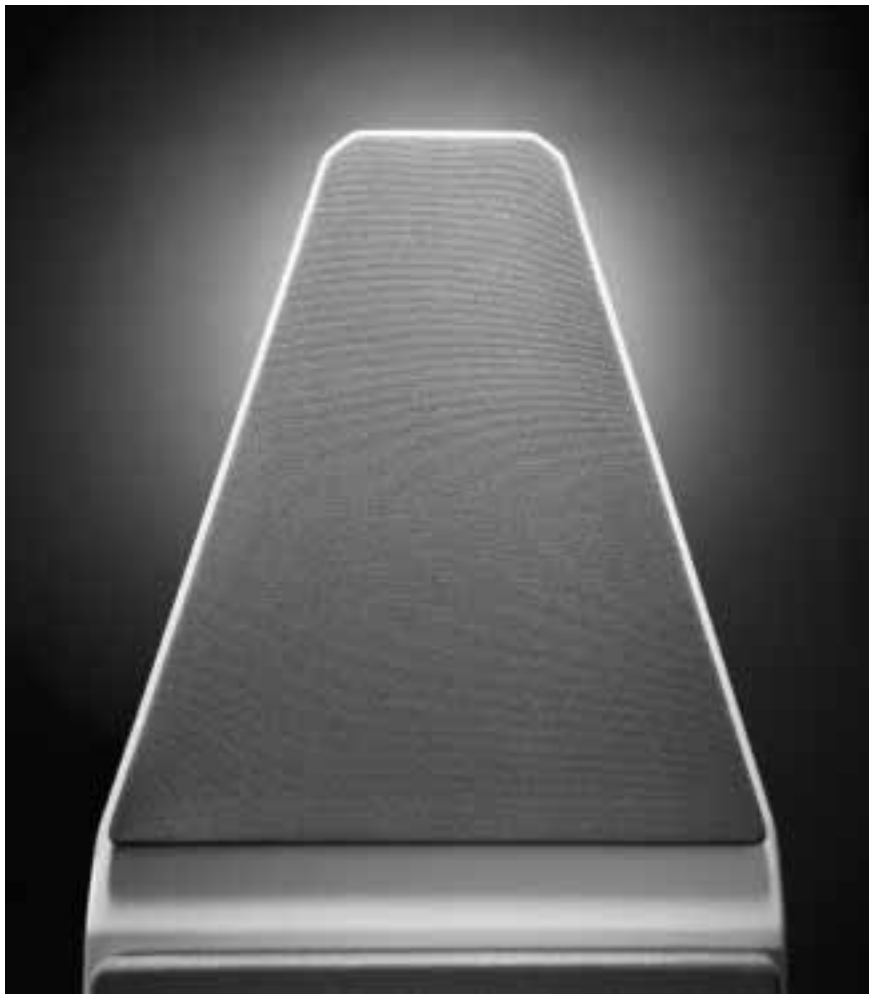
Introduced in the Alexandria and subsequently employed in the MAXX Series 2, the austenitic stainless steel pin system ensures non-resonant and reliable grill attachment. The diffraction pad, which previously sat atop Sophia's baffle, is now recessed flush to the façade. Problems of diffraction pad detachment are nearly eliminated. Sophia's shape is enhanced, taking on a more finely sculpted and integrated profile.

In designing the original Sophia, Wilson Audio determined to introduce not merely a more accessible loudspeaker, but the best compact single cabinet loudspeaker we could build, and the best loudspeaker in its price range, period. To improve upon that was a daunting task. Wilson Audio's engineering team accomplished its goal and, with Sophia Series 2, has again raised the bar in terms of performance, value, and sheer beauty.

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Section 2 - In Your Room



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Note: The following section contains general information on room acoustics and loudspeaker/room interaction. The concepts outlined below are equally relevant when dealing with multi-channel audio or home theater. The careful application of these concepts, as you evaluate the acoustical characteristics of your own room configuration, will allow you to optimize the performance of your Sophias.

Section 2.0 - In Your Room

There are three commonly encountered room reflection problems, slap echo, standing waves, and comb filter effects.

Slap Echo

Probably the most obnoxious form of reflection is called “slap echo.” In slap echo, primarily mid-range and high frequency sounds reflect off of two parallel hard surfaces. The sound literally bounces back and forth until it is finally dissipated over time. You can test for slap echo in any room by clapping your hands sharply in the middle of the room and listening for the characteristic sound of the echo in the mid-range. Slap echo destroys the sound quality of a playback system primarily in two ways:

- Adding harshness to the upper mid-range and treble through energy time storage.
- Destroying the delicate phase relationships which help to establish sound stage and image localization clues.

Nonparallel walls do not support slap echo, but rather allow the sound to

diffuse.

Slap echo is a common acoustical problem in the typical domestic listening room because most of these rooms have walls of a hard, reflective nature, usually being only occasionally interrupted by curtains or furniture. Slap echo can be controlled entirely by the application of absorptive materials to hard surfaces, such as:

- Illbruck Sonex®
- Airduct board
- Cork panels
- Large ceiling to floor drapes
- Carpeting to wall surfaces

In many domestic listening environments, heavy, stuffed furnishings are the primary structural control to slap echo. Unfortunately, their effectiveness is not predictable. Diffusers are sometimes also used to very good subjective effect, particularly in quite large rooms. Sound absorbent materials, such as described above, will alter the tonal characteristic of the room by making it sound “deader,” much heavier in bass tonal balance, less “bright and alive,” and “quieter.” These changes usually make the room more pleasant for conversation, but sometimes render it too dull in the high frequencies to be musically involving. Diffusers, on the other hand, tend to not change the high frequency tonal balance characteristic of the room. Used properly, they can increase transparency. Used incorrectly, how-

ever, diffusers can rob the system of bass richness and add significant midrange colorations. A combination of absorptive and diffusive treatments is usually the best approach.

Standing Waves

Another type of reflection phenomenon is standing waves. Standing waves cause the unnatural boosting of certain frequencies, typically in the bass, at certain discreet locations in the room. A room generating severe standing waves will tend to make a loudspeaker sound one way when placed in one location and entirely different when placed in another. The effects of standing waves on a loudspeaker's performance are primarily as follows:

- Tonal balance- bass too heavy
- Low-level detail- masked by long reverberation time LF standing waves
- Sound staging- LF component of image shifted

Standing waves are more difficult to correct than slap echo because they tend to occur at lower frequencies, whose wave lengths are long enough to be ineffectively controlled by absorbent materials such as Illbruck Sonex®. Moving speakers about slightly in the room is, for most people, their only control over standing waves. Sometimes a change of placement as little as one inch can dramatically alter the tonal balance of a system because of standing wave problems.

Fortunately, minor low frequency standing waves are sometimes well controlled by

positioning ASC Tube Traps™ in the corners of the room. Very serious low frequency accentuation usually requires a custom-designed bass trap system.

Low frequency standing waves can be particularly troublesome in rooms constructed of concrete or brick. This rigid and massive construction method traps the bass in the room unless it is allowed to leak out of the room through large window and door areas.

