Revel® Loudspeaker
Ultima Salon® 2 - Ultima Studio® 2
Owner's Manual

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DOCUMENTATION CONVENTIONS

This document contains general safety, installation and operation instructions for the REVEL Ultima Salon2/Studio2 Speakers. It is important to read this user guide before attempting to use the product. Pay particular attention to safety instructions.

The following symbols are used in the document:

Appears on the component to indicate the presence of uninsulated, dangerous voltage inside the enclosure – voltage that may be sufficient to constitute a risk of shock.

Appears on the component to indicate important operating and maintenance instructions in the accompanying literature.

WARNING Calls attention to a procedure, practice, condition or the like that, if not correctly performed or adhered to, could result in injury or death.

CAUTION! Calls attention to a procedure, practice, condition or the like that, if not correctly performed or adhered to, could result in damage or destruction to part or all of the product.

Note: Calls attention to information that is essential to highlight.

Table of Contents

Congratulations and Thank You for purchasing your new Revel Ultima Salon® 2 or Studio® 2 Loudspeakers. Please take the time to read the following installation and setup informatation in order to optimize your enjoyment of your new loudspeakers.

ABOUT REVEL

Since 1996, Revel has stood at the forefront of loudspeaker design and performance. Backed by Harman International's world leading research and design facilities, Revel loudspeakers benefit from cutting-edge resources such as:

- Multiple **large anechoic chambers** which allow for precise testing and measurements.
- A **multi-channel listening lab** for double-blind, position independent listening tests.
- A **laser interferometer** that enables detailed driver and cabinet analysis.
- **Finite element analysis**, utilized for advanced loudspeaker modeling.
- A **stereo lithography apparatus**, which rapidly "builds" tooled parts.

ABOUT REVEL ULTIMA2 LOUDSPEAKERS

The Revel Ultima2 Series Loudspeakers exemplify subtle elegance with their smooth, rounded shapes, easily blending into a wide variety of decors. Available in either a high-gloss mahogany veneer or high-gloss black finish, the Revel Ultima2 Loudspeakers will be a welcome compliment to any fine home. The elegant shape extends to their magnetically attached grilles, which eliminates the need for any unsightly attachment hardware. The acoustically optimized baffles offer eye-pleasing shapes when the loudspeakers are used without their gilles. In fact, the complex computer designed baffles drastically reduce diffraction. Such unparalleled freedom from diffraction is a major contributor to the standard-setting acoustic performance of the Ultima2 Series Loudspeakers. The attractive rounded shape of the loudspeaker cabinet design contribute to their superb off-axis response while their single-piece, nine-layer construction results in an extremely inert enclosure.

New transducers were designed from "the ground up" specifically for the Ultima2 Series. Featuring dual neodymium magnetic motor systems with sophisticated distortion reduction mechanisms, titanium diaphragms, and oversized voice coils, the Ultima2 Series woofers and mid-ranges represent the cutting edge in transducer design. The new 1-inch tweeter, common to all four Ultima2 Series loudspeakers, sets the standard for breathtaking transparency and low coloration with its pure beryllium dome and third-generation waveguide.

Using advanced CAD modeling and testing resources, Revel has achieved demonstrably superior sound quality. Our unique double-blind listening test facilities prove their superiority over all competitors and Revel's development process goes well beyond proving superior performance. An exclusive "tuning" process is used in producing each and every Ultima2 series loudspeaker, matching its performance to the original reference prototype to within a fraction of a decibel. Music and cinema sound lovers can rest assured that their Ultima2 series loudspeakers sound as great as the laboratory reference.

ABOUT THE SALON2

The Revel Ultima Salon2 is the highest expression of Revel technology and performance in loudspeaker design and achieves previously unmatched performance. Offering an elegant, designer-friendly appearance and unparalleled sound quality, the Salon2 is a floorstanding four-way system with three 8-inch woofers, a 6.5-inch mid-woofer, 4-inch midrange and 1-inch tweeter. Its sophisticated design even extends to the cast aluminum input and control panel, which is hidden from view, yet easily accessible.

ABOUT THE STUDIO2

The Revel Ultima Studio2 is a floorstanding design featuring all of Revel's latest technological innovations and enhancements which offers a designer-friendly elegant appearance and unparalleled sound quality. A three-way system utilizing two 8-inch woofers, a 5.25-inch midrange and a 1-inch tweeter, the Studio2 features the graceful look of the new Ultima2 series. Its somewhat smaller size makes it ideal where space is limited but uncompromised performance is required. Their elegant design even extends to their cast aluminum input and control panels, which are hidden from view, yet easily accessible.

PRODUCT REGISTRATION

Please register the Salon2/Studio2 within 15 days of purchase. To do so, register online at the www.revelspeakers.com website or call **Harman Specialty Group Customer Service**. Retain the original, dated sales receipt as proof of warranty coverage.

WHAT'S IN THE BOX

- **(1)** Salon2 or Studio2 Loudspeaker
- **(4)** 2.25-inch (57mm) Combination Spikes/Glides
- **(4)** Locking Rings
- **(4)** Felt Washers
- **(1)** Grille
- **(1)** Salon2/Studio2 Owner's Manual
- **(2**) Spare Rear Door Washers

UNPACKING

The Salon2/Studio2 requires special care and handling during unpacking. Pay particular attention to the precautions that appear in this section and throughout this owner's manual.

Warning

Do not attempt to lift or move the Salon2/Studio2 alone. Proper lifting requires at least two strong people. When lifting the Salon2/Studio2 keep your back as straight as possible using the leg muscles to lift. Failure to follow these procedures may result in personal injuries and/or loudspeaker damage.

To unpack the Salon2/Studio2 Loudspeaker you must have at least two people. The procedure for unpacking the Salon2 and Studio2 Loudspeakers is similar. Please use the following instrctions for both loudspeakers. To unpack the loudspeaker perform the following steps:

1. Place the loudspeaker carton in an upright position, as indicated by the "This End Up" indications on the carton.
2. Open the flaps as shown in Figure 1, Step 1, on the next page.
3. Without allowing the flaps to close invert the carton onto a carpeted area or soft cloth so that the open flaps of the box are on the bottom. Be careful to keep the loudspeaker within the box as you are tilting it onto the floor.
4. Lift the box off the loudspeaker and place it aside, Figure 1, Step2.
5. Carefully lift the loudspeaker into an upright position and then remove the foam packing strips from the top. Remove the two center sections of packing foam by carefully sliding it up, and off the loudspeaker. Use caution to avoid damaging the transducers while removing the foam packaging.

6. Tilt the cabinet forward and remove the bottom pad, using caution to avoid touching the tweeter or midrange, Figure 1, Step 3.
7. Carefully remove the tape from the red protective tweeter cover.

Caution

Use caution not to touch or allow any object or liquid to come in contact with the Beryllium tweeter dome. Variations in its finish are normal. Any attempt to clean the tweeter dome will result in damage, which is not covered under the limited warranty.

