

Sabrina™

SABRINA OWNERS MANUAL




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SABRINA OWNERS MANUAL

SABRINA OWNERS MANUAL 1

SECTION 1—SABRINA INTRODUCTION 7

SECTION 1.1—SABRINA INTRODUCTION 9

 ALL-NEW ARCHITECTURE USING PROVEN MATERIALS 9

 CROSSOVER 10

 DRIVERS 12

SECTION 2—WILSON AUDIO SETUP PROCEDURE 13

SECTION 2.1—USING “WASP” TO SET UP SABRINA 15

 FINAL LISTENING ROOM SETUP (VOICING)..... 15

 ZONE OF NEUTRALITY: MAIN LEFT AND RIGHT CHANNEL..... 15

SECTION 2.2—ROOM ACOUSTICS 17

 SLAP ECHO 17

 STANDING WAVES..... 19

 COMB FILTER EFFECT 21

SECTION 2.3—RESONANCES 21

 STRUCTURAL RESONANCE 22

 VOLUME RESONANCE 22

SECTION 2.4—YOUR ROOM..... 23

 ROOM SHAPES..... 23

 SPEAKER PLACEMENT VERSUS LISTENING POSITION 24

 SPEAKER ORIENTATION 25

SECTION 3—UNCRATING YOUR SABRINAS 27

SECTION 3.1—UNCRATING THE SABRINA 29

 INITIAL CHECK 29

UNCRATING THE SABRINA 29

SECTION 3.2 – BOX CONTENT CHECKLIST 30

SECTION 4—FINAL SETUP 31

SECTION 4.1—FINAL SETUP 33

 PREPARATION 33

SECTION 4.2—SABRINA SPIKES 33

 ASSEMBLY 33

SECTION 4.4—WIRING ATTACHMENTS 34

SECTION 4.5—REMOVING THE PROTECTIVE FILM 35

SECTION 4.6—RESISTORS 35

 WOOFER DAMPING (Q) RESISTOR..... 36

 REPLACING AN OPEN RESISTOR..... 36

SECTION 5—CARE OF THE SABRINA 39

SECTION 5.1—CARE OF THE FINISH 41

 DUSTING THE SABRINAS..... 41

 CARE OF THE GRILLES..... 42

 BREAK-IN PERIOD 42

SECTION 5.2—ENCLOSURE TECHNOLOGY 42

 MATERIALS 42

 ADHESIVE 43

SECTION 5.3—DEPTH OF DESIGN..... 43

SECTION 6—TROUBLESHOOTING 45

SECTION 6—TROUBLESHOOTING 47

SECTION 7—SPECIFICATIONS 51

SECTION 7.1—SPECIFICATIONS 53

SECTION 7.2—SABRINA DIMENSIONS 54

SECTION 7.3—IMPEDANCE CURVE 55

SECTION 8—WARRANTY INFORMATION 57

SECTION 8—WARRANTY DETAILS..... 59

 LIMITED WARRANTY 59

 CONDITIONS 59

 REMEDY..... 60

 WARRANTY LIMITED TO ORIGINAL PURCHASER 60

 DEMONSTRATION EQUIPMENT..... 61

 MISCELLANEOUS 61

Sabrina™

SECTION 1 — SABRINA INTRODUCTION



Section 1.1—Sabrina Introduction

Sabrina’s design heritage can perhaps be best understood by looking to two distinct and seemingly disparate sources: the original WATT/Puppy, and the Alexandria XLF. The WATT/Puppy was the result of Dave Wilson’s belief that a well-designed compact loudspeaker could outperform many of the much larger state-of-the-art systems of its day. Sabrina is nearly the same size as its 1980s progenitor. The XLF, on the other hand, represents the current pinnacle of Wilson’s three-decades-long quest to bridge the gulf between live, unamplified music and its reproduction. Along with live music itself, the XLF serves as Wilson’s ultimate real-world reference. But where XLF’s complex platform is built around precise time-alignment capability, custom-designed drivers, and adjustable cabinet modules constructed from Wilson’s proprietary materials, Sabrina’s design brief focused on pure simplicity and a compact, accessible form factor.

The objective for Sabrina was to take Wilson’s vast accumulated wealth of knowledge and experience, its current zenith embodied in the Alexandria XLF, and distill it down to its essence. To create a loudspeaker that, like the first WATT/Puppy, could stand alongside much larger systems and offer the kind of dynamic contrast and harmonic expression that is the defining character of Wilson Audio loudspeakers.

All-new Architecture Using Proven Materials

When it comes to a loudspeaker’s architectural design, Wilson’s philosophy is driven by the notion that a loudspeaker’s form is inextricably tied to its function. The unique physical features which are required in order to reduce propagation errors and lower enclosure panel resonances have for decades now given Wilson loudspeakers their look. Arguably, there is a form of beauty singular to the congruent interplay of technical and aesthetic ideals. Sabrina’s cabinet is hand-assembled, glued with proprietary adhesives, hand-sanded, gel coated, painted with multiple layers of automotive-grade paint, inspected, then polished and buffed to the same exacting standard as every other Wilson loud-

speaker. The front baffle and bottom panels are built from Wilson proprietary composite, X-Material.