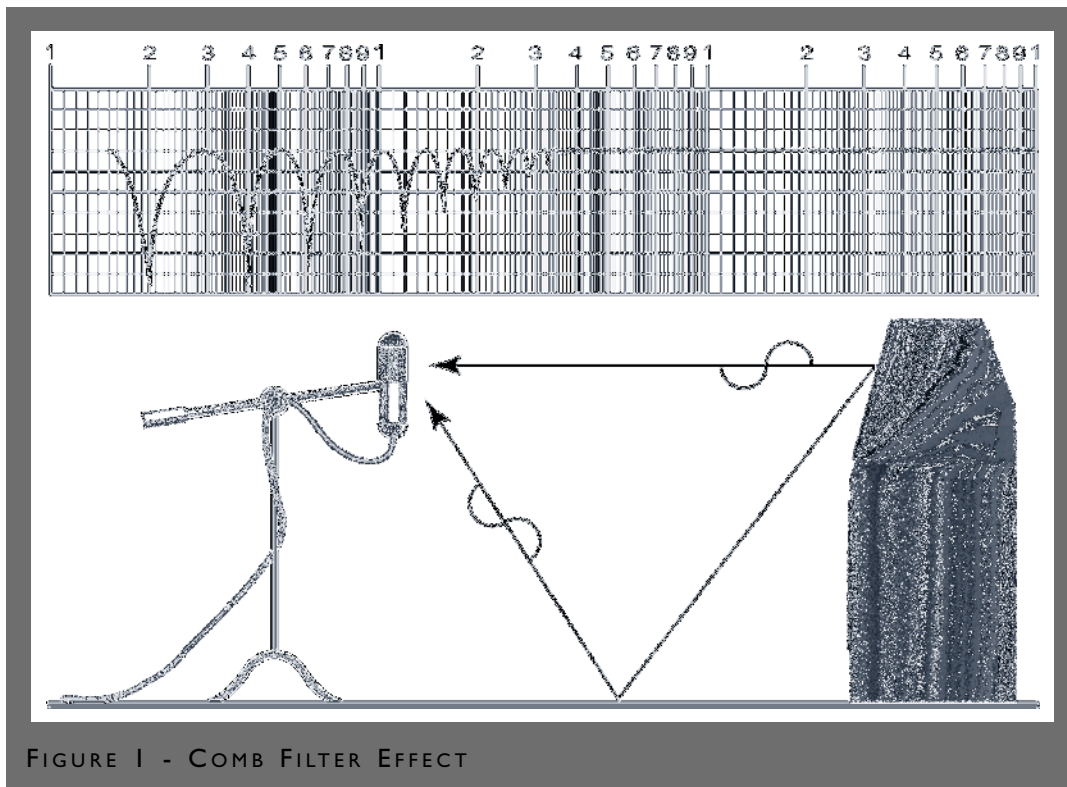
In general, placement of the speaker in a corner will excite the maximal number of standing waves in a room, and is to be avoided for most direct radiator, full range loudspeaker systems. Some benefit is achieved by placing the stereo pair of loudspeakers very slightly asymmetrically in the listening room so that the standing waves caused by the distance between one speaker and its adjacent walls and floors are not the same as the standing wave frequencies excited by the dimensions in the other channel.

Comb Filter Effect

A special type of standing wave, noticeable primarily in the midrange and lower high frequencies, is the so-called “comb filter effect.”

Acoustical comb filtering occurs when sound from a single source, such as a loudspeaker, is directed toward a microphone or listener at a distance. The first sound to reach the microphone will be the direct sound, followed by delayed reflected sound. At certain frequencies cancellation occurs because the reflected sound lags in phase relative to the direct sound. This cancellation is most apparent

where the two are 180 degrees out of phase. There is augmentation at other frequencies where the direct and the reflected sounds arrive in phase. Because it is a function of wave length, the comb filter effect will notch out portions of the audio spectrum at regular spaced intervals.



The subjective effect of comb filter effects, (such as is shown in Figure 1), is as follows:

- Added roughness to the sound
- Reduction of harmonic richness
- Smearing of lateral sound stage image focus and placement

Comb filter effects are often caused by side wall reflections. They are best controlled by very careful speaker placement and by the judicious placement of Illbruck Sonex® or air duct panels applied to that part of the wall where the reflection occurs.

Section 2.1 - Resonance

Resonance in listening rooms are generally caused by two sources:

- The structures within the listening room
- The volume of the air itself in the listening room

Structural Resonance

Structural resonances are familiar to most people as buzzes and rattles, but this type of resonance usually only occurs at extremely high volume levels and is usually masked by the music. In many wood frame rooms, the most common type of structural resonance problem is “booming” of walls and floors. You can test for these very easily by tapping the wall with the heel of your hand or stomping on the floor. If it is a wooden floor, this is done to detect the primary spectral center of the resonance. To give you an idea of what the perfect wall would sound like, imagine rapping your hand against the side of a mountain. Structural wall resonances generally occur in the low to mid-bass frequencies and add tonal balance fullness to any system played in that room. They, too, are more prominent at louder levels, but their contribution to the sound of the speaker is more progressive.

Rattling windows, picture frames, lamp shades, etc., can generally be silenced with small pieces of caulk or with blocks of felt. Short of actually adding additional layers of sheet rock or book shelves to flimsy walls, however, there is little that can be done to eliminate wall resonances.

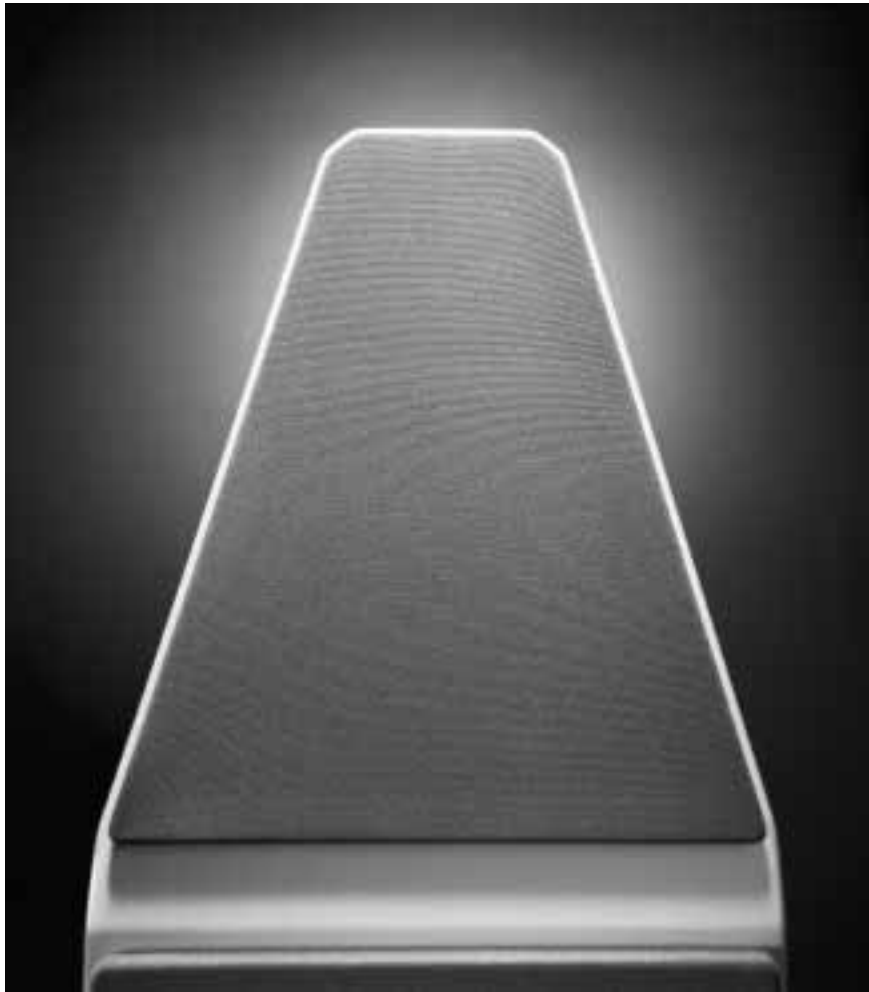
Air Volume Resonance

The physical dimensions and volume of air in a room will also support standing wave modes and resonances at a frequencies determined by the size of the room. Larger rooms will resonate at a lower frequency and have more complex (better) modal distributions than will smaller rooms. Air volume resonances, wall panel resonances, and low frequency standing waves, together, combine to form a low frequency coloration in the sound. At its worst, it is a grossly exaggerated fullness, which tends to obscure detail and distort the natural tonal balance of the speaker system. Occasionally, however, there is just enough resonance to give a little added warmth to the sound, an addition some listeners prefer. Careful placement of loudspeakers in the room can dramatically reduce the speakers' destructive interaction with low frequency modes. ASC Tube Traps™ have been found to be effective in reducing some of these low frequency room colorations. Custom designed and constructed bass traps, such as perforated Helmholtz resonators, provide the greatest degree of low frequency control.