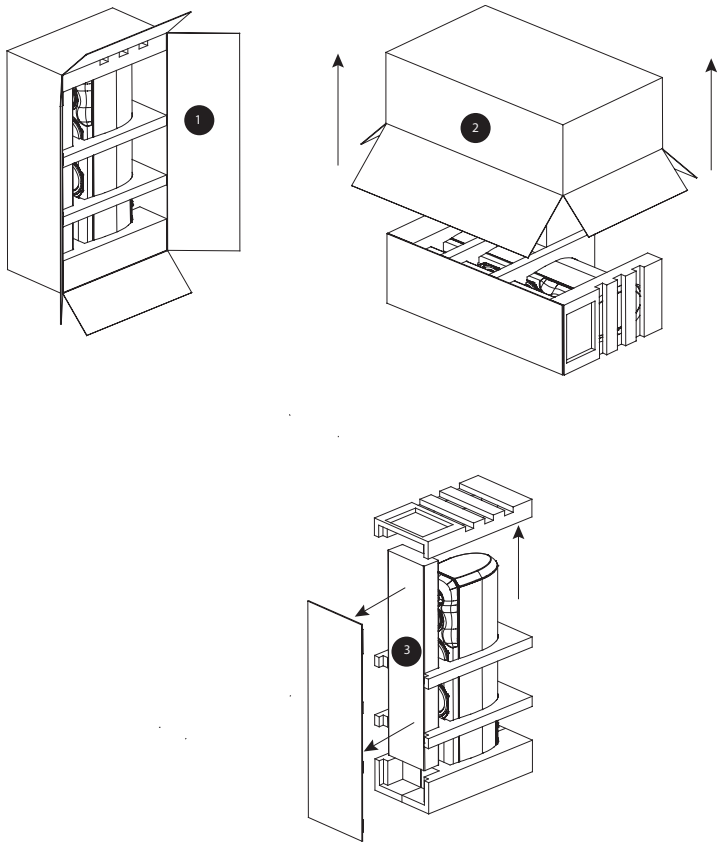
8. We recommend installing the spikes/glides after determining final speaker placement. Refer to the "Combination spikes/glides" section or more info.

After unpacking the unit, carefully inspect the contents. If you discover any damage, immediately contact your Revel dealer for further assistance. To move an unpacked loudspeaker, rock it side-to-side into place, using caution to avoid touching the tweeter and midrange.

Keep all packing materials for future shipping.

In the unlikely event a product will need repair. Revel will only accept a unit in its original shipping carton. Using any other packing materials may result in damage to the product and will void the warranty. See Service Information for additional details.

Figure 1: Unpacking Instructions



LOUDSPEAKER OVERVIEW

SALON2 DRIVER COMPLEMENT

The numbers in Figure 2 on the next page correspond with the numbered items below.

1. **(1)** 1-inch (25mm) Beryllium tweeter
2. **(1)** 4-inch (102mm) midrange
3. **(1)** 6.5-inch (165mm) mid-woofer
4. **(3)** 8-inch (203mm) woofers

STUDIO2 DRIVER COMPLEMENT

The numbers in Figure 3 on the next page correspond with the numbered items below.

1. **(1)** 1-inch (25mm) Beryllium tweeter
2. **(1)** 5.5-inch (140mm) midrange
3. **(2)** 8-inch (203mm) woofers

CABINET

The Revel Salon2/Studio2 Loudspeakers exemplify subtle elegance with their smooth, rounded shapes, which easily blend in with a wide variety of decors. Available in either a high-gloss mahogany veneer or a high-gloss black finish, the Salon2/Studio2 Series Loudspeakers will be a welcome compliment to any home. The Salon2/Studio2 reduces cabinet-induced colorations with 1-inch (25mm) thick walls and extensive internal bracing. Adjustable combination spikes/glides can be attached to the bottom of the cabinet stands for optimal stability, accommodating installations on tile, hardwood, and carpeted floors.

The cabinet's wood veneer finish does not require routine maintenance. Cabinet surfaces that have been marked with dust, fingerprints, or other dirt can be cleaned using a soft cloth and high-quality wax.

- **To clean the cabinet,** apply furniture polish to a soft cloth then use the cloth to lightly wipe the cabinet surface. Use care to avoid coming into contact with the tweeter dome or any of the other drivers.
- **To clean the grille,** gently vacuum using a soft-bristled brush vacuum attachment.

Caution

Use caution not to touch or allow any object or liquid to come in contact with the Beryllium tweeter dome. Variations in its finish are normal. Any attempt to clean the tweeter dome will result in damage which is not covered under the limited warranty. To prevent cabinet damage, do not use a cloth made with steel wool or metal polish to clean the cabinet. To prevent possible transducer damage, do not apply furniture polish directly to the cabinet or tranducers.

REAR DOOR PANEL

The Salon2/Studio2 comes with a pre-installed rear panel door. To connect a speaker cable:

- Open the door by pressing the "finger berm" on the left side of the door.
- Determine the rear panel configuration that is suitable for your installation and attach the speaker cable. (Refer to the "Making Connections" section for more information.)
- Align the cable so that it fits within the center bottom channel of the door.
- Close the door by pressing on the "finger berm" on the left side of the door. Ensure that the door closes completely, and does not crimp or jam on any of the cables.

Figure 2: Salon2 Loudspeaker

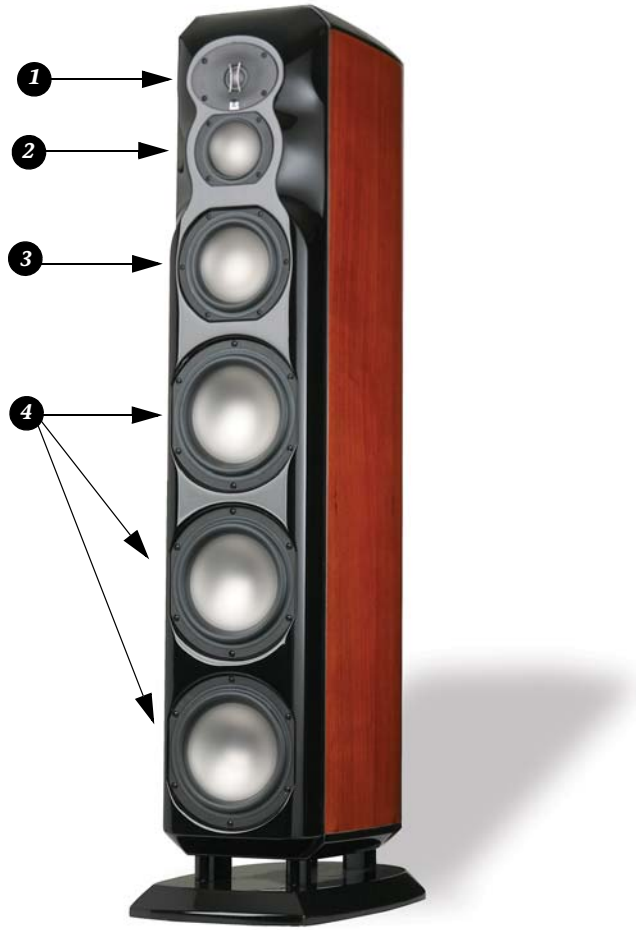


Figure 3: Studio2 Loudspeaker

FILTER NETWORK

The Salon2/Studio2 Loudspeakers utilize high-order networks which optimize both the on-axis and off-axis response. These sophisticated networks help to ensure smooth octave-to-octave balance and timbral accuracy. Separate woofer, mid-woofer (Salon2 only), midrange and tweeter filter boards prevent mutual interference between filter network components, dramatically reducing distortion over a wide dynamic range. Gold-plated binding posts and shorting straps accommodate single-wired, bi-wired, and bi-amplified connections. Low Frequency Compensation and Tweeter Level switches on the rear panel provide the ability to compensate for acoustic effects due to various applications and loudspeaker placement, as well as less-than-ideal listening room acoustics.