When the drivers in a loudspeaker array are aligned so that the leading edge of transients from each driver arrives at the listener's ear at the same time, the result is a profound improvement in dynamics, harmonic detail, transparency—and in other important areas of sonic performance. Put simply, all the things that characterize what the brain interprets as “real” in music reproduction. The adjustable driver modules in Wilson's larger loudspeakers exist to provide unprecedented control over time-alignment in a large variety of listening environments. But in a single cabinet speaker such as Sabrina, the concept is still valid. Sabrina's driver array has been time optimized for the typical listening room (hence the sloping front baffle of the loudspeaker).

Crossover

Every Sabrina crossover is a solitary work of art, built individually to match the ref-



erence crossover. Wilson mandates tolerances as stringent as plus-or-minus point-two percent (+/- 0.2%)—much more exacting than even the best individual crossover components typically achieve. Other high-end manufacturers accept this lack of precision as *fait accompli*. At Wilson, every crossover component is meticulously measured and cataloged with its actual value (which is always different from its rated value). Each Sabrina crossover is a unique recipe of mathematically complimentary components such that its final value precisely matches the reference loudspeaker's crossover. Wilson believes that the owner of any of its products should hear precisely what Dave and the engineers heard when they signed off on the final prototype.

When designing the Sabrina crossover, proprietary measures were taken to reduce distortion along with its deleterious audible effects. Bass performance and dynamic contrast that met or exceeded Wilson's standards was a primary design goal—made challenging by Sabrina's a relatively compact enclosure volume. Continuous refinements in crossover topologies and specific component choices were made in large part with this in mind. The engineers at Wilson Audio employ proprietary modeling software, developed largely in-house, which considers and helps identify time-domain variables within the crossover other designers simply ignore. Subsequent listening verifies empirically the veracity of any given design choice. The metric used to gauge success is measured not solely by technical analysis, but through the methodical comparison to live, unamplified music.

Lowering noise and distortion in the Sabrina allowed the design team to hear "deeper" into the loudspeaker. Problems and unwanted sonic artifacts that would otherwise be obscured are clearly audible and, in turn, more easily addressed and removed. Reducing time-domain distortion with it decreases deleterious grain structure and improves settling time—a salient strength of Sabrina. Sabrina's remarkable bass performance, a canny combination of speed and authority, were some of the dividends paid by the engineer's innovative work on the low-pass portion of Sabrina's crossover. Midrange transient speed,

tonal beauty, transparency, spatial resolution, bass alacrity, and dynamic expression—and, most importantly, a consummate verisimilitude to the live musical event, all traditional strengths of Wilson loudspeakers, are present in full measure in Sabrina.

Drivers

Much has been written and said about Wilson's proprietary Convergent Synergy Tweeter. Its original design goal was to provide an ideal balance between the upper frequency smoothness of some of the so-called "exotic material" designs, and the lower frequency reach and power handling capability to mate seamlessly with Wilson's large midrange drivers. In many circles of the industry, it remains the ne plus ultra of high frequency reproduction. Convergent Synergy is a product of Wilson's ongoing innovation, and provides the basis, in simplified form, for Sabrina's tweeter. In Sabrina, an agile and dynamic 5.75" midrange driver is used. Its midrange beauty and dynamic alacrity extends into the lower treble (it is linear to beyond 3.5kHz). To capitalize on this driver's seamless musicality in this area of the bandwidth, the tweeter is crossed over at a higher frequency than in other Wilson designs. The higher crossover results in an even higher power handling capability for this rugged yet musically expressive tweeter. Sabrina's eight-inch woofer was first used in the Alexia, and was modified for its use in this smaller, single-driver enclosure. These drivers represent "trickle-down" technology at its best, and represent the commitment to making Sabrina a speaker entirely worthy of the Wilson Audio name.

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SECTION 2 — WILSON AUDIO SETUP PROCEDURE



Section 2.1—Using “WASP” to Set Up Sabrina

You are surely excited about setting up your Sabrina and doing some listening, but before you begin, we would like to discuss some of the important room acoustical information that will help you set up your loudspeakers properly.

Final Listening Room Setup (Voicing)

For Sabrina’s size and single-module configuration, it is unmatched in its ability to reproduce the musical event. However, room acoustics and boundary interactions affect the sound of a loudspeaker to such a large degree that poor setup can seriously degrade your enjoyment of even the finest loudspeaker.

Therefore, we offer the following section, which will present some guidelines on room acoustics and their interactions with loudspeakers. While we will also outline some detailed suggestions on the setup of the Sabrina, we strongly suggest that you have your local Wilson Audio dealer perform the final speaker “voicing” with you. Wilson dealers are specially trained in setting up Wilson loudspeakers and will ensure that you realize the full value of your purchase. What follows is an outline of the Wilson Audio Setup Procedure (WASP). When carefully followed, the process has proven to be the most effective method for setting up Wilson loudspeakers.