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Initial Setup Information



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Before setting up the Sophias, please read the following section. A basic understanding of room acoustical information in relation to speaker placement will be of benefit in achieving optimum performance from the Sophias.

Section 3.0 - Final Listening Room Setup (Voicing)

The Sophias will provide many years of musical satisfaction. However, their high performance characteristics and abilities can only be fully appreciated with the proper setup.

The following section will present some guidelines on room acoustics and their interactions with loudspeakers. It will also offer some detailed suggestions on the setup of Sophia, but it is strongly suggested that a Wilson Audio dealer perform the final speaker “voicing.” Wilson dealers are specially trained in setting up Wilson loudspeakers and will ensure that Sophia’s maximum potential is realized.

Room Shapes

Standing waves are pressure waves propagated by the interaction of sound and opposing parallel walls. This interaction creates patterns of low and high acoustical pressure zones that accentuate and attenuate particular frequencies. Those frequencies are dependent on room size and dimension.

There are three basic shapes for most rooms: square, rectangular, and L-shaped (see Figure 2).

A perfectly square room is the most difficult room in which to set up speak-

ers. By virtue of its shape, a square room is the perfect medium for building and sustaining standing waves. These rooms heavily influence the music played by loudspeakers, greatly diminishing the listening experience.

Long, narrow, rectangular rooms also pose their own special acoustical problems for speaker setup. They have the ability to create several standing wave nodes, which will have different standing wave frequency exaggerations depending on where you are sitting. Additionally, these long rooms are often quite lean in the bass near the center of the room. Rectangular rooms are still preferred to square rooms because, by having two sets of dissimilar length walls, standing waves are not as strongly reinforced and will dissipate more quickly than in a square room. In these rooms, the preferred speaker position for spatial placement and midrange resolution would be on the longer walls. Bass response would be reinforced by speaker placement on the short walls.

In many cases, L-shaped rooms offer the best environment for speaker setup. Ideally, speakers should be set up along the primary (longest) leg of the room. They should fire from the end of the leg (short wall) toward the L, or they should be along the longest wall. In this way, both speakers are firing the same distance to the back wall. The asymmetry of the walls in L-shaped rooms resists the buildup of standing waves (see Figure 2).

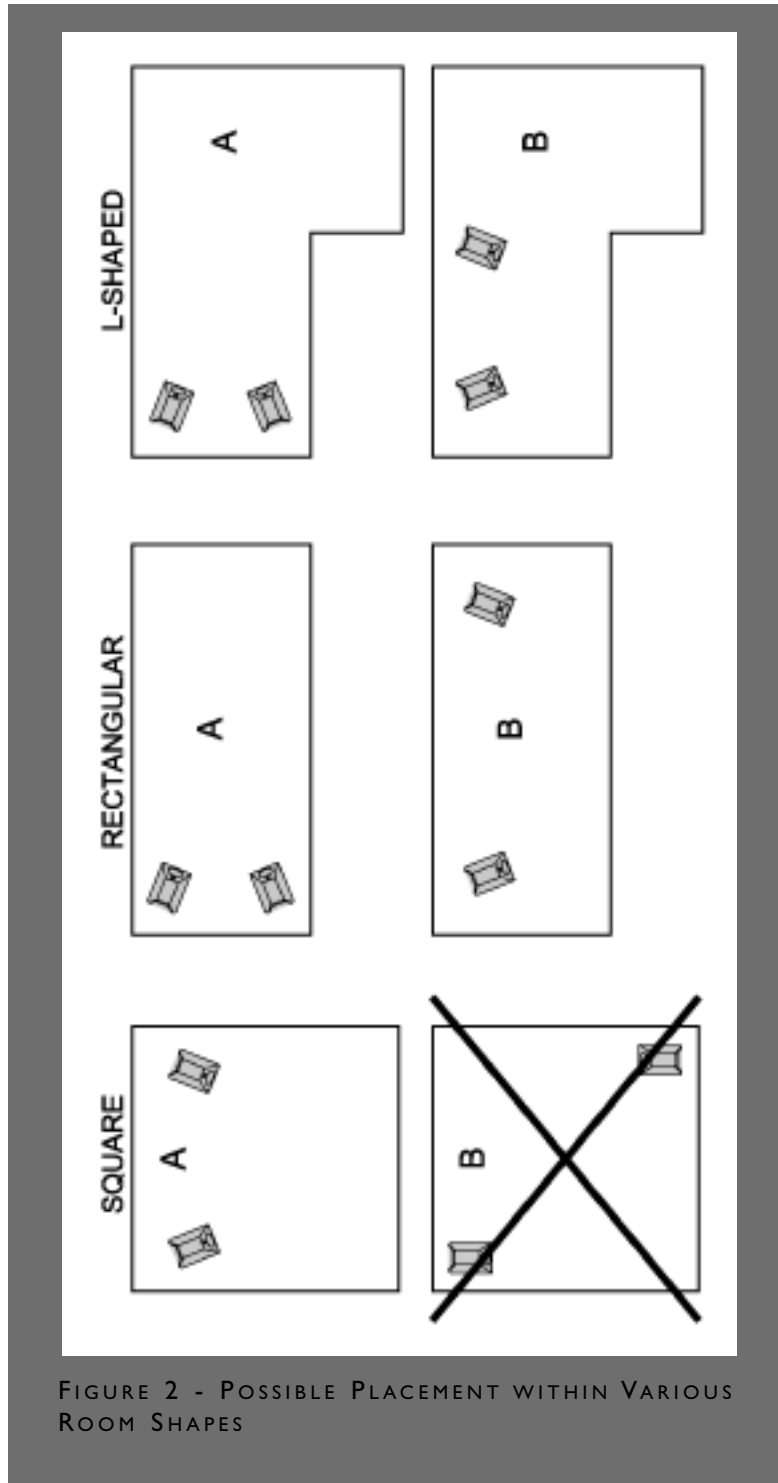


FIGURE 2 - POSSIBLE PLACEMENT WITHIN VARIOUS ROOM SHAPES

Zone of Neutrality

The “Zone of Neutrality” is an area in a room where the speakers will sound most natural. This location is where the speakers interact the least with adjacent room boundaries. It is important to have a clear working space while determining the Zone of Neutrality.

The following is a simple method to locate the Zone of Neutrality within your listening environment:

1. Stand against the wall BEHIND the location where you intend placing your Sophias. Speaking in a moderately loud, normal toned voice and a constant volume, project your voice out into the room.
2. As you slowly walk out from the wall, (it is helpful to have another listener seated in the listening position to aid you in the evaluation), listen to how the voice “frees up” from the added bass energy and diffuseness imparted by the rear wall boundary.
3. When you hear the voice “free up” from this artifact, place a piece of tape on the floor to mark this location. You will now be entering the outer edge of the “Zone of Neutrality.” Although this can vary from room to room, this is usually between 2 and 3 1/2 feet from the rear wall.
4. Continue to walk slowly away from the wall. After some distance, usually one to two feet, you will hear the beginning of a new artifact - the interaction with the opposite wall. This will manifest itself when you hear your voice again lose focus and it appears to reflect or echo in front of you.