REAR PANEL OVERVIEW

Controls are provided on the rear panel which allow the optimization of the Salon2/Studio2 Loudspeaker response for different loudspeaker applications and placement. Refer to the "Loudspeaker Placement" section for more information. The definitions below refer to Figure 4, Rear Panel on the following page.

1. Low Frequency Compensation Switch

- Select the **Normal** setting if the loudspeaker is located at least 3 feet (.91m) from walls and other large objects.
- Select the **Contour** setting to help compensate for challenging room acoustics due to particularly severe stand waves.
- Select the **Boundary** setting if the loudspeaker is built into an entertainment center or shelving unit or if the loudspeaker is located less than 2 feet (0.61m) from walls or other large objects.

2. Tweeter Level (dB) Switch

The tweeter output level can be adjusted in calibrated steps by -1, -0.5, 0, +0.5 or +1 dB.

Note
Refer to the "Optimizing Performance" section for more information about the Low Frequency Compensation and Tweeter Level switches.

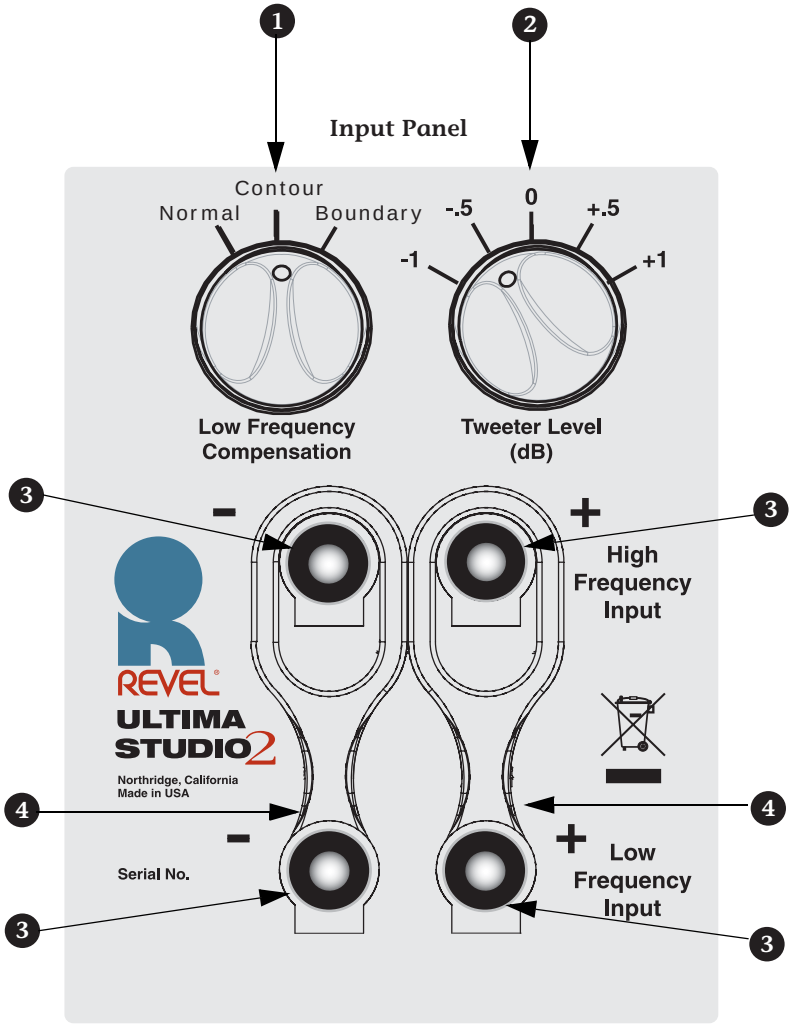
3. Input Terminals

Provides high and low-frequency connections from the associated power amplifier(s). One pair of high-frequency and one pair of low-frequency gold-plated binding posts are available. The input terminals can be configured for single-wired, bi-wired, or bi-amplified connections. Refer to the "Making Connections" section for additional information.

4. Jumper Straps

Accommodates single-wired, bi-wired, and bi-amplified connections. Two gold-plated jumper straps are installed for single-wired connections. The jumper straps must be removed when the input terminals are used for bi-wired or bi-amplified connections. Refer to the "Making Connections" section for additional information.

Figure 4: Rear Panel



1. Low Frequency Compensation Switch
2. Tweeter Level (dB) Switch
3. Input Terminals (- Negative, + Positive)
4. Jumper Straps

INSTALLATION CONSIDERATIONS

Loudspeaker fidelity depends on the following three factors:

1. Loudspeaker accuracy
2. Loudspeaker placement
3. Listening room acoustics

LOUDSPEAKER ACCURACY

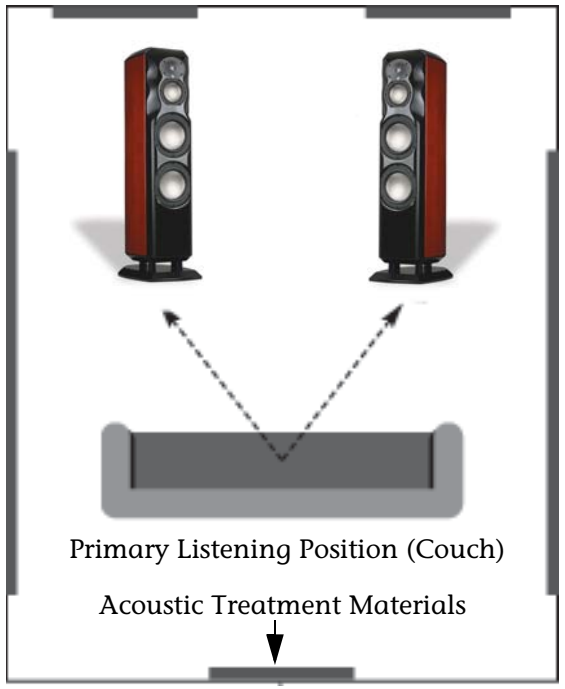
The advanced Ultima2 design features allow the Salon2/Studio2 to achieve exceptional acoustical precision. Each Salon2/Studio2 is hand-tuned during manufacturing to match the production reference standard within a fraction of a decibel, ensuring incomparable loudspeaker-to-loudspeaker consistency. As a result, experimenting with loudspeaker placement and listening room acoustics have the most significant impact on the performance of the Salon2/Studio2 loudspeaker.

LOUDSPEAKER PLACEMENT

The bulleted items below identify important loudspeaker placement considerations for the Salon2/Studio2.

