Revel® Ultima
Voice™2 Loudspeaker
Owner's Manual

Harman Specialty Group
3 Oak Park Drive
Bedford, MA 01730-1413 USA
Tel 781-280-0300
Fax 781-280-0490
www.revelspeakers.com

Customer Service
Telephone: 781-280-0300
Sales Fax: 781-280-0495
Service Fax: 781-280-0499
Product Shipments:
HSG/Revel
Returns Dept.
RMA #
801 S. 75th Avenue
Phoenix, AZ 85043

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DOCUMENTATION CONVENTIONS

This document contains general safety, installation and operation instructions for the REVEL Ultima Voice™ 2 loudspeaker. 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 Voice™ 2 Loudspeaker. Please take the time to read the following installation and setup information 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 grilles. 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 Ultima2 Series cabinet contributes 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 REVEL ULTIMA VOICE2 LOUDSPEAKERS

Incorporating all the latest advancements of the new Ultima2 series, the Voice2 is more than simply the finest center channel available. While an ideal match for other Ultima2 series loudspeakers as a center channel, the Voice2 is also well suited as the Left, Center, and Right front loudspeakers in applications where its orientation and dimensions are more suitable (such as above or below a screen). The Voice2 accurately matches the timbre of the Salon2, Studio2 and Gem2, even when used in a variety of applications. Rear panel controls are provided to compensate for variable acoustic conditions. Whether placed on the matching pedestal, or built into cabinetry,the Voice2 can be fine-tuned to ensure optimal performance.

The Voice2 utilizes two 8-inch woofers together with a 5 1/4-inch mid-range - all with huge 2-inch flat-wire voice coils - to reproduce an extraordinarily wide dynamic range with freedom from compression. The result is consistent sound quality, regardless of output level. Together with the new 1-inch Ultima2 series tweeter and computer-optimized high-order filter networks, the Revel Ultima Voice2 truly provides a new reference for center channel sound quality.

PRODUCT REGISTRATION

Please register the Voice2 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)** Voice2 Loudspeaker with Adjustable Tilt Cradle
- **(4)** 2.25-inch (57mm) Combination Spikes with Glides
- **(4)** Locking Rings
- **(4)** Felt Washers
- **(1)** Voice2 Owners Manual

UNPACKING

The Voice2 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

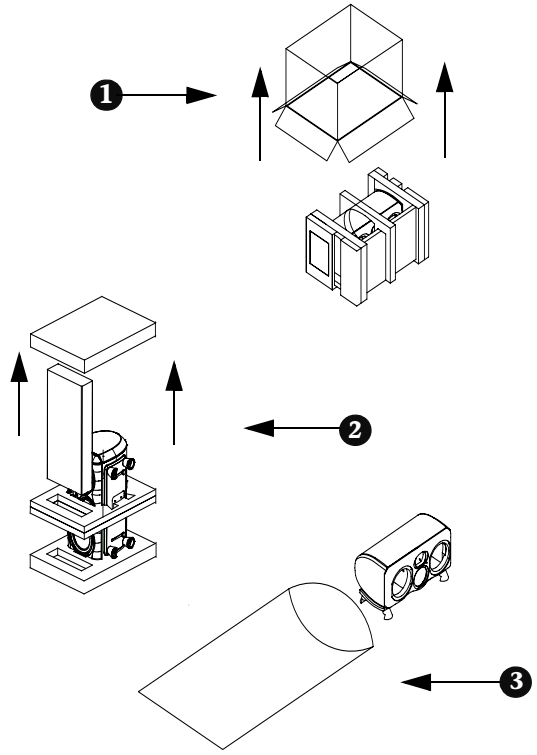
Do not attempt to lift or move the Voice2 alone. Proper lifting requires at least two strong people. When lifting the Voice2 keep your back as straight as possible using the leg muscles to lift. Failure to follow these procedures may result in personal injuries and/or loudspeaker damage.