5. When you begin to hear this artifact, place a piece of tape on the floor and mark this location. This is the inner edge of the “Zone of Neutrality.”
6. Repeat the procedure with the side walls, positioning yourself with the zone you have established above. Continue to listen for the point in the room where your voice loses the added bass energy from the wall behind you, and continuing until there is an obvious interaction with the opposite wall in front of you. Do each side or speaker location individually.

The Zone of Neutrality for any room runs like a path, parallel to the walls all around the room. Adjacent to very large windows and open doors, the outer edge of the Zone of Neutrality moves closer to the wall and becomes wider. If you extend the inner and outer boundaries of the Zone for the side walls and the front wall (behind the speakers), they will intersect. You will now have two rectangles on the floor on either side of the room, which is your Zone of Neutrality for each channel.

Speaker Placement vs. Listening Position

The location of your listening position is as important as the careful setup placement of your speakers in your room. The listening position should ideally be no more than 1.1 to 1.25 times the distance between the centers of left and right channel tweeters on each speaker. Therefore, in a long rectangular room of 12' x 18', if the speaker tweeters are going to be 9' apart, you should be sitting 9'11" to 11'3" from the speaker. This would be about halfway down the long axis of the room. Experiment carefully for best low frequency response.

Many people place the speakers on one end and sit at the other end of the room. This approach will not yield the finest sound. Carefully consider your listening position. Our experience has shown that any listening position that places your head closer than 14" from a room boundary will diminish the sonic results of your listening.

Decide where you want your favorite listening position to be. If you take care in placing your new speakers, you will optimize the Sophia's performance in your room.

Speaker Orientation

Speaker placement and orientation are two of the most important considerations in obtaining superior sound. The first thing you need to do is eliminate the sidewalls as a sonic influence in your system. Speakers placed too close to the sidewalls will suffer from a strong primary reflection. This can cause out-of-phase cancellations, or comb filtering, which will cancel some frequencies and change the tonal balance of the music. A good place to start is with the speakers in the center of the Zone of Neutrality, and if you need to move them relative to the side wall, move them away from the wall, not closer.

A very important aspect of speaker placement is how far from the back wall to place the speakers. The closer a loudspeaker is to the back wall, the more pronounced the low bass energy and centering of the image will be. However, this comes at a definite reduction in stage size and bloom as well as a deterioration of

upper bass quality. You must find the proper balance of these two factors, but remember, if you are partial to bass response or air and bloom, do not overcompensate your adjustments to maximize these effects. Overcompensated systems are sometimes pleasing in the short-term, but long-term satisfaction is always achieved through proper balance.

Summary

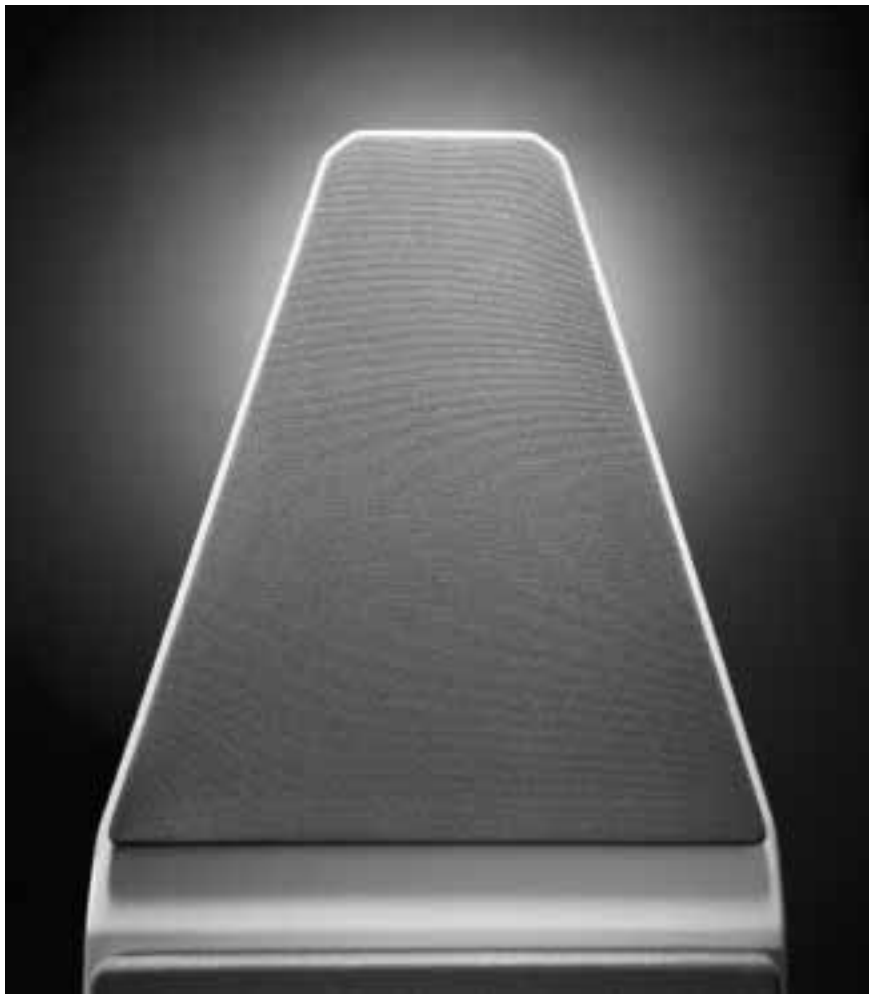
In summary, for optimal tonal balance accuracy, resolution of low level detail, and soundstaging performance, the Sophia should be positioned as outlined in this section. Ideally, the speakers should not be positioned too far from the listener if maximum resolution of low-level detail is required. If possible, the speakers should be positioned out into the room, slightly asymmetrically vis a vis the side and rear walls. The speakers should be “toed in” toward the listener, preferably so that the listener, at his seated position, can barely see the surface of the inner side of the Sophia as he/she faces the speaker. It is recommended that a distance of two to three feet, and possibly more, be maintained between the Sophia and the rear walls and that a distance of at least two feet be maintained between the outer side panel of the Sophia and reflective side walls. Depending on the room, judicious use of sound absorbent materials will reduce the space requirement.

By following the guidelines in this manual, your new Sophia loudspeakers can provide you with a lifetime of pure music reproduction.

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Final Setup



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Note: Before setting up the Sophias, study carefully the previous sections on room acoustics and initial setup information. They provide valuable information on determining the ideal room locations for the Sophia.

Section 4.0 - Preparation

You will need the following items:

- Metal shears
- Electric Screw driver
- Phillips head drive bit
- Supplied hardware kit
- Tape measure
- Masking tape
- Known listening position

Uncrating Sophia

A minimum of two strong adults are required to set up Sophia. The Sophia is very heavy, and care should be taken to prevent injury.

1. With the crate lid facing up, unscrew the wood screws securing the lid. Remove the lid and remove the foam packing material beneath the bottom of the Sophia.
2. Set the crate so that the bottom of Sophia is towards the floor.

3. While one person holds the crate, the other person should gently slide the Sophia out of the crate. Be careful not to scratch the sides of the painted enclosure. (The Sophia is covered with a protective film. Do not remove this film until final setup of your speaker is completed. Follow the removal instructions included in Section 5 - Care of the Sophia.)
4. Move the Sophia into the "Zone of Neutrality" as determined by the Wilson Audio Setup Procedure (WASP). If you have not yet performed this room analysis, please refer to Section 3 of this manual.