- Remove all obstructions between the speakers and the primary listening position. For instance, a coffee table between the speakers and the primary listening position will degrade imaging and timbre. Placing the speakers near large objects may also cause unwanted reflections. The Low Frequency Compensation switch can be used to optimize the loudspeakers performance for the loudspeaker placement options described in this section.
- For the best stereo imaging, place the loudspeakers at equal distances from the primary listening position and the side walls as shown in Figure 5.

Figure 5: Loudspeaker Placement



- For optimal imaging and timbre, point the speaker directly toward the primary listening position as shown in Figure 5. The toe-in angle can be reduced to widen the soundstage, even to the point at which the loudspeakers are pointing straight forward. (Figure 5 is not a representation of the recommended toe-in angle.)
- Move the loudspeakers farther from the front and side listening room walls to improve stereo imaging and the sense of spaciousness in the listening space.
- Move the loudspeakers closer to the corners or walls of the listening room to increase bass response.

- The Salon2/Studio2 is magnetically shielded to minimize any effect on CRT video monitors. However, small, stray magnetic fields may affect large CRT monitors located in close proximity to the Salon2/Studio2. These magnetic fields decrease rapidly with distance, so moving the loudspeakers farther away from the monitor will reduce interference. It is important to confirm that the Salon2/Studio2 is suitable for use with the intended CRT monitor.

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Note
DLP, LCD, LCoS and Plasma display devices are not affected by magnetic fields.

Caution

Loudspeakers placed on stands or video monitors may fall if tipped or improperly positioned. To avoid this, anchor the loudspeaker and stand using the same procedures and hardware used to anchor bookcases, wall units, and other furniture. Harman Specialty Group assumes no responsibility for proper selection and installation of hardware or for any personal injuries or product damages resulting from improper installation or a fallen loudspeaker.

LISTENING ROOM ACOUSTICS

Listening rooms have a profound impact on sound, particularly at lower frequencies. In fact, listening rooms can dominate the sounds below about 400 Hz. Ideally, listening rooms would have optimized dimensions to minimize the effects of room resonances. But in reality, most listening rooms are not designed to enhance loudspeaker performance.

The interaction between loudspeakers and listening rooms is complex, depending on two important determinants that affect the loudspeaker and the listener.

1. Surfaces and other boundaries often cause large peaks and dips in low-frequency response. These peaks and dips often reach ranges of 12 dB or more.
2. Standing waves (also known as room modes or resonances) interact with both the loudspeaker and the listener locations, resulting in large frequency response errors.

Unfortunately, there is no simple solution that considers both factors. Even computer software programs that examine one or both factors may not calculate proper primary listening position or loudspeaker placement values.

In most cases, proper selection of the primary listening position combined with proper placement of the loudspeaker will result in superior performance at lower frequencies. The difference between superior and inferior results is often just a small adjustment of the primary listening position or loudspeaker placement. For more information or assistance contact an authorized Revel dealer.

ACOUSTIC TREATMENT MATERIALS

As previously mentioned, the Salon2/Studio2 Loudspeakers utilize high-order networks which optimize both the on-axis and off-axis response. Their optimized response minimizes sonic degradation that can occur in overly "live" rooms. Placing minimal acoustic treatment materials at primary reflection points will reduce these distortions even further. Ideally, acoustic absorbers should be placed at the first reflection points on the front and side walls and either acoustic absorbers or diffusers should be placed at the first reflection points on the rear wall.

Because the listener's eyes and ears are on the same plane, the "mirror method" is an accurate determinant of critical reflection points. This method can be used to determine reflection points for side walls, rear walls, front walls, and even the ceiling. Applying acoustic treatment materials to the side walls is most important, followed by the front wall, rear wall, and ceiling.

To determine reflection points using the mirror method:

1. Once the Loudspeakers has been placed, sit in the primary listening position and ask another person to slide a mirror along the listening room walls.
2. Note the locations at which the person sitting in the primary listening position can see either the left, center or right front loudspeakers. Be sure to look for all of the speakers in the reflection on each room boundaries, including the front and rear walls. These are reflection points that require acoustic treatment materials.

If acoustic treatment materials are not available, hanging a rug over the reflection points will help reduce degradation in overly "live" rooms. Carpeting the floor between the loudspeakers and the primary listening position and placing irregular surfaces such as bookcases at first reflection points will also help minimize strong reflections. Avoid placing large reflective surfaces such as coffee tables between the loudspeakers and the listeners for critical listening.

COMBINATION SPIKES/GLIDES

When shipped, combination spikes/glides, shown in the next page in Figure 6 and 7, are not attached to the bottom of the cabinet. For optimal stability and to accommodate installations on tile, hardwood, and carpeted floors, you can install the combination spikes/glides. Use the glide side to protect tile and hardwood floors.

Caution

When moving the Salon or Studio2, avoid dragging it across the floor. If the Salon2 or Studio2 are placed on a carpeted floor, the spikes/glides should be adjusted with the sharp end protruding from the cabinet.

The spikes/glides should be used so that the smooth "glide" end is exposed to protect tile, hardwood floors and furniture.

To install the combination spikes/glides:

1. Place the speaker on its side on a soft towel or carpeted floor.
2. Select the appropriate end of the spike/glide, depending on your surface. If the speaker is to be used on a hardwood floor or smooth surface, use the glide end of the spike.
3. Locate the four threaded insets on the bottom of the speaker.
4. Screw the first spike into the threaded insert, making sure to include the locking ring and felt washer in the order shown.
5. Repeat step 4 for the remaining three spikes. Make sure all spikes are evenly threaded to achieve a level balance.

Figure 6: Combination Spike/Glide Components

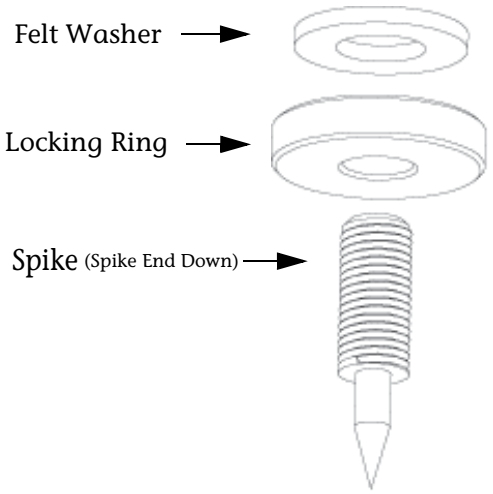
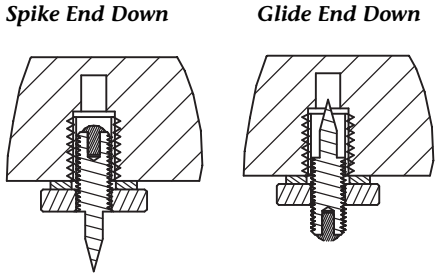


Figure 7: Combination Spike/Glide Options



MAKING CONNECTIONS

The Salon2/Studio2 features gold-plated binding posts and jumper straps that allow it to be configured for single-wired, Bi-wired, or Bi-amplified connections.