Zone of Neutrality: Main Left and Right Channel

The “Zone of Neutrality” is an area in your 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 to position your loudspeakers. Speaking in a moderately loud voice and at a constant

- volume, project your voice out into the room. Your voice will have an overly heavy, “chesty” quality because of your proximity to the rear wall.
2. While speaking, slowly move out into the room, progressing in a direction parallel to the sidewall. It is helpful to have another listener seated in the listening position to assist you during this process. Listen to how your voice “frees up” from the added bass energy imparted by the rear wall boundary. Also notice that your voice is quite spatially diffuse (to your assistant, your voice will sound spatially large and difficult to localize) as you begin to ease away from the rear wall.
 3. At some point during your progression forward into the room, you will observe a sonic transition in your voice; it will sound more tonally correct and less spatially diffuse (your assistant can now precisely localize the exact origin of your voice). When you hear this transition, you have entered the inner edge of the Zone of Neutrality. Place a piece of tape on the floor to mark this location. Although it will vary from room to room, in most rooms the zone begins between two and a half to three feet from the rear wall.
 4. Continue to walk slowly away from the rear wall. After some distance, usually one to two feet past the first piece of tape, you will begin to hear your voice lose focus and appear to reflect (echo) in front of you. This is caused by the return of the room’s boundary contribution; your voice is now interacting with the opposite wall. At the point where you begin to hear the reflected sound of your voice, you have reached the outer edge of the Zone of Neutrality. Place a piece of tape on the floor and mark this location. The distance between the “inner” and “outer” edge tape marks is usually between eight inches (for small, interactive rooms) and three feet (for large, more neutral rooms).
 5. Now position yourself against the side wall perpendicular to the intended speaker location. Stand between the two tape marks. Using the same procedure as above, begin moving into the room toward the opposite sidewall, progressing between the two pieces of tape. As above, listen for the point in the room where your voice transitions from bass-heavy and diffuse to neutral. Mark this point with tape. Continue your progression until there is

- an obvious interaction with the opposite wall in front of you and mark this point with tape. The four pieces of tape now form a rectangle that establishes the Zone of Neutrality for the loudspeaker located on that side of the room. Using the four marks as your guide, tape an outline to define the boundaries of the rectangle.
6. Repeat this process for each speaker location individually. These are your Zones of Neutrality, one for each channel.

Theoretically, 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 were to extend the inner and outer boundaries of the Zone for the sidewalls and the front wall (behind the speakers), they would intersect. After you complete this procedure for the other loudspeaker, you will now have two rectangles, one on the floor on either side of the room.

Section 2.2—Room Acoustics

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 Sabrina.

Slap Echo

Probably the most obnoxious form of reflection is called “slap echo.” With slap-echo, primarily midrange and high frequency sounds reflect off of two parallel hard surfaces. The sound literally reverberates 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 midrange. Slap echo destroys the sound quality of a stereo system in two ways:

- It adds harshness to the upper midrange and treble by storing time-domain smearing energy.
- It destroys the delicate phase relationships, which help to establish an accurate soundstage.

Slap echo (see Figure 1) is a common acoustical problem in the typical domestic listening room because most of these rooms have walls with a hard, reflective nature, only occasionally interrupted by curtains, wall art, or drapes. The best (but least practical) solution to eliminate slap echo is nonparallel walls. This is because, rather than support