Note: Be careful not to touch the driver elements when you are moving your Sophias as damage to the drivers could occur.

Section 4.1 - Crate Content Checklist

Now that you have unpacked your Sophias, you can inventory the additional items in the crate.

- 1 - Owner's Manual
- 1 - Warranty Registration
- 2 - Upper Pin Style Grills (1 per enclosure)
- 2 - Lower Pin Style Grills (1 per enclosure)
- 8 - Woofer Acoustical Diodes
- 1 - 1 1/2" Set Screw Kit

8 - Spikes with Hex Nut

8 - 1" Brass Spike Pad

1 - 5/32" Allen Wrench

1 - 9/16" Combination Wrench

1 - 1/2" Nut Driver

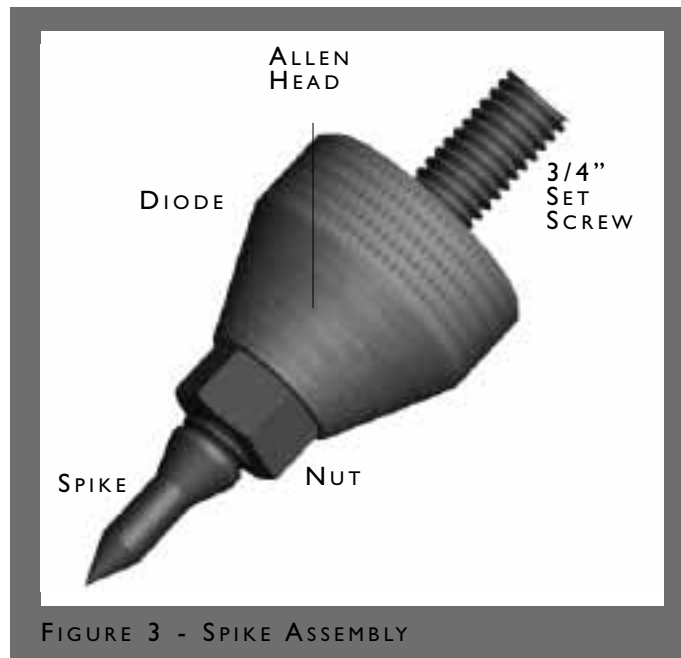
1 - 3/16" Long Arm Allen Wrench

1 - Polishing Cloth

Section 4.2 - Wiring Attachments

Very high quality binding post connections are provided to facilitate connecting Sophia to your amplifier. Locate the 1/2" nut driver from your tool kit. Attach the main output from the amplifier to the binding posts located on the bottom rear of the Sophia. Use the 1/2" nut driver to tighten the binding posts. Do not overtighten.

Please follow the setup instructions outlined in Section 4 to find the position for your Sophias in your room. It is recommended that Sophias be placed in their final position before installation of the spikes.



Section 4.3 - Sophia Spikes

The Sophia comes with a set of heavy duty spikes. These spikes also provide a secure mechanical reference point as well as optimal height placement for the Sophia. Brass disks that fit beneath the spikes are also included for installations where spikes might damage the floor surface (such as wood floors).

After determining the Sophia position, assemble the spikes as follows:

Assembly

1. Insert threaded set screws into the bolt holes located on the bottom of your Sophia with the Allen head facing out.
2. Screw the acoustical diode onto the bolt until it fits snugly against the

bottom of the Sophia. Do not overtighten.

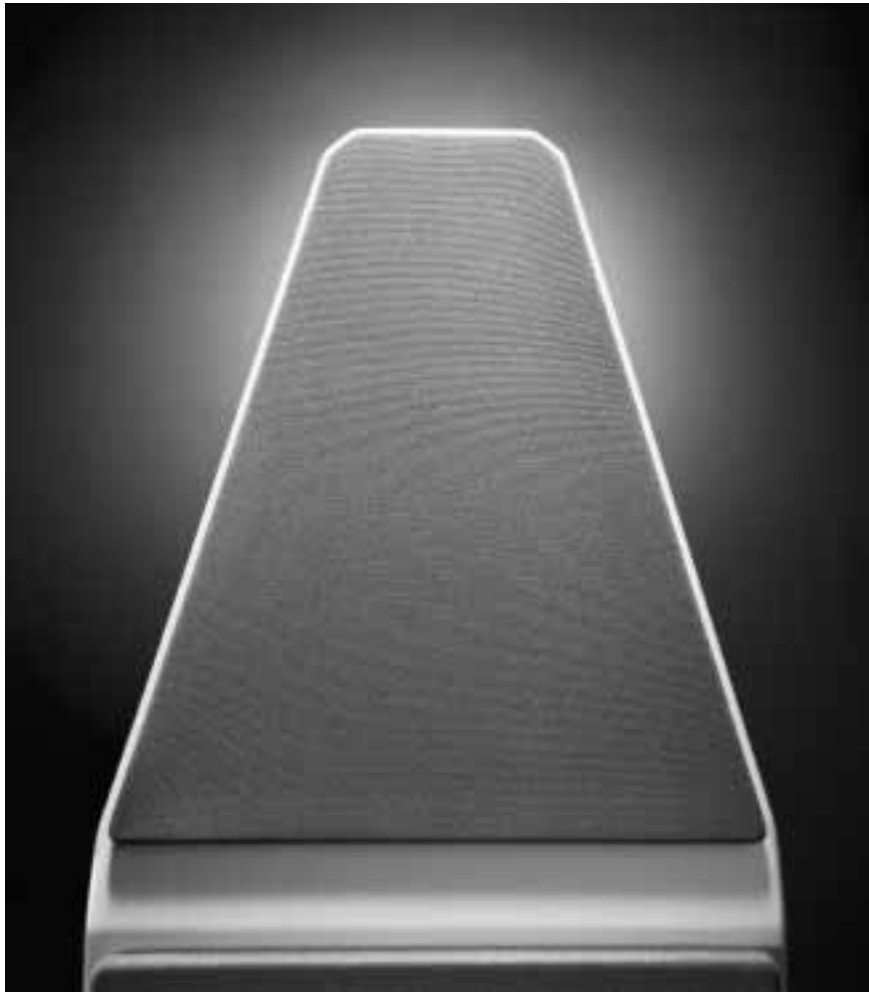
3. Screw the spike (with nut) all the way in until it just touches the bolt. Do not tighten the nut at this time.
4. Repeat steps 1 through 4 with the other spikes.
5. Using a bubble level, adjust the spikes so that the Sophia is level and so that all of the spikes are making equal contact to the hard surface beneath.
6. Once the Sophias are level, tighten the nut on the spike to the diode using the 9/16" wrench provided in the Sophia tool kit. **DO NOT OVERTIGHTEN!**

The spikes, installed properly, isolate the Sophia from the floor surface, reducing resonances. They also provide a stable platform for the Sophia to launch bass energy. The result is cleaner, faster, more dynamic bass, with improved extension and linearity.

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Care of the Sophia



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Section 5.0 - Care of the Finish

The Sophia loudspeakers are hand painted with WilsonGloss™ paint and hand polished to a high luster. While the finish seems quite dry to the touch, final curing and complete hardening takes place over a period of several weeks.

Removing Protective Film

To protect the finish of the Sophia during final manufacture, shipment, and setup in the listening room, a removable layer of protective film has been applied over the finish. It is recommended that this film be left in place until the speakers are in their final location in the listening room. Once their final position has been determined, remove the film by following this procedure:

1. Ensure the speaker surface is room temperature before removing the protective film. Removing the protective film when the speaker surface is cold can damage the paint surface.
2. Slowly remove the film from the top down, large sections at a time, gently pulling the film downward and outward. Tearing the film aggressively can damage the paint.
3. Take care in removing the protective film near edges and corners to prevent paint damage in these areas.
4. The protective film should not be left on the painted surface for extended periods of time nor exposed to heat sources and direct sunlight.