Caution

Never make or break connections unless all system components are powered off.
Remove the input panel jumper-straps identified in Figure 4, page 9, before making bi-wired or bi-amplified connections. Failure to do so may cause damage to some power amplifiers.

Before making connections, note the following:

- The standard connection method uses a single loudspeaker cable. The Salon2/Studio2 are equipped with two pairs of input terminals to allow for bi-wiring or bi-amplification. While Revel does not endorse one particular connection method over another, these additional connection options are available if desired. The design of this loudspeaker is such that optimal performance can be attained using the standard connection method.
- Make all connections observing the proper polarity, positive-to-positive (+) and negative-to-negative (-). Connections that do not observe the proper polarity will cause poor stereo imaging and diminished bass response.
- Use high-quality loudspeaker cable with a maximum total loop resistance of 0.07 Ohms or less (for **each** wire run). Refer to the following table to determine the appropriate wire gauge.

Minimum Wire Gauge

Gauge (AWG)	Length (Feet)	Length (Meters)
6	87	27
7	69	21
8	58	18
9	43	13
10	34	10
11	27	8
12	22	7
13	17	5
14	14	4
15	11	3
16	9	3
17	7	2
18	5	2

Note
High loop resistances that exceed 0.07 Ohms (for each wire run) will cause the filter network to be mis-terminated, resulting in considerable degradation of sound quality.

- Vertical bi-amplified connections must be made with identical power amplifiers. Horizontal bi-amplified connections can be made with identical or non-identical power amplifiers with identical gain factors.
- When making bi-amplified connections, both power amplifiers must receive identical input signals from the associated preamplifier. A "Y" adaptor is required if the associated preamplifier does not offer two connectors per output channel. Otherwise, each power amplifier can be connected to a separate connector for the same output channel of the preamplifier.
- If desired, contact an authorized Revel dealer for information about the suitability of power amplifier components before connecting the Salon2/Studio2 to the associated power amplifier.
- Review the owner's manuals for associated audio components to determine their connection procedures.

SINGLE WIRE CONNECTIONS

Single-wired connections are the most common. These are made between one pair of the Salon2/Studio2 input terminals and one power amplifier output channel as shown in Figure 8.

To make single-wired connections:

1. Connect one pair of loudspeaker wires to the desired Salon2/ Studio2 input terminals. Then connect the same pair of loudspeaker wires to the desired power amplifier output channel. (The high frequency input terminals are recommended).
2. Make sure that all terminals are firmly hand-tightened.

Figure 8: Single-Wired Connections

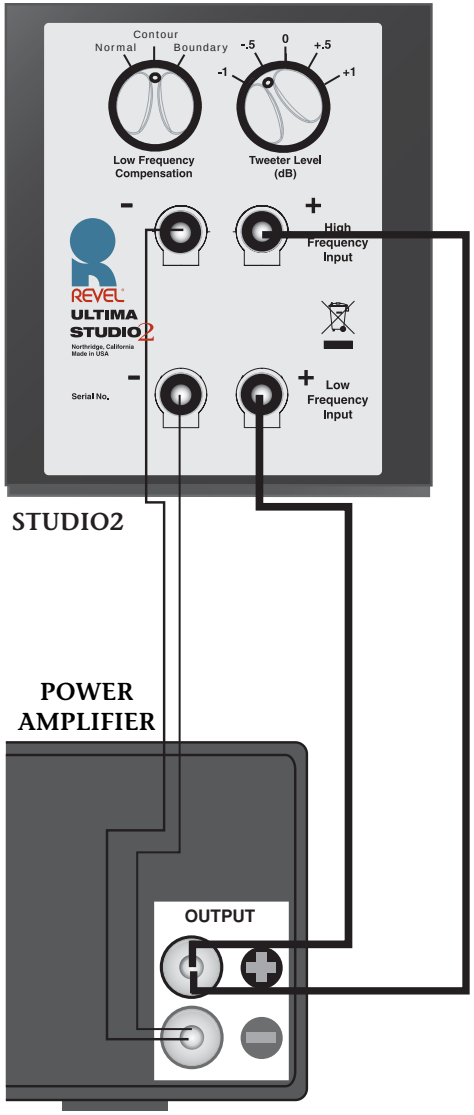
BI-WIRED CONNECTIONS

Bi-wired connections are made between both pairs of the Salon2/ Studio2 input terminals and one power amplifier output channel as shown in Figure 9.

To make bi-wired connections:

1. Remove the jumper straps identified in Figure 4, page 9.
2. Connect one pair of loudspeaker wires to the high-frequency of Salon2/Studio2 input terminals. Then connect the same pair of loudspeaker wires to the desired power amplifier output channel.
3. Connect another pair of loudspeaker wires to the low-frequency pair of Salon2/Studio2 input terminals. Then connect the loudspeakers to the same power amplifier output channel that was selected in Step 2.
4. Make sure that all terminals are firmly hand-tightened.

Figure 9: Bi-Wired Connections



VERTICAL BI-AMPLIFIED CONNECTIONS

Vertical bi-amplified connections are made between both pairs of Salon2/Studio2 input terminals and two separate power amplifier output channels. Each speaker is connected to its own power amplifier. The power amplifiers must be identical. Vertical bi-amplified connections are shown in Figure 10.

Note

When making vertical bi-amplified connections, both power amplifiers must receive identical input signals from the associated preamplifier. A "Y" adaptor is required if the associated preamplifier does not offer two connectors per output channel. Otherwise, each power amplifier can be connected to a separate connector for the same output channel of the preamplifier.

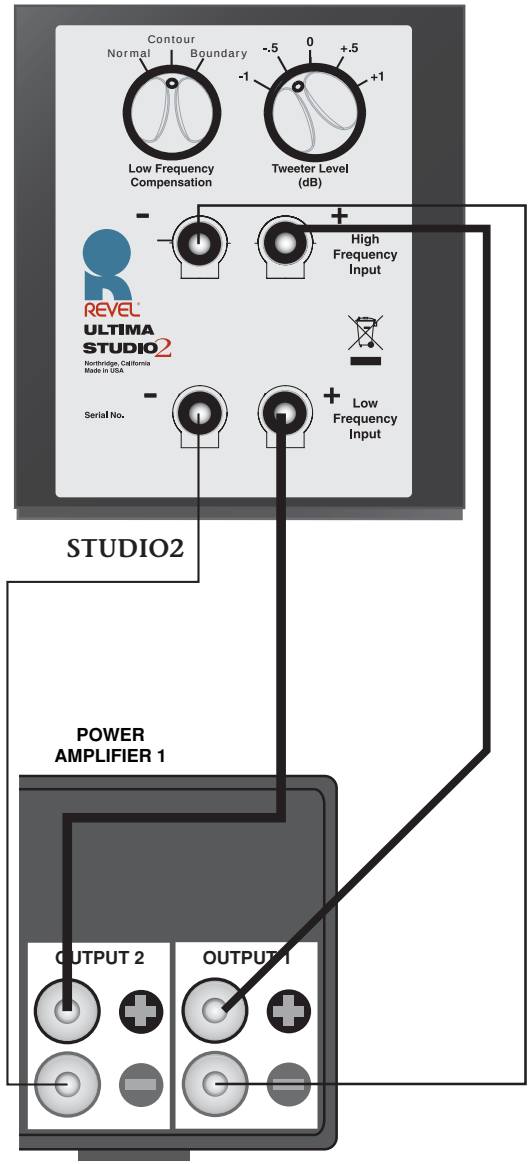
To make vertical bi-amplified connections:

1. Remove the jumper straps identified in Figure 4, page 9.
2. Connect one pair of loudspeaker wires to the high frequency pair of Salon2/Studio2 input terminals. Then connect the same pair of loudspeaker wires to the desired power amplifier output channel.
3. Connect another pair of loudspeaker wires to the low-frequency pair of Salon2/Studio2 input terminals. Then connect the same pair of loudspeaker wires to a separate output channel on the same power amplifier.
4. Make sure that all terminals are firmly hand-tightened.