To unpack the Voice2:

1. Place the packing carton upside down to expose the side indicating "open this side," and fully open the top flaps.
2. Without allowing the top flaps to close, place the packing carton into an inverted position onto a soft towel or carpeted floor. Lift the packing carton off of the loudspeaker, leaving the packing material in place as shown in Step 1,Figure 1. Use caution to avoid damaging the loudspeaker cabinet and objects located within the packing carton.
3. Leaving the protective end pads on, lift one end of the speaker so that it is standing on end. Carefully remove the end pad that is at the top and the center pad as shown in Step 2, Figure 1.
4. Invert the speaker by carefully placing it with the other end up, using a soft towel to protect the finish. Remove the end packing material, exercising caution not to damage the transducers.
5. Remove the protective cloth cover and carefully place the speaker in its normal upright position, Step 3, in Figure 1.
6. Remove the plastic tweeter protector by gently pulling it away from the tweeter faceplate.
7. Save all packing materials for possible future shipping needs.

(**Optional)** If you plan to install the combination spikes/glides, lay the speaker down so the bottom is facing upward (the feet which have holes for the spikes will be exposed). Remove the spikes from the end pad and attach them to the bottom of the loudspeaker. Refer to the combination spikes/glides" section for detailed installation instructions.

Figure 1: Unpacking Instructions



LOUDSPEAKER OVERVIEW

Figure 2: VOICE2 Front (Pedestal Optional)

Figure 3: VOICE2 Cradle

DRIVER COMPLEMENT

The numbers in Figure 2 above correspond with the numbered items below.

1. 1-inch (25mm) Beryllium dome tweeter
2. 5 1/4-inch (133mm) midrange
3. (2) 8-inch (203mm) woofers

CABINET

The Voice2 features a complex computer-designed baffle that drastically reduces diffraction. The rounded shape of the Voice2 cabinet contributes to their superior off-axis response while their single-piece, nine-layer construction results in an extraordinarily inert enclosure. A unique “cradle” assembly allows the Voice2 Loudspeaker to be placed on a shelf or large rear projection video monitor and tilted to optimize its performance.

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 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 to the speakers.

FILTER NETWORK

The Voice2 networks (crossovers) optimize both the on and off-axis response, utilizing high-order filters at 235 Hz and 2 kHz. These sophisticated networks help to ensure smooth octave-to-octave balance and timbral accuracy. Separate woofer, 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 Voice2 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 **Flush** setting (as a starting point) if the Voice2 is placed in a bookcase or wall unit.
- Select the **Stand -** setting (as a starting point) if the Voice2 is placed on top of a video monitor or placed on a shelf.
- Select the **Stand +** setting (as a starting point) if the Voice2 is placed on a stand such as the optional pedestal stand

2. Tweeter Level (dB) Switch

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

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 Voice2 to achieve exceptional acoustical precision. Each Voice2 is individually 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 Voice2 loudspeaker.

LOUDSPEAKER PLACEMENT

The bulleted items that begin below identify important loudspeaker placement considerations for the Voice2.

- 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 Voice2's performance for the loudspeaker placement options described in this section.
- For optimal imaging and timbre, point the speaker directly toward the primary listening position.
- The Voice2 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 Voice2. These magnetic fields decrease rapidly with distance, so moving the Voice 2 farther away from the monitor will reduce interference. It is important to confirm that the Voice2 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.