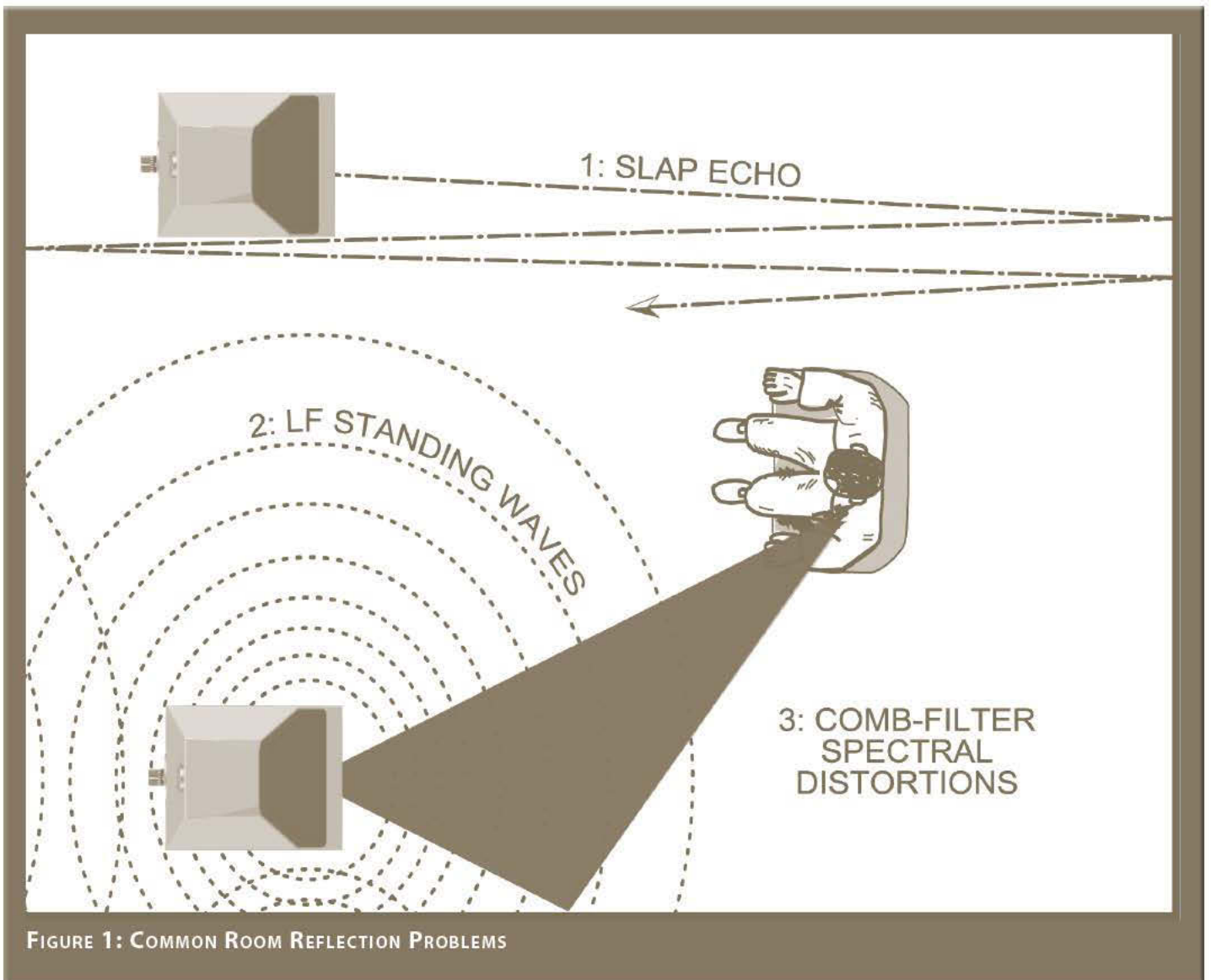


FIGURE 1: COMMON ROOM REFLECTION PROBLEMS

slap-echo, nonparallel walls allow the sound to diffuse. This approach can be accounted for during the construction process. For existing rooms, slap echo can also be controlled entirely by the application of absorptive materials to the hard surfaces. These are absorptive materials that can be used to ameliorate slap echo:

- Illbruck Sonex®
- Air duct board
- Large ceiling to floor drapes
- Carpeting to wall surfaces

In many domestic listening environments, heavy stuffed furnishings reduce slap echo somewhat. 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,” 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. Soundtrack effects will be more localized. However, over-damping the room skews the tonal balance unnaturally toward the bass, and also compresses dynamics, robbing the system of musical life excitement.

Diffusers, on the other hand, do not affect the tonal balance characteristic of the room as much. Placed properly, diffusers create a smoother and more open sound. Some diffusers, due to their construction, create narrow midrange peaks and suck out the warmth region. Do not use diffusers on the wall behind the speakers or on the sidewalls directly beside the speakers. It is our experience that all of these room treatment devices should be used judiciously.

Standing Waves

Another type of reflection phenomenon is “standing waves.” Standing waves cause the unnatural boosting or accentuation of certain frequencies, typically in the bass, to be found at certain discreet locations in the room. These locations differ according to room dimension and size. A room generating severe standing waves creates difficulty in setup. In these rooms, the speaker will sound radically different as it is moved around. The effects of standing waves on a loudspeaker’s performance are primarily in the areas listed.

- Tonal balance
- Resolution of low-level detail
- Soundstaging

Standing waves are more difficult to correct than slap echo because they tend to occur at a lower frequency. Absorbent materials, such as Illbruck Sonex®, are ineffective at controlling reflections in the bass region. Moving speakers about slightly in the room is, for most people, their only control over standing waves. Sometimes a change of placement of as little as two or three inches can dramatically alter the tonal balance of a small system.

Fortunately, minor low frequency standing waves are 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. These materials trap the bass in the room unless it is allowed to leak out of the room through windows and doors.

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 slightly asymmetrically in the listening room. This is so 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

The “comb filter” effect is a special type of standing wave noticeable primarily at higher frequencies and shorter wavelengths.

Acoustical comb filtering occurs when sound from a single source, such as a loudspeaker, is directed toward a microphone or listener from a distance. The first sound to reach the microphone is the direct sound, followed by a 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 frequencies are 180 degrees out of phase. Further, there is augmentation at other frequencies where the direct and the reflected sounds arrive in phase. Because it is a function of wavelength, the comb filter effect will notch out portions of the audio spectrum at linearly spaced intervals. Subjectively, comb filter effect evidences itself as follows:

- Added roughness to the sound
- Reduction of harmonic richness
- Smearing of lateral soundstage 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 2.3—Resonances

Resonance in listening rooms is generally caused by two sources:

- Structures within the listening room.

- The volume of air itself within 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 palm of your hand or stomping on the floor. Most rooms exhibit mid-bass “boom” when struck. The loudspeaker playing in the room also excites these resonances. 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 a false fullness to the tonal balance. 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. However, short of actually adding additional layers of sheet rock to flimsy walls, there is little that can be done to eliminate wall resonances.

Volume Resonance

The physical dimensions and volume of air in a room will also support standing wave modes and resonances at frequencies determined by the size of that room. Larger rooms will resonate at a lower frequency and have more complex (better) modal distributions than will smaller rooms. Volume resonances, wall panel resonances, and low frequency standing waves 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™ are effective in reducing some of this low frequency room coloration. Custom designed bass traps, such as perforated Helmholtz resonators, provide the greatest degree of low frequency control.

Section 2.4—Your Room

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 speakers. 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 (see Figure 2) 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).