Dusting the Sophia

It is important that the delicate paint finish of the Sophia be dusted carefully with the dust cloth, which has been provided. We recommend that the following procedure be observed when dusting the speakers:

- Blow off all loose dust.
- Using the special dust cloth as a brush, gently whisk off any remaining loose dust.
- Shake out the dust cloth.
- Dust the finish, using linear motions in one direction parallel to the floor. Avoid using circular or vertical motions.

Because the paint requires a period of several weeks to fully cure, we recommend that no cleaning fluids, such as glass cleaners, be used during this initial period of time. When the paint is fully cured, heavy fingerprints and other minor smudges may be removed with a glass cleaner. Always use the dust cloth. Stronger solvents are not recommended under any circumstances. Consult your dealer for further information if required. To maintain the high luster of the finish, periodic polishing may be desired over the years. We recommend a nonabrasive carnauba-based wax and a soft cloth.

Section 5.1 - Care of the Grilles

Periodically, you will want to clean Sophia's grilles. This is best done by

using the round brush attachment on a vacuum cleaner hose. Gently vacuum the front surface of the grille. Be careful not to apply too much pressure. Do not use a hard plastic attachment against the grille. The grille cloth is stretched tightly over the grille frame. Too much pressure or use of a hard plastic attachment could cause the grille material to tear, especially in the corners.

Often Wilson speaker owners desire to change the look of their listening room by changing the color of their speaker grilles. In addition to basic black, Wilson Audio offers a variety of grille colors to match most WilsonGloss finishes. Contact your local dealer for grille cloth samples or to order replacement grilles for your Sophias.

Section 5.2 - Break-in Period

All audio equipment will sound best after its components have been broken in for some period of use. Wilson Audio breaks in all woofers and mid-range drivers for a 12 hour period. All drivers are then tested, calibrated, and matched for their acoustical properties. In your listening room, expect 25 to 50 percent of break-in to be complete after two hours of playing music at normal listening levels. Ninety percent of break-in is complete after 24 hours of playing. Playing a CD on repeat overnight can accomplish this task quickly. Wilson Audio recommends chamber music for this task.

Section 5.3 - Enclosure Technology

Wilson Audio has conducted many hours of research on the impact of materials on speaker enclosure performance. Through this effort, Wilson pioneered the use of non-resonant materials, first with the use of mineral filled acrylic in the WATT, and continuing with the further development of proprietary materials for X-1 Grand SLAMM and MAXX. Even the best materials are not suited to all aspects of enclosure construction. Therefore, like all Wilson loudspeakers, the Sophia is constructed of several exotic materials chosen for their specific performance attributes relevant to different portions of the enclosure.

Sophia is constructed using non-resonant, high-density, composites which are then highly-cross braced to further reduce cabinet resonance. Each of these composites meets and exceeds the highest of ANSI test standards for its use, while offering very tight tolerances, high hardness, uniform density, and dimensional stability. In the most critical areas of the enclosure, the Sophia uses our proprietary "X" material, a very dense, strong composite developed for the X-1 Grand SLAMM. The high hardness of these composites offers excellent acoustical properties.

Adhesive

Wilson Audio has conducted exhaustive research into the best adhesives to permanently bond our speaker enclosures. This is often an overlooked element crucial to the proper performance of a loudspeaker. Correct modulus of elasticity, coefficient of thermal expansion, and natural frequency response are just a few of

the important elements of adhesives.

A highly cross-linked, thermo-set adhesive is used for the construction of the enclosure. It was also chosen for its excellent bond strength, solvent resistance, hardness, and optimum vibrational characteristics.

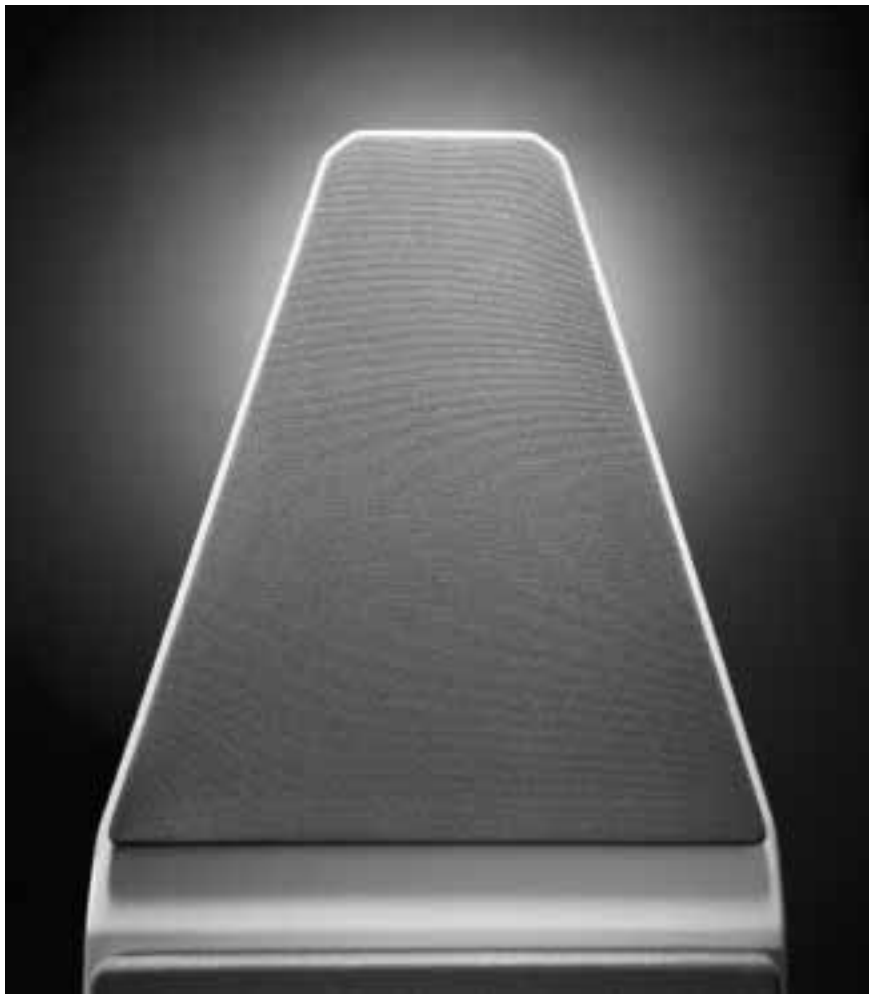
Depth of Design

Sophia's compellingly authentic performance and lasting value are achieved through careful implementation of cutting edge design and engineering and then executed using the highest performance materials. Wilson Audio's use of proprietary enclosure materials and adhesives are employed to achieve truly exceptional speaker cabinet performance. The use of these materials in Sophia result in an enclosure that is inherently inert and non-resonant. All of these structural aspects are combined, allowing Wilson Audio to deliver a product that maintains the strictest structural tolerances, durability, and reliability. This also means that the Sophias will have consistent, repeatable performance, unaffected by the climatic conditions, anywhere in the world. Finally, like all Wilson products, Sophia is hand-crafted with meticulous attention to detail, with an unwavering commitment to excellence. Thus, Sophia will impart to her owner beauty and pleasure for many years to come.

Wilson Audio Specialties, Inc

SOPHIA™

Troubleshooting



**WILSON
AUDIO**

Section 6 - Troubleshooting

One channel is not operating...

Check the interconnects from source.