SETTING THE LOW FREQUENCY COMPENSATION SWITCH

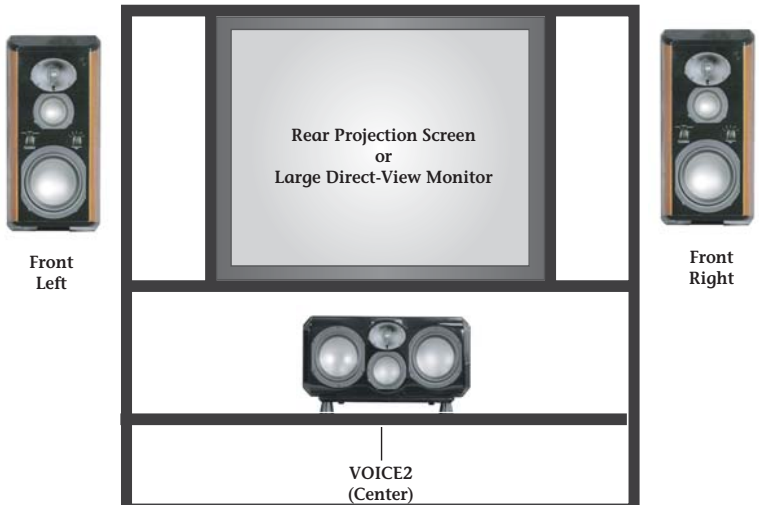
The Low Frequency Compensation switch provides compensation for less-than-ideal room acoustics. It also adjusts for stray acoustical effects. The following sections identify the suitable conditions for each switch setting.

The Low Frequency Compensation Switch positions noted for each type of installation should be used as a starting point. Experimentation with varying the setting, either via measurements or listening test will result in optimum performance.

FLUSH MOUNTED

Set the Low Frequency Compensation switch to **Flush** if the Voice2 loudspeaker is placed in a bookcase or wall unit as shown in Figure 5 (below).

Figure 5: Speaker Placement - Flush Mounted



ON TOP OF MONITOR

Set the Low Frequency Compensation switch to **Stand** - if the Voice2 Loudspeaker is placed on top of a video monitor as shown in Figure 6 (below).

Note:
Reversible spikes/glides can be added to the bottom of the loudspeaker, if desired. Refer to the "Combination Spike/Glides" for additional information.

Figure 6: Speaker Placement - On Top

STAND MOUNTED

Set the Low Frequency Compensation switch to **Stand +** if the Voice2 loudspeaker is placed on a pedestal as shown in Figure 7 (below). An optional pedestal stand is available from your local authorized Revel dealer.

Figure 7: Speaker Placement - Stand Mounted

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 400Hz. 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

The Voice2 features high-order filters at 235 Hz and 2 kHz that optimize the loudspeaker on-axis and off-axis response, minimizing degradations that 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 point 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 have 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 boundary, including the front and rear walls. These are reflection points that require acoustic treatment materials.

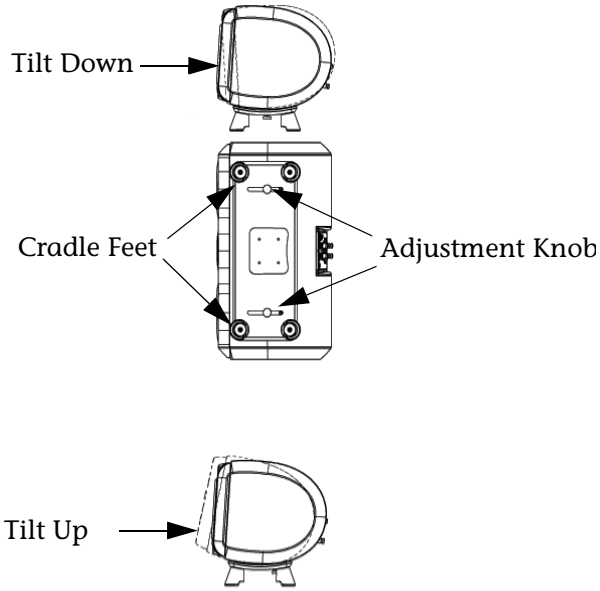
If acoustic treatment materials are not available, hanging a rug over the reflection points will help reduce degradation in overly "live" rooms. Carpeting the floor between the loudspeakers and the primary listening position and placing irregular surfaces such as bookcases at first reflection points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