Note

Vertical bi-amplified connections must be made using two identical power amplifiers.

Figure 10: Vertical Bi-Amplified Connection



HORIZONTAL BI-AMPLIFIED CONNECTIONS

Horizontal bi-amplified connections are made between both pairs of Salon2/Studio2 terminals and two separate output channels on two separate power amplifiers. The high-frequency pair of Salon2/Studio2 input terminals are connected to one power amplifier, while the low-frequency pair are connected to another power amplifier.

These power amplifiers can be identical or non-identical, but must have identical gain factors. If the gain factors are not identical, a means of adjusting the input level of at least one power amplifier is required. Horizontal bi-amplified connections are shown in Figure 11.

Note

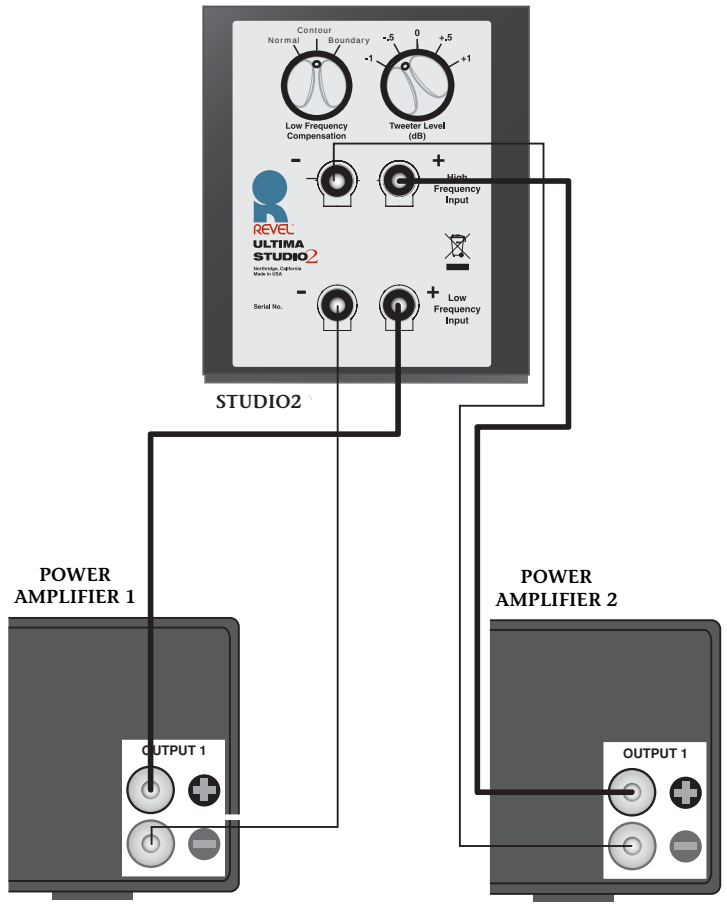
When making horizontal bi-amplified connections, both power amplifiers must receive identical input signals from the associated preamplifier. A "y" adaptor is required if the associated preamplifier does not offer two connectors per output channel. Otherwise, each power amplifier can be connected to a separate connector for the same output channel of the preamplifier.

Horizontal bi-amplified connections can be made using identical or non-identical power amplifiers. However, these power amplifiers must have identical gain factors. If the gain factors are not identical, a means of adjusting the input level of at least one power amplifier is required. Contact an authorized Revel dealer for assistance.

To make horizontal bi-amplified connections:

1. Remove the jumper straps identified in Figure 4, page 9.
2. Connect one pair of loudspeaker wires to the high-frequency pair of Salon2/Studio2 input terminals then connect the same pair of loudspeaker wires to the desired power amplifier output channel.
3. Connect another pair of loudspeaker wires to the low-frequency Salon2/Studio2 terminals. Then connect the same pair of loudspeaker wires to the desired output channel on another power amplifier.
4. Make sure that all terminals are firmly hand-tightened.

Figure 11: Horizontal Bi-Amplified Connections



OPTIMIZING PERFORMANCE

To optimize the Salon2/Studio2 for best performance:

1. When the Salon2/Studio2 is connected, begin with the Tweeter Level Switch set to 0. (Different listening rooms may require other High Frequency Level switch settings.)
2. Set the Low Frequency Compensation Switch to correspond with the Salon2/Studio2 placement. This is the best starting point, and will typically result in the most neutral sound for a given application. If the Salon2/Studio2 sounds either too "thick" or too "thin," especially when reproducing male voices, experiment with other Low Frequency Compensation Switch settings. In any case, it is worth experimenting to find the best switch setting for the particular installation. Note that the bass level will decrease as the Low Frequency Compensation switch is turned clockwise.
    - Select the **Normal** setting if the loudspeaker is located at least 3 feet (.91m) from walls and other large objects.
    - Select the **Contour** setting to help compensate for challenging room acoustics due to particularly severe stand waves. Try this setting if the bass is "boomy" or "ill-defined."
    - Select the **Boundary** setting if the loudspeaker is built into an entertainment center or shelving unit or if the loudspeaker is located less than 2 feet (0.61m) from walls or other large objects.
3. Listen to a variety of high quality material, making sure to include vocal recordings. If the Salon2/Studio2 Loudspeakers are part of a multichannel system, switch the associated controller to a "two-channel" or "stereo" mode.
4. Listen from the primary listening position, increasing volume to a comfortable level.
5. Experiment with the Salon2/Studio2 placement to achieve the best overall tonal balance and image precision. Refer to the "Loudspeaker Placement" section for additional information about loudspeaker placement.
6. If desired, experiment with the Low Frequency Compensation switch and the Tweeter Level switch to optimize the system for the room acoustics.

Note
Rotating the Low Frequency Compensation Switch clockwise decreases low-frequency output.

Note
Please be sure to mute the system volume level before adjusting any switch settings.

LOUDSPEAKER VOLUME LEVEL

High-order filters include steep cut-offs to reduce potential damage from “out-of-band” frequencies. Combined with carefully designed transducers and filter networks, this approach helps the Salon2/Studio2 to maintain its performance under extreme operating conditions.

However, all loudspeakers have limits when it comes to continuous playback. To extend these limits, avoid playback at volume levels that distort or sound “strained”.

Caution

To avoid damage, reduce volume level immediately if loudspeaker sound is not clean and clear.