Check the connections on the speaker cables, both at the amplifier and speaker ends. Watch especially for connectors touching each other.

Imaging is off-center...

Check your connections. A connection may have come loose. Double check your connections for red-to-red and black-to-black.

Play music at a low level and listen to each driver in each channel. There may be a driver that is not operating correctly. If there is a driver that is silent, please go to the “Driver Out” section of this troubleshooting guide.

A chronic lack of bass energy...

Check the input cable connections on the enclosure. If one channel is out of phase (connections reversed), bass will be cancelled. **Note: Turn off your amplifier, and unplug it from the wall.**

Driver out or not playing after connections have been verified:

If there is a driver with no output, potentially the resistor is damaged and needs replacing. Contact a local Wilson dealer

Amplifier shuts off as soon as it is turned on:

for replacement parts and service.

Check to see if the speaker cables are properly secured. Look for frayed ends, loose connections, or a conductor contacting the amplifier chassis.

Turn the amplifier off and disconnect it from the AC wall outlet. Disconnect the preamplifier leads to the amplifier. Now turn on the amplifier.

If the problem is solved:

There is likely something wrong with your preamplifier or interconnect. Contact your dealer.

If the problem persists:

Leave the preamp leads disconnected and continue to the next step.

Turn the amplifier off and disconnect it from the AC wall outlet. Disconnect the speaker leads at the main input to the speaker. Now turn on the amplifier.

If the problem is solved:

Call your Wilson Audio dealer. There may be a problem with the crossover or the speaker's internal wiring.

If the problem persists:

Continue to the next step.

Turn the amplifier off and disconnect it from the AC wall outlet. Disconnect the speaker cable leads to the amplifier and turn the amplifier on again.

If the problem is solved:

There is a short in the speaker cables. Check for frayed ends, holes (from spike feet), or make sure that the spade lug is not touching the chassis while it is connected to the binding post.

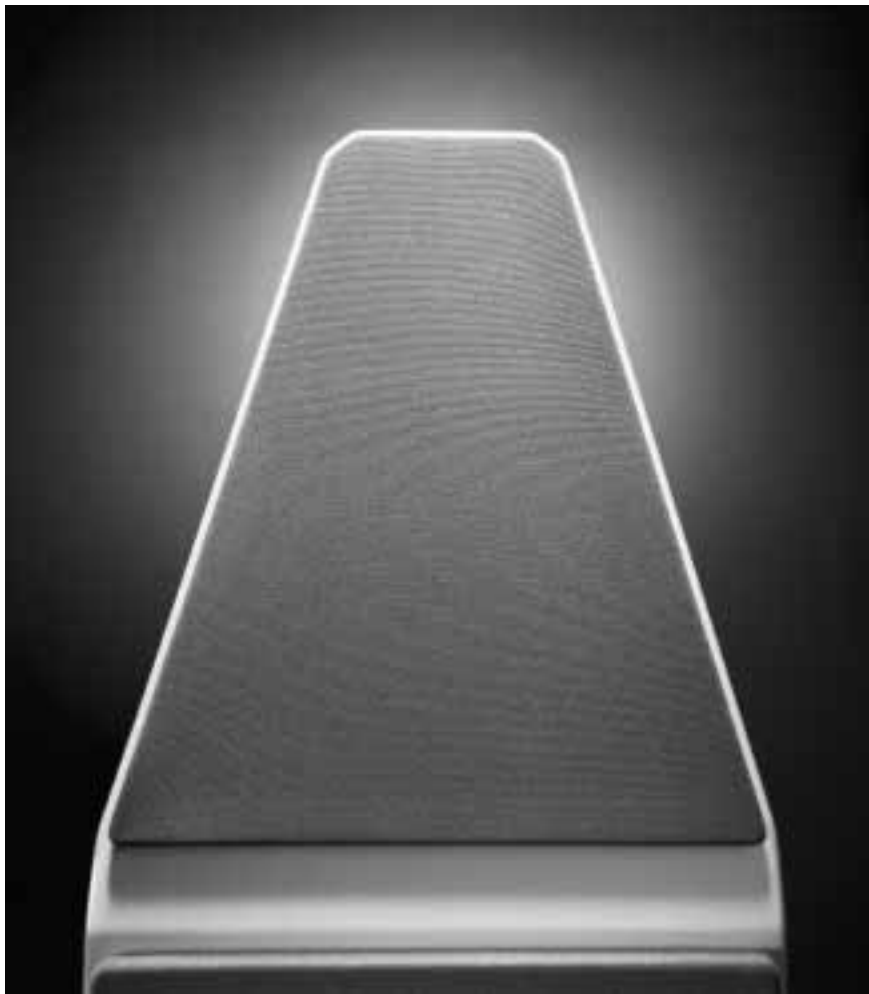
If the problem persists:

Call the dealer where the amplifier was purchased. There appears to be a problem with this component.

Wilson Audio Specialties, Inc

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System Specifications



**WILSON
AUDIO**

Section 7.0 - Sophia Specifications

Specifications

Woofers: 1 - 10 inch {25.4 cm} aluminum cone

Tweeter: 1 - 1 inch {2.54 cm} inverted titanium dome

Midrange: 7 inch {17.78 cm}

Sensitivity: 89 dB, 2.83 volts at 1 meter

Nominal Impedance: 4 ohms (3 ohms minimum)

Minimum Amplifier Power: 12 WATTS per channel

Frequency Response (with port contribution): 29 Hz - 22kHz (-3 dB)

Dimensions

Height: 41 1/4 inches {104.775 cm} (without spikes)