VOICE2 CRADLE

The Voice2 Loudspeaker includes a "cradle" assembly that provides solid footing, while providing adjustable tilt to optimize the speaker position whether it is placed above or below a video image. The included cradle assembly is suitable for use when the speaker is to be placed on a shelf, on top of a large rear projection video display, or in appropriate custom installations. To adjust the Voice2 , loosen the adjustment knobs located underneath the cradle. When the loudspeaker has been appropriately positioned, firmly tighten the tilt adjustment knobs to lock the Voice2 in place. Do **NOT** over-tighten

An optional pedestal is available for placement on the floor, such as in front of projection applications. See Appendix A for pedestal unpacking installation instructions.

Figure 8: Cradle



Voice2 Combination Spikes/Glides

When the Voice2 is shipped, reversible spikes/glides are located in the left end pad. For optimal sound quality, they can be positioned in the cast feet on the bottom of the cradle assembly.

The combination spike/glides allow for the achievement of a proper tilt angle when the Voice2 is placed on top of a video monitor, or on top of a shelf. For best results, the Voice 2 should be tilted so that the front of the speaker is facing directly towards the listener's ears. **The spikes/glides should be positioned so that the smooth "glide" end is exposed to protect tile, hardwood floors and furniture**.

Caution

When moving the Voice2, avoid dragging it across the floor or cabinet. If the Voice2 is placed on a carpeted floor, the spikes should be adjusted as shown on the left side of Figure 10 with the sharp end protruding from the cabinet. If needed, follow the instructions that begin below to adjust the spikes

To install and position 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 spikes/glides 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 feet and threaded inserts on the bottom of the cradle feet.
4. Rotate the first spike counterclockwise, spike end first, to attach it to the threaded insert.
5. Repeat step 4 with each of the other crade feet spikes and threaded inserts. Make sure the spikes are evenly threaded to achieve a level balance.
6. When all four spikes have been installed, stand the speaker in the upright position. If needed, adjust the spikes to achieve a level balance.

Figure 9: Combination Spike/Glide Components

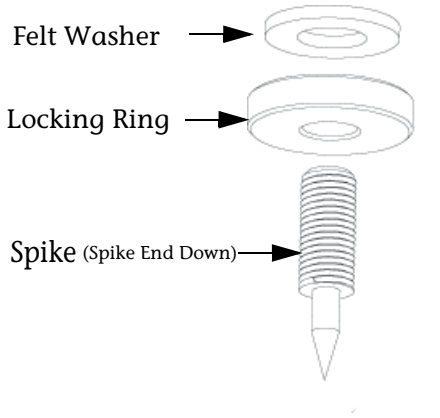
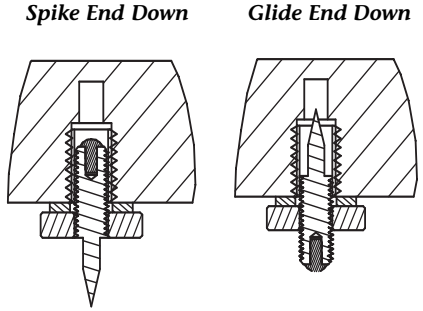


Figure 10: Combination Spike/Glide Detail



MAKING CONNECTIONS

The Voice2 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 3 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 connections method uses a single loudspeaker cable. The Voice2 is 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 Voice2 to the associated power amplifier.
- Review the owner’s manuals for associated audio components to determine their connection procedures.