SPECIFICATIONS

SALON2 SPECIFICATIONS

Specifications	Value	Definition
Sensitivity	86.4 dB SPL with 2.83 V @ 1m (2 π anechoic)	Indicates the amount of power the associated power amplifier must deliver to drive the loudspeaker at reasonable volume levels. Conservatively rated specifications indicate high sensitivity, meaning that a massive power amplifier is not required to drive Revel loudspeakers to reasonable volume levels in large listening spaces.
Impedance	6.0 Ω (nominal) 3.7 Ω (minimum)	Indicates whether the loudspeaker presents a "difficult" or "easy" load on the associated power amplifier. Combined with moderate phase angles, a minimal impedance specification of 3.7 Ω allows a reasonably designed power amplifier to drive Revel loudspeakers.
Filter Network	Four-way, high-order acoustic response @ 150 Hz, 575 Hz and 2.3 kHz	Indicates the acoustical characteristics of the filter network. Steep filters indicate an optimized filter network that produces minimal acoustical interference, low distortion, and expansive dynamic range.
Frequency Range	- 3 dB from 23 Hz to 45 kHz	Describes the low frequency and high frequency at which the loudspeaker system amplitude response is 3 dB lower than the average level, when measured in a 4 π anechoic chamber. While the -3 dB frequencies are the industry standard for specifying frequency range, Low Frequency Extension is a more useful specification for comparing the low-bass output capabilities of loudspeakers.
In-Room Response Relative to Target Response	±0.5 dB from 29 Hz to 18 kHz	Indicates sound quality in context with other specifications. A breakthrough measurement, this specification closely correlates to sound quality in a single curve—a long-standing goal of loudspeaker engineers. In-room response is measured through the use of large anechoic chambers. The loudspeaker's response is measured every 10 degrees, horizontally and vertically, for a total of 72 response measurements. The in-room response curve is a prediction of how the loudspeaker would measure in a typical room. Research and observation reveals that ubiquitous on-axis response curves cannot distinguish between two loudspeakers with radically different sound qualities.

SPECIFICATIONS

SALON2 SPECIFICATIONS

Specifications	Value	Definition
Listening Window Response	±1.0 dB from 26 Hz to 20 kHz	Indicates the on-axis response of the loudspeaker. An improved on-axis measurement, this specification reduces the visual confusion of inaudible interference. It retains full accuracy without using "spectral smoothing," which results in significant data loss.
Low-Frequency Extension	-10 dB at 17 Hz -6 dB at 20 Hz -3 dB at 23 Hz	Indicates the low-frequency response of the loudspeaker. Studies have shown that the –10 dB specification best correlates to controlled listening tests. At low frequencies, most loudspeaker and listening room combinations demonstrate significant room gain, which produces an increase in levels as frequencies decrease. Unlike the –3 dB specification, the –10 dB specification reflects the steepness of low-frequency roll-offs.

STUDIO2 SPECIFICATIONS

Specifications	Value	Definition
Sensitivity	87.7 dB SPL with 2.83 V @ 1m (2 π anechoic)	Indicates the amount of power the associated power amplifier must deliver to drive the loudspeaker at reasonable volume levels. Conservatively-rated specifications indicate high sensitivity, meaning that a massive power amplifier is not required to drive Revel loudspeakers to reasonable volume levels in large listening spaces.
Impedance	6.0 Ω (nominal), 3.7 Ω (minimum @ 90 Hz)	Indicates whether the loudspeaker presents a "difficult" or "easy" load on the associated power amplifier. Combined with moderate phase angles, a minimal impedance specification of 3.7 Ω allows a reasonably designed power amplifier to drive Revel loudspeakers.
Filter Network	Three-way, high-order acoustic response @ 230 Hz and 2 kHz	Indicates the acoustical characteristics of the filter network. Steep filters indicate an optimized filter network that produces minimal acoustical interference, low distortion, and expansive dynamic range.
Frequency Range	- 3dB from 32 Hz to 45 kHz	Describes the low frequency and high frequency at which the loudspeaker system amplitude response is 3 dB lower than the average level, when measured in a 4 π anechoic chamber. While the -3 dB frequencies are the industry standard for specifying frequency range, Low Frequency Extension is a more useful specification for comparing the low-bass output capabilities of loudspeakers
In-Room Response Relative to Target Response	±0.5 dB from 31 Hz to 18 kHz	Indicates sound quality in context with other specifications. A breakthrough measurement, this specification closely correlates to sound quality in a single curve—a long-standing goal of loudspeaker engineers. In-room response is measured through the use of large anechoic chambers. The loudspeaker's response is measured every 10 degrees, horizontally and vertically, for a total of 72 response measurements. The in-room response curve is a prediction of how the loudspeaker would measure in a typical room. Research and observation reveals that ubiquitous on-axis response curves cannot distinguish between two loudspeakers with radically different sound qualities.
Listening Window Response	±1.0 dB from 33 Hz to 20 kHz	Indicates the on-axis response of the loudspeaker. An improved on-axis measurement, this specification reduces the visual confusion of inaudible interference. It retains full accuracy without using "spectral smoothing," which results in significant data loss.

Specifications	Value	Definition
Low-Frequency Extension	-10 dB at 21 Hz -6 dB at 25 Hz -3 dB at 32 Hz	Indicates the low-frequency response of the loudspeaker. Studies have shown that the –10dB specification best correlates to controlled listening tests. At low frequencies, most loudspeaker and listening room combinations demonstrate significant room gain, which produces an increase in levels as frequencies decrease. Unlike the –3 dB specification, the –10dB specification reflects the steepness of low-frequency roll-offs.

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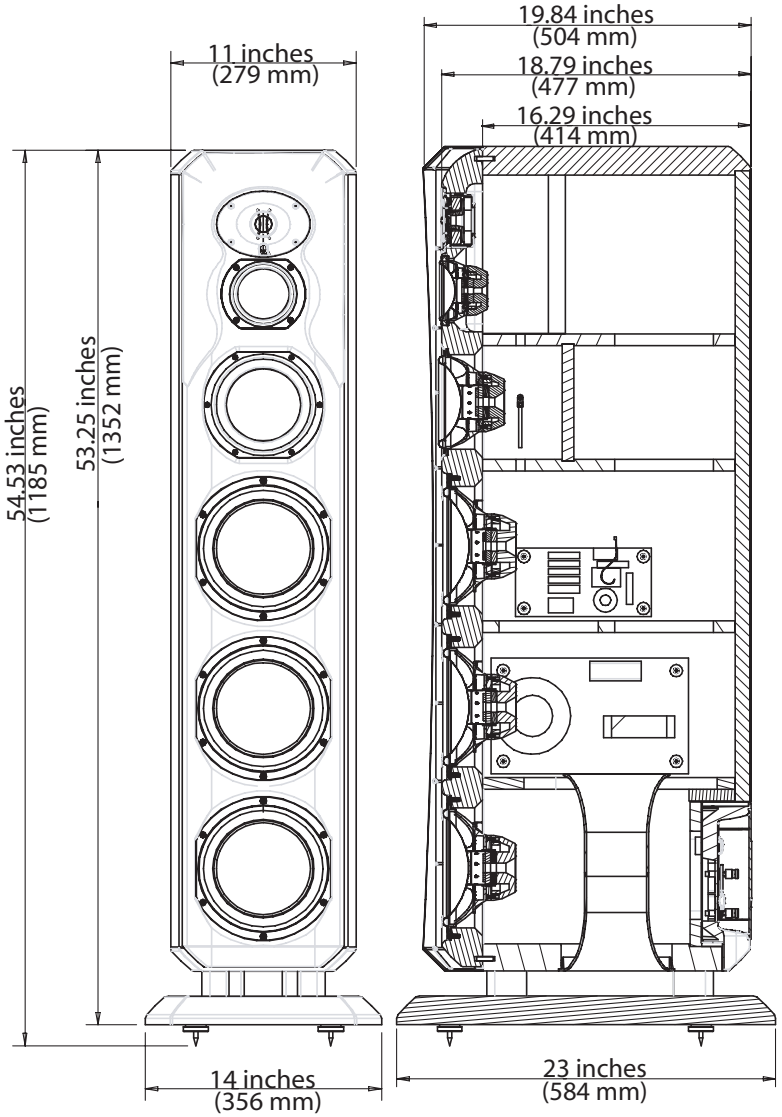
Note
Specifications are subject to change without notice.