Width: 12 3/4 inches {32.385 cm}

Depth: 18 inches {45.72 cm}

Uncrated Weight Per Channel: 160 lbs {72.72 kgs}

System Shipping Weight (approx.): 452 lbs. {205.55 kgs}

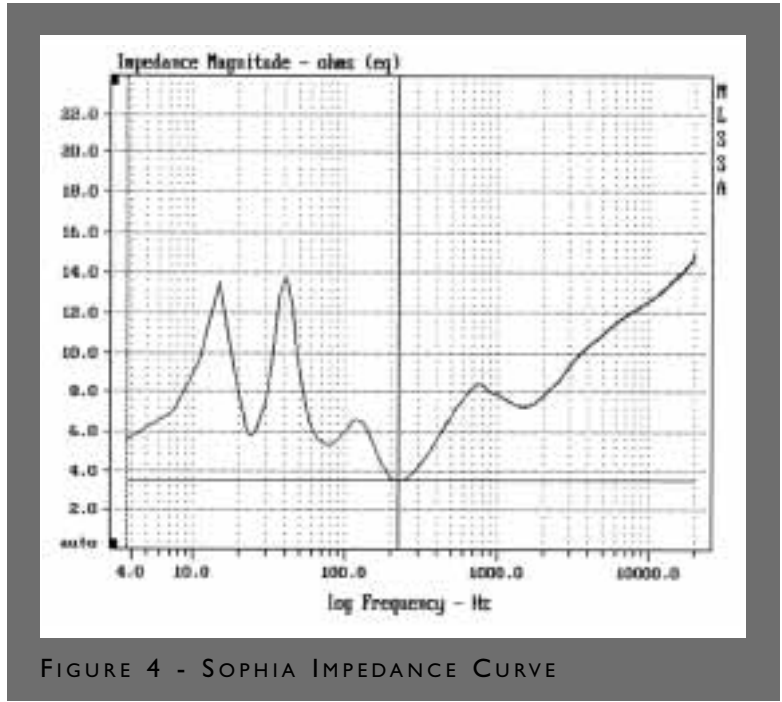
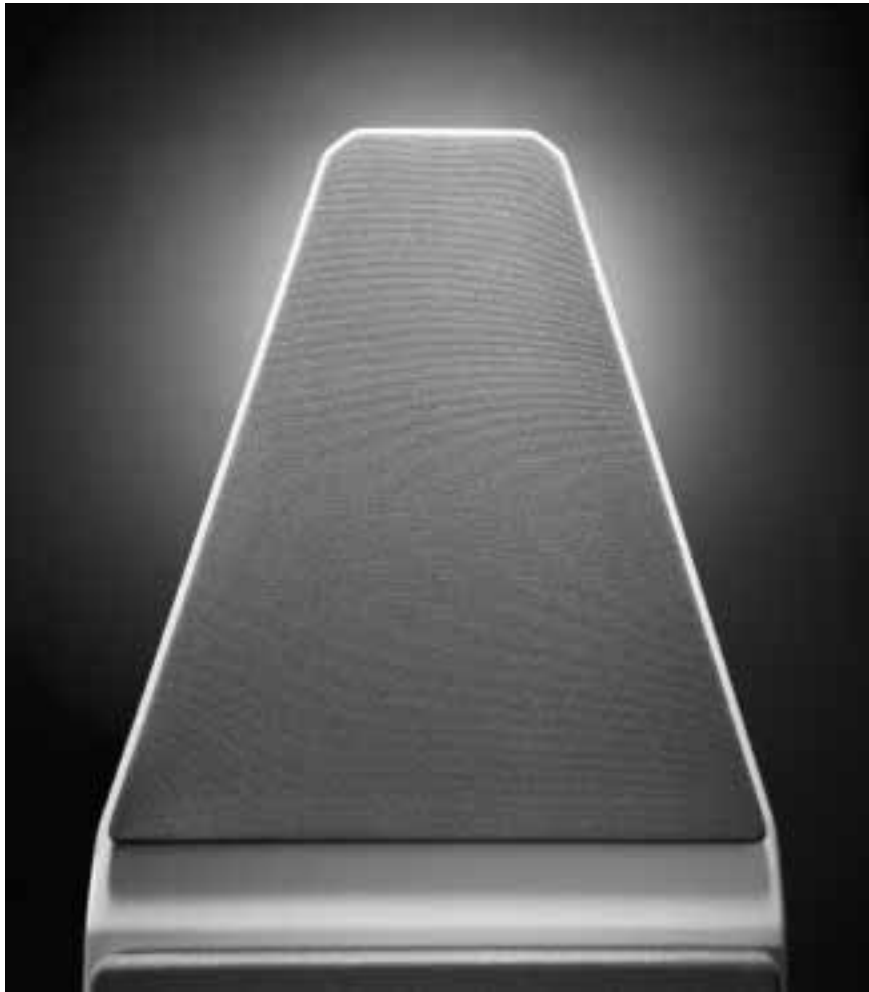


FIGURE 4 - SOPHIA IMPEDANCE CURVE

SOPHIA™

Warranty Information



**WILSON
AUDIO**

Wilson Audio Specialties, Inc

Section 8 - Warranty Information

Limited Warranty

Subject to the conditions set forth herein, Wilson Audio warrants its loudspeakers to be free of manufacturing defects in material and workmanship for the Warranty Period. The Warranty Period is a period of 90 days from the date of purchase by the original purchaser, or if both of the following two requirements are met, the Warranty Period is a period of five (5) years from the date of purchase by the original purchaser:

Requirement No. 1. No later than 30 days after product delivery to the customer, the customer must have returned the Warranty Registration Form to Wilson Audio;

Requirement No. 2. The product must have been professionally installed by the Wilson Audio dealer that sold the product to the customer.

FAILURE TO COMPLY WITH EITHER REQUIREMENT NO. 1 OR REQUIREMENT NO. 2 WILL RESULT IN THE WARRANTY PERIOD BEING LIMITED TO A PERIOD OF 90 DAYS ONLY.

Conditions

This Limited Warranty is also subject to the following conditions and limitations. The Limited Warranty is void and inapplicable if the product has been used or handled other than in accordance with the instructions in the owner's manual,

or has been abused or misused, damaged by accident or neglect or in being transported, or if the product has been tampered with or service or repair of the product has been attempted or performed by anyone other than Wilson Audio, an authorized Wilson Audio Dealer Technician or a service or repair center authorized by Wilson Audio to service or repair the product. Contact Wilson Audio at (801) 377-2233 for information on location of Wilson Audio Dealers and authorized service and repair centers. Most repairs can be made in the field. In instances where return to Wilson Audio's factory is required, the dealer or customer must first obtain a return authorization. Purchaser must pay for shipping to Wilson Audio, and Wilson Audio will pay for shipping of its choice to return the product to purchaser. A RETURNED PRODUCT MUST BE ACCOMPANIED BY A WRITTEN DESCRIPTION OF THE DEFECT. Wilson Audio reserves the right to modify the design of any product without obligation to purchasers of previously manufactured products and to change the prices or specifications of any product without notice or obligation to any person.

Remedy

In the event that the product fails to meet the above Limited Warranty and the conditions set forth herein have been met, the purchaser's sole remedy under this Limited Warranty shall be to: (1) contact an authorized Wilson Audio Dealer within the Warranty Period for service or repair of the product without charge for parts or labor, which service or repair, at the Dealer's option, shall take place either at the location where the product is installed or at the Dealer's place of busi-

ness; or (2) if purchaser has timely sought service or repair and the product cannot be serviced or repaired by the Dealer, then purchaser may obtain a return authorization from Wilson Audio and at purchaser's expense return the product to Wilson Audio where the defect will be rectified without charge for parts or labor.

Warranty Limited to Original Purchaser

This Limited Warranty is for the sole benefit of the original purchaser of the covered product and shall not be transferred to a subsequent purchaser of the product, unless the product is purchased by the subsequent purchaser from an authorized Wilson Audio Dealer who has certified the product in accordance with Wilson Audio standards and requirements and the certification has been accepted by Wilson Audio, in which event the Limited Warranty for the product so purchased and certified shall expire at the end of the original Warranty Period applicable to the product.

Demonstration Equipment

Equipment, while used by an authorized dealer for demonstration purposes, is warranted to be free of manufacturing defects in materials and workmanship for a period of five (5) years from the date of shipment to the dealer. Demo equipment needing warranty service may be repaired on-site or, if necessary, correctly packed and returned to Wilson Audio by the dealer at dealer's sole expense. Wilson Audio will pay return freight of its choice. A returned product must be accompanied by a written description of the defect. Dealer owned demonstration equipment sold at

retail within two (2) years of date of shipment to the dealer is warranted to the first retail customer to be free of manufacturing defects in materials and workmanship for the same time periods as if the product had originally been bought for immediate resale to the retail customer. Wilson Audio products are warranted for a period of 90 days, unless extended to 5 years, as provided above, by return and filing of completed Warranty Registration at Wilson Audio within 30 days after product delivery to customer and the product was professionally installed by the Wilson Audio Dealer that sold the product to the customer.

Miscellaneous

ALL EXPRESS AND IMPLIED WARRANTIES NOT PROVIDED FOR HEREIN ARE HEREBY EXPRESSLY DISCLAIMED. ANY LEGALLY IMPOSED IMPLIED WARRANTIES RELATING TO THE PRODUCT SHALL BE LIMITED TO THE DURATION OF THIS LIMITED WARRANTY. THIS LIMITED WARRANTY DOES NOT EXTEND TO ANY INCIDENTAL OR CONSEQUENTIAL COSTS OR DAMAGES TO THE PURCHASER. Some states do not allow limitations on how long an implied warranty lasts or an exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. This Limited Warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.

SECTION 8 - WARRANTY INFORMATION