Speaker Placement Versus Listening Position

The location of your listening position is as important as the careful setup of your Wilson Audio loudspeakers. The listening position should ideally be no more than 1.1 to 1.25 times the distance between the 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

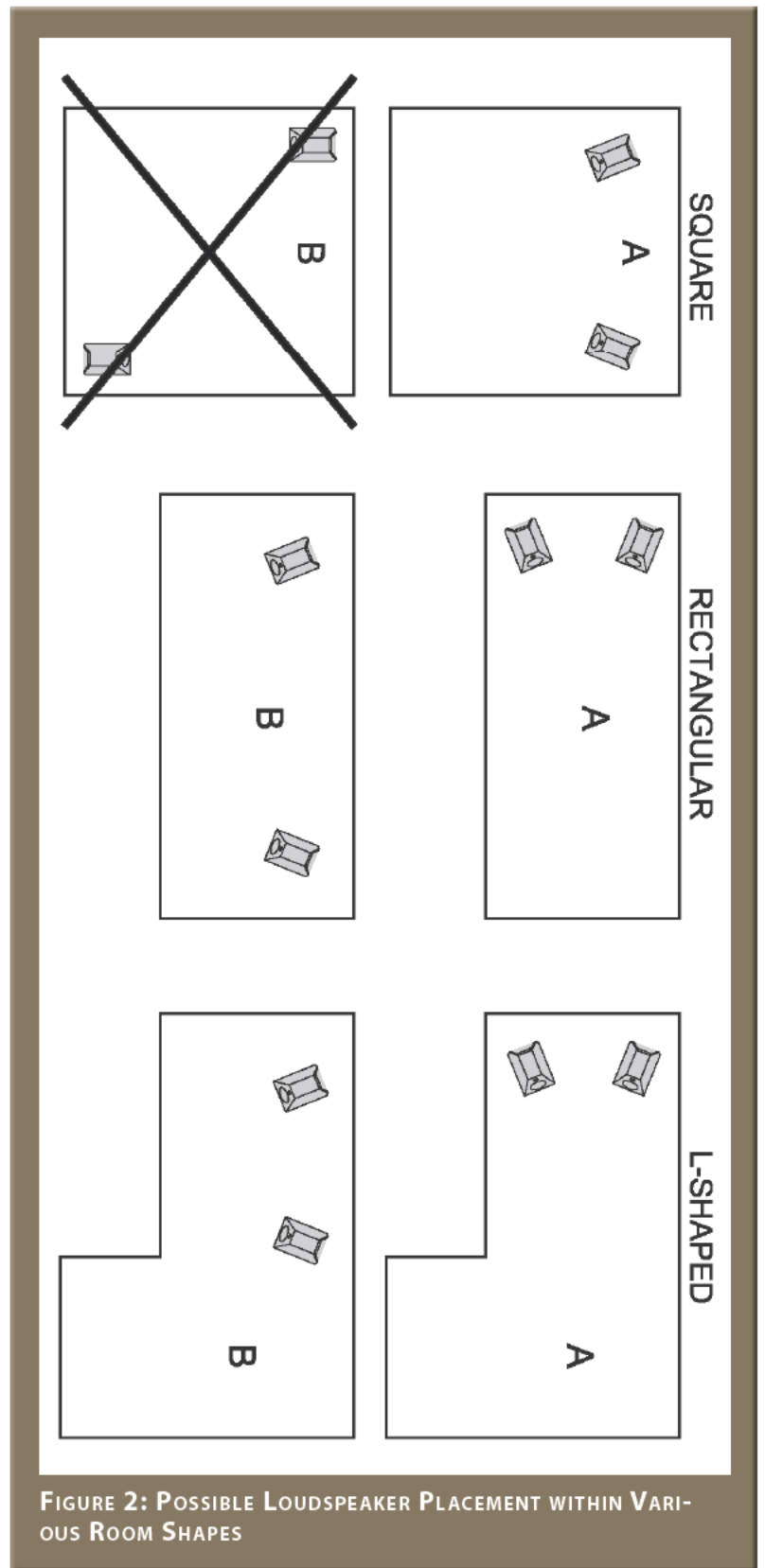


FIGURE 2: POSSIBLE LOUDSPEAKER PLACEMENT WITHIN VARIOUS ROOM SHAPES

should be sitting 9'11" to 11'3" from the speaker. This would be more than halfway down the long axis of the room.

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.

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. The Wilson Audio Setup Procedure (Section 2.1) is the best method with which to position your loudspeakers. Start with the speakers about 18" from each wall (as measured from the rear of the enclosure) 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.

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SECTION 3 — UNCRATING YOUR SABRINAS



Note: In your listening room or home theater, clear out two spaces, one for your left and one for your right channel. Place the ODD numbered Sabrina in the LEFT channel section and the EVEN in the RIGHT channel section.

Section 3.1—Uncrating the Sabrina

Initial Check

The Sabrinas are shipped in boxes. Upon receiving these boxes, please check their condition. If any of the boxes are damaged, please report it to the shipping company immediately for insurance verification.

The following items are recommended for this procedure:

- Box Cutter
- Phillips head drive bit
- Masking tape (for use in speaker setup)

Uncrating the Sabrina

A minimum of two strong adults is required to set up the Sabrinas.

1. Carefully cut the metal bands around the box.
2. With the box facing up, carefully cut the tape securing the lid. Slide off the outer cardboard shell.
3. One box will contain the tool kit. Carefully remove the toolkit and the manual. Set these aside
4. Carefully lift the box upright so that the Sabrina is now vertical. With the Sabrina's bottom toward the floor and one person holding the box, the second person should reach in and gently slide the Sabrina out of the box.
5. Place the Sabrina with an odd serial number on the left side of the room

and the Sabrina with an even serial number on the right side of the room.

Note: The Sabrinas are very heavy and care should be taken to prevent injury.

Section 3.2 – Box Content Checklist

Now that you have unpacked your Sabrina, you can inventory all the additional items in the boxes.