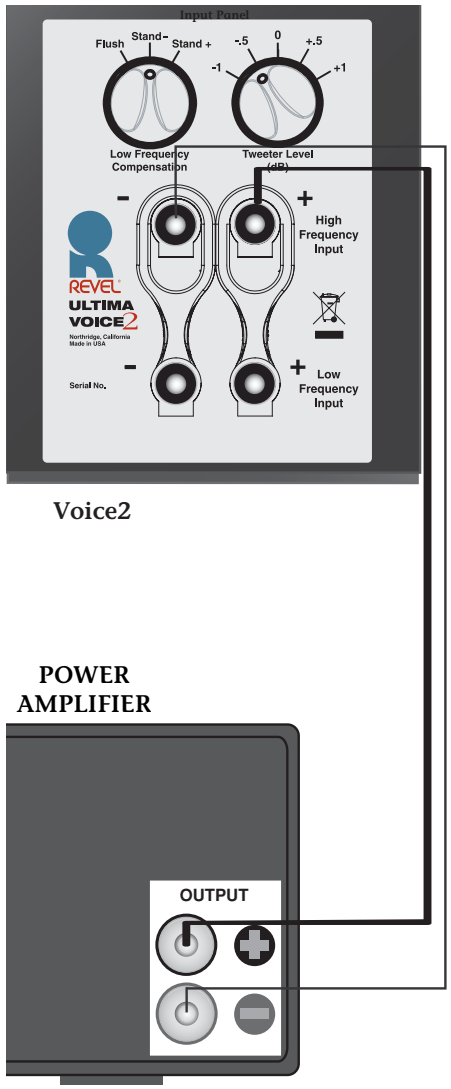
SINGLE WIRED CONNECTIONS

Single-wired connections are the most common. These are made between one pair of the Voice2 input terminals and one power amplifier output channel as shown in Figure 11.

To make single-wired connections:

1. Connect one pair of loudspeaker wires to the desired Voice2 input terminals. Then connect the same pair of loudspeaker wires to the desired power amplifier output channel. Use the high frequency input terminals..
2. Make sure that all terminals are firmly hand-tightened.

Figure 11: Single-Wired Connections



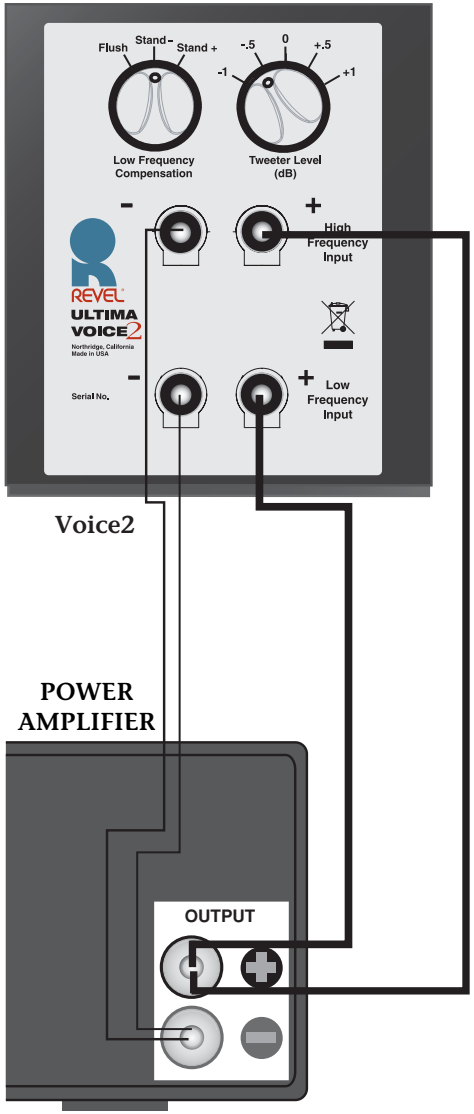
BI-WIRED CONNECTIONS

Bi-wired connections are made between both pairs of the Voice2 input terminals and one power amplifier output channel as shown in Figure 12.

To make bi-wired connections:

1. Remove the jumper straps identified in Figure 3.
2. Connect one pair of loudspeaker wires to the high-frequency pair of Voice2 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 Voice2 input terminals. Then connect the pair of 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 12: Bi-Wired Connections



VERTICAL BI-AMPLIFIED

Vertical bi-amplified connections are made between both pairs of Voice2 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 13.

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.