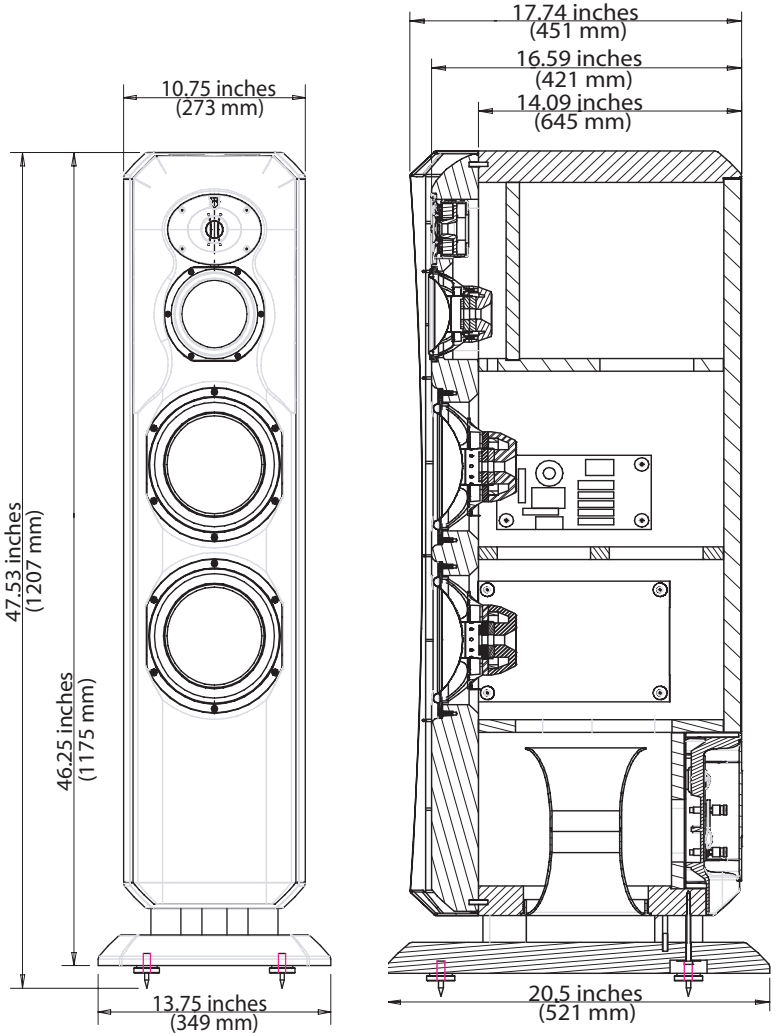
Salon2 Dimensions

Shipping Weight: 178 Pounds (80.7 kg)



Studio2 Dimensions

Shipping Weight: 140 Pounds (63.5 kg)



OBTAINING SERVICE

To obtain warranty or non-warranty service, contact an authorized Revel dealer.

Before returning a loudspeaker for warranty or non-warranty service, contact Harman Specialty Group Customer Service to determine the extent of the problem and to obtain a Return Material Authorization (RMA) number. No loudspeakers will be accepted without an RMA number issued from Harman Specialty Group.

If a Revel loudspeaker must be returned for repair, Harman Specialty Group will assume no responsibility for the loudspeaker during shipment from the customer to Harman Specialty Group, whether the loudspeaker is or is not covered under warranty.

To contact Harman Specialty Group Customer Service:

Telephone: 781-280-0300

Service Fax: 781-280-0499

Sales Fax: 781-280-0495

www.revelspeakers.com

All Returns must be:

- Well-packaged using the original packing materials
- Properly insured and consigned
- Pre-paid to a reliable shipping agent

Product Shipment Directions:

The following information must be included when a loudspeaker is returned for service:

- Name
- Company name
- Street address, city, state and, zip code
- Telephone number including area code and country code (if applicable)
- Loudspeaker serial number
- A detailed description of the problem
- The preferred method of return shipment
- RMA number clearly marked on both the inside and outside of the package

Do not return accessories such as owner's manuals unless instructed to do so.

Product Shipments:

HSG/Revel Returns Dept.
RMA #
801 S. 75th Avenue
Phoenix, AZ 85043

LIMITED WARRANTY

A valid serial number is required for warranty coverage. This Revel warranty protects the original retail purchaser for a period of five (5) years (parts and labor) from any failure as a result of original manufacturing defects so long as:

1. The Revel products were purchased within the 50 United States, its territories, or Canada
2. The dealer from whom the Revel products were purchased was authorized to sell such products at the time of the original purchase.
3. The original, dated Bill of Sale is presented whenever service is required during the warranty period.

The balance of this warranty is transferable only if the used product is purchased from an authorized Revel dealer. This warranty is only valid for service within the United States, its territories, and Canada, please contact an authorized Revel dealer for warranty and service information.

Any Revel product not performing satisfactorily may be returned to the factory for evaluation. Return authorization must first be obtained by either calling or writing Customer Service prior to shipping the product. The customer is responsible for shipping charges to the factory. Customer Service will pay return shipping charges within the United States only in the event that the product is found to be defective as mentioned above. There are other stipulations that may apply to shipping charges.

There is no other express warranty on this product. Neither this warranty nor any other warranty, express or implied, including implied warranties of merchantability and fitness, shall extend beyond the warranty period. No responsibility is assumed for any incidental or consequential damages, so that the above exclusion or limitation may not apply.

This warranty provides specific legal rights. Other states may provide additional rights. This warranty is applicable in the United States, its territories, and Canada. Outside of the United States, its territories, and Canada, please contact an authorized Revel dealer for warranty and service information.
The information this document contains is subject to change without notice. In the event that there are differences between this warranty and the provisions of any advertisements, documentation, product brochures, or packaging cartons, the terms of this warranty will prevail.

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