- Owners Manual
- Warranty Registration Form
- Polishing Cloth
- 8x Spike with Nut
- 8x Aluminum Spike Pads
- 1/2" Nut Driver (binding posts)
- 9/16 Combo Wrench (spike nuts)
- 5/32" Ball-End Allen (driver screws)
- 1/8" Ball-end Allen head for bottom resistor panel

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SECTION 4 — FINAL SETUP



Note: Before setting up the Sabrina, study carefully Section 2, “In Your Room.” It provides valuable information on determining the ideal room location for your speakers.

Section 4.1—Final Setup

Preparation

You will need the following items:

- Supplied hardware kit
- Tape measure
- Known listening position

Your dealer is trained in the art and science of the Wilson Audio Setup Procedure (WASP) outlined in Section 2. Before the spike assemblies are attached to the bottom of your Sabrinas, the set up and fine tuning of your loudspeaker should be completed. Before spiking your Sabrinas, use masking tape to carefully mark their location.

Section 4.2—Sabrina Spikes

The Sabrina comes with a set of heavy duty spikes (see Figure 3). These spikes also provide a secure mechanical reference point as well as optimal height placement for the Sabrina. Aluminum 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 optimal Sabrina position, assemble the spikes as follows:

Assembly

1. Screw the spike (with nut) all the way in until the nut just touches the bottom of the enclosure. Do not tighten the nut at this time. Three threads should be visible beneath the nut.



FIGURE 3: SPIKE ASSEMBLY

2. Repeat steps 1 through 4 with the other spikes.
3. Adjust the spikes so that the Sabrina is level.
4. Using the 9/16" combination wrench, tighten the nut snug against the diode to prevent the spike assembly from coming loose.

Section 4.4—Wiring Attachments

Very high quality binding post connections are provided to facilitate connecting Sabrina 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 Sabrina. Use the 1/2" nut driver to tighten the binding posts. **Do not overtighten.**

Section 4.5—Removing the Protective Film

To protect the finish of the Sabrina during final manufacture, shipment, and setup in your listening room, we have applied a removable layer of protective film over the finish. We recommend that this film be left in place until the speakers are in their final location in your listening room. Once you have determined their final position, 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.

Section 4.6—Resistors

By removing the X-material cover on the bottom of your Sabrinas, you may gain access to the resistor strip (see Figure 4). These resistors serve several functions.

Note: Only Wilson Audio replacement resistors should be used in your Sabrinas. Changing the value or brand of resistor will have a deleterious affect on the sonic performance of your loudspeakers and will void your Wilson Audio Warranty.

Midrange and Tweeter Resistors

The Midrange Level, which consists of two 6.8 ohm resistors in parallel, and Tweeter Level, which consists of two 11.75 ohm resistors in parallel, resistors provide precise level matching for the midrange and tweeter drivers correspondingly. The resistors also act as

ultra high quality fuses which open before a driver can be damaged by excess power. See Section 6.0 for details in replacing these resistors in the event one of these resistors is damaged.

Additionally, these resistors can be used to tailor the output of the corresponding driver to overcome tonal balance issues that result from room acoustics.

Woofer Damping (Q) Resistor

The Woofer Damping (Q) resistor affects the way the Sabrina's woofers couple to the amplifier. These resistors are pre-installed and should not be changed.

Replacing an Open Resistor

The resistors are designed such that they will open before damage occurs to the corresponding driver. In the event a resistor is damaged, use the following procedure to replace it.

- Power off the amplifier.
- Disconnect the speaker cable from the Sabrina.
- Lay a terry cloth towel or soft blanket on the floor adjacent to the Sabrina to cushion the painted side of the loudspeaker.
- Make sure to apply masking tape on the floor to mark the placement of your



FIGURE 4—THE RESISTORS ARE LOCATED UNDER THE PLATE ON THE BOTTOM OF YOUR SABRINAS.

Sabrina to ensure you can return them to their proper location.

- Carefully lay the Sabrina on its side. You will now have access to the bottom access panel, under which is the crossover and resistor access.
- Remove the screws securing the crossover access panel with the provided 1/8-inch ball-end wrench.
- Identify the resistor that needs to be replaced.
- Using a flathead screwdriver, remove the screws securing the resistor to the plate. Take care to prevent the screws from dropping into the enclosure.
- Remove the heatsink from damaged resistor.
- Install the heatsink onto the replacement resistor.
- Re-install the resistor.
- Replace the access door.
- Take care to reposition the Sabrinas in their original location, using the masking tape as the guide.



FIGURE 5—MID & TWEETER RESISTOR ARE ATTACHED TO HEAT-SINKS WITH ALLEN HARDWARE.

Sabrina™

SECTION 5 — CARE OF THE SABRINA



Section 5.1—Care of the Finish

The Sabrina 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.

Dusting the Sabrinas

It is important that the delicate paint finish of the Sabrina 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. We recommend a nonabrasive carnauba-based wax and a soft cloth.

Care of the Grilles

Periodically, you will want to clean the Sabrina'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 Sabrinas.

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 approximately 12 hours. 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 5.2—Enclosure Technology

Materials

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 originally developed for the X-1

Grand SLAMM. Over the course of over three decades, Wilson has refined and modified enclosure materials and their strategic use using the state-of-the-art laser analysis.

The Sabrina is constructed using high-density, composites and other proprietary materials, which exhibit exceptional vibration control, and are then cross-braced to further reduce cabinet resonance. Each of these composites and materials meets and exceeds the highest of ANSI test standards for its use, while offering very tight tolerances, high hardness, uniform density, and dimensional stability.