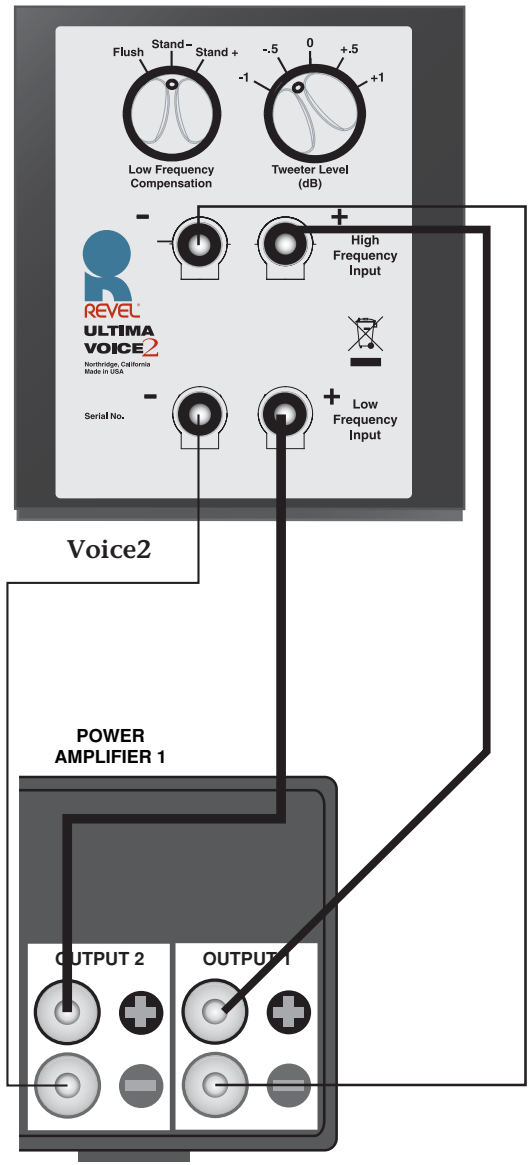
To make vertical bi-amplified connections:

1. Remove the jumper straps identified in Figure 3.
2. Connect one pair of loudspeaker wires to the high frequency pair of Voice2 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 Voice2 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 13: Vertical Bi-Amplified Connections



HORIZONTAL BI-AMPLIFIED CONNECTIONS

Horizontal bi-amplified connections are made between both pairs of Voice2 terminals and two separate output channels on two separate power amplifiers. The high-frequency pair of Voice2 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 14.

Note

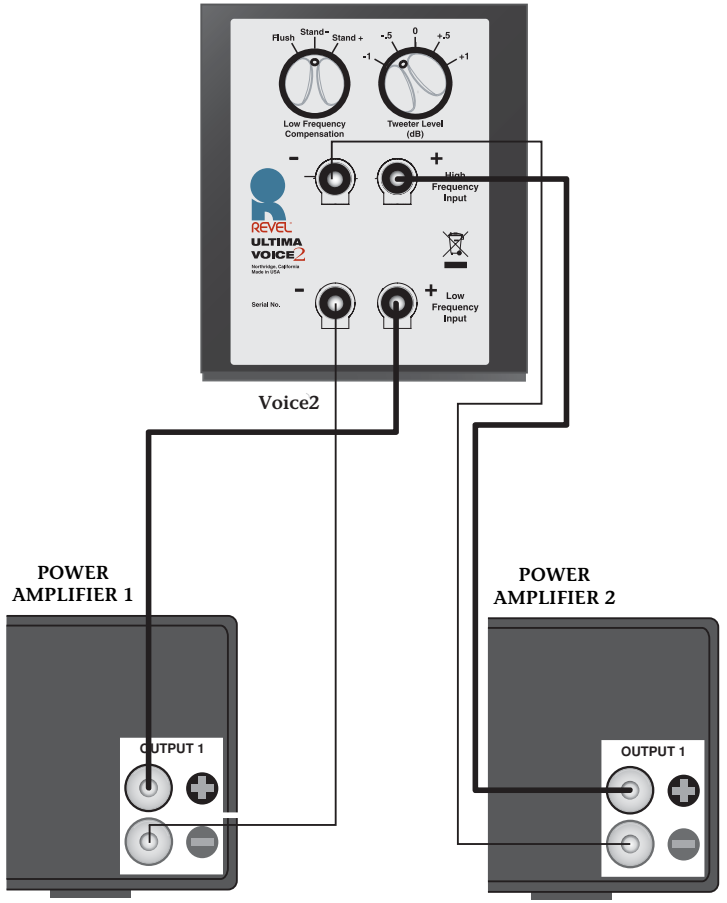
When making horizontal bi-amplified connections, both power amplifiers must receive identical input signals from the associated preamplifier. A "y" adaptor is required if the associated preamplifier does not offer two connectors per output channel. Otherwise, each power amplifier can be connected to 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 3.
2. Connect one pair of loudspeaker wires to the high-frequency pair of Voice2 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 Voice 2 input 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 14: Horizontal Bi-Amplified Connections