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.

Section 5.3—Depth of Design

Sabrina'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 the Sabrina results in an enclosure that is inherently inert. 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 Sabrinas will have consistent, repeatable performance. Finally, like all

Wilson products, the Sabrina is hand-crafted with meticulous attention to detail, with an unwavering commitment to excellence. Thus, the Sabrina will impart to her owner beauty and pleasure for many years to come.

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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:

This could be a phase problem. When one channel is not working, or is out of phase, the Sabrina will not “image” properly. 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. You may have a driver that is not operating correctly. If you find a driver that is silent, please go to the “Driver Out” section of this troubleshooting guide.

A chronic lack of bass energy:

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

This could also be a room problem. Make sure your system is set up via the Wilson Audio Setup Procedure as described in Section 2.

Driver out or not playing after connections have been verified:

If you have found a driver with no output, turn off your amp and disconnect the speaker cable. Remove the access panel on the rear of the enclosure. **Note: The enclosures are quite heavy. Please use two strong adults and take care when moving.**

Using the appropriate Allen key, open the X-material door on the bottom.

You will find some resistor connections. Replace the resistor with the matching resistor (contact your dealer for details). Tighten the new resistor in the old one's place.

Note: Use only Wilson Audio replacement resistors in your Sabrina. These resistors were carefully chosen for the overall sonic and thermal performance.

Plug your amplifier into the wall and turn it on.

Listen to the channel at a low level. The driver should now be operating correctly.

Amplifier shuts off as soon as it is turned on:

Check to see if your speaker cables are properly connected to the binding posts. 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. 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:

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

If the problem persists:

Call the dealer where you bought your amplifier. You appear to have a problem with this component.

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SECTION 7 — SPECIFICATIONS



Enclosure Type Sabrina: Rear Ported

Woofers: 8 inches (20.32 cm) paper cone

Tweeter: 1 inch Dome (2.54 cm) Doped Silk Fabric

Midrange: 5 3/4 inches (14.61 cm) Paper Pulp

Sensitivity: 87 dB @ 1W @ 1m @ 1 kHz

Nominal Impedance: 4 ohms / 2.53 ohms minimum @ 139 Hz

Minimum Amplifier Power: 50 Watts per channel

Frequency Response: 31 Hz – 21 kHz: +/- 3 dB: Room Average Response [RAR]

Overall Dimensions: Height: 38 inches (96.48 cm)

Height with spikes: 39 5/16 inches (99.80 cm)

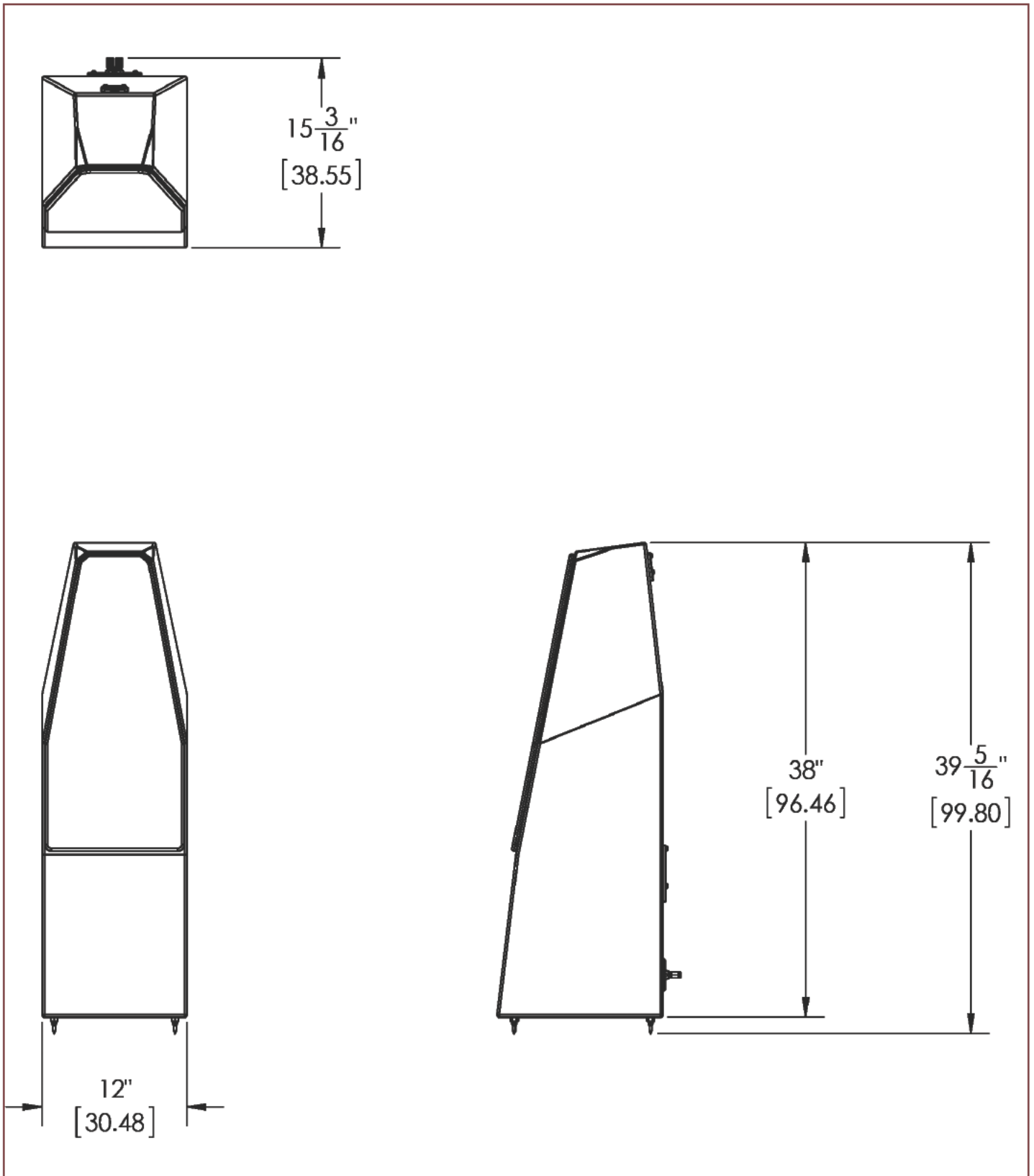
Width: 12 inches (30.48 cm)

Depth: 15 3/16 inches (38.55 cm)

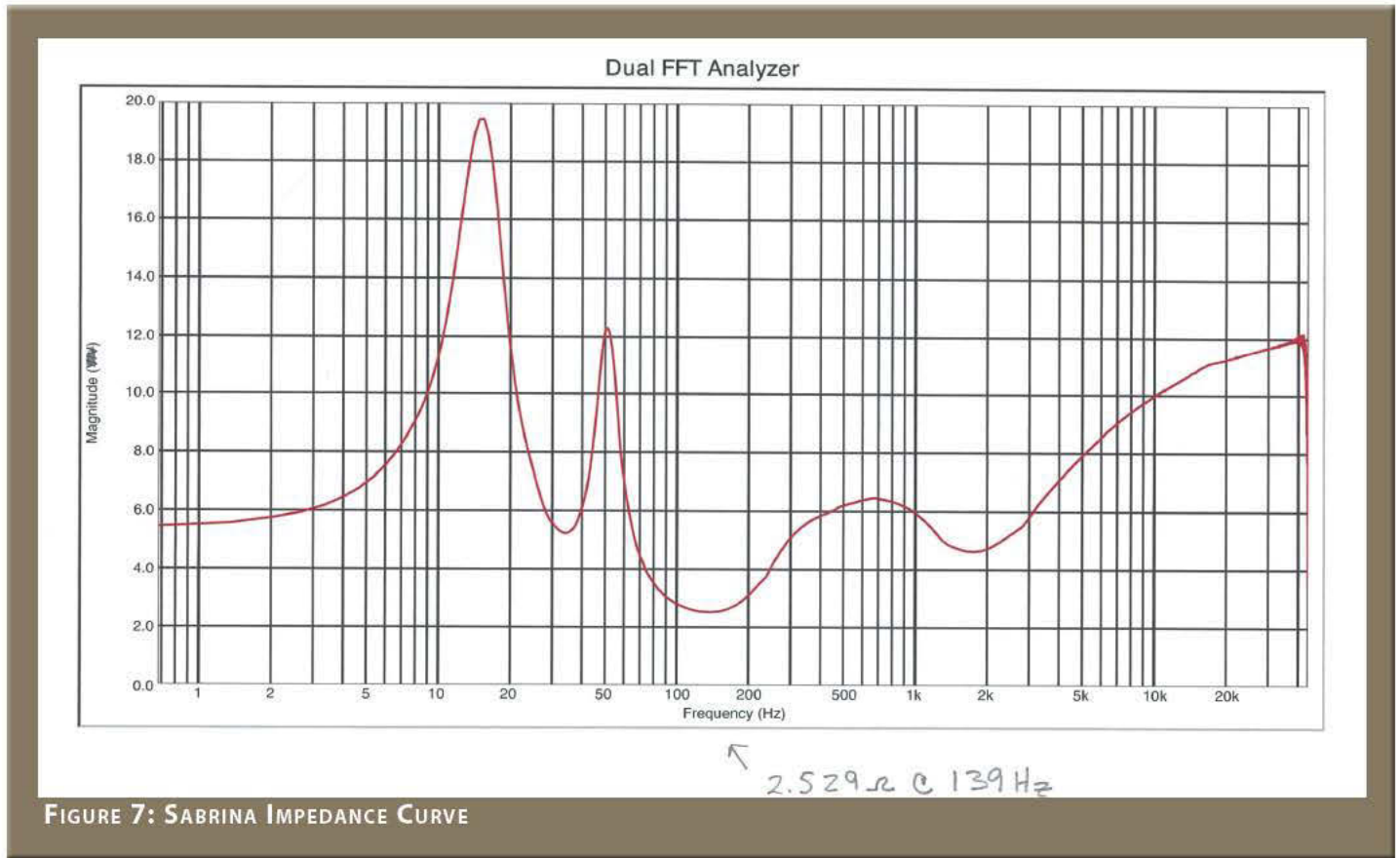
System Weight Per Channel: 94 lbs (42.64 kg)

System Shipping Weight (approx.): 222 lbs (100.70 kg)

Section 7.2—Sabrina Dimensions



Section 7.3—Impedance Curve



Sabrina™

SECTION 8 — WARRANTY INFORMATION



Section 8—Warranty Details

Limited Warranty

Subject to the conditions set forth herein, Wilson Audio warrants its electronics 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 business; 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.

Wilson Audio Specialties