OPTIMIZING PERFORMANCE

To optimize the Voice2 for best performance:

1. When the Voice2 is connected, begin with the Tweeter Level Switch set to 0. (Different listening rooms may require other tweeter Level switch settings.)
2. Set the associated multi-channel controller or receiver for an 80 Hz crossover (or higher), even if the loudspeaker setup does not include a subwoofer. In its absence, the associated mult-channel controller or receiver will use bass management to route frequencies below the crossover frequency to the front left and right channels, without losing center-channel low-frequency information.
   - The Voice2 must be used with an electronic crossover set to 80 Hz or higher.
   - Selecting the appropriate crossover based on accurate in-room response measurements will result in decreased distortion, accurate timbre, and increased dynamic capabilities.
   - Contact an authorized Revel dealer for assistance in setting the associated multi-channel controller or receiver for the appropriate crossover.
3. Set the Low Frequency Compensation Switch to correspond with the Voice2 placement. This is the best starting point, and will typically result in the most neutral sound for a given application. If the Voice2 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 increase as the Low Frequency Compensation switch is turned clockwise.
   - Select the **Flush** setting, if the Voice2 is placed in a bookcase or wall unit (as a starting point).
   - Select the **Stand -** setting, if the Voice 2 is placed on top of a video monitor or mounted on a shelf (as a starting point).
   - Select the **Stand +** setting, if the Voice2 is placed on a stand, (such as the optional pedestal stand) (as a starting point.)
4. Begin playback of a familiar multi-channel music or film source. Make sure to set the associated multi-channel controller or receiver to a mode that uses the center channel.
   - Listen to well-recorded dialogue from more than one film source, as sound quality varies from different sources.
5. Listen from the primary listening position, increasing volume to a comfortable level.
6. Experiment with the Voice2 placement to achieve the best overall tonal balance and image precision. Refer to the "Loudspeaker Placement" section for additional information about loudspeaker placement.
7. 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 increases low-frequency output.

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 network, this approach helps the Voice2 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

Specifications	Value	Definition
Sensitivity	89.0 dB SPL with 2.83 V @ 1m (4 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) 3.6 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 3.6 Ω allows a reasonably designed power amplifier to drive Revel loudspeakers.
Filter Network	Three-way, high-order acoustic response @ 235Hz 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	- 3 dB from 60 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 4π 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 65 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 65 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

Specifications	Value	Definition
Low-Frequency Extension	-10 dB at 36 Hz -6 dB at 49 Hz -3 dB at 60 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.

VOICE2 DIMENSIONS & WEIGHT

On-Cradle Height: 14.7 inches (373 mm)

On-Cradle Width: 25.5 inches (648 mm)

On-Stand Depth: 14.0 inches (356 mm)

Shipping Weight: 74.5 Pounds. (33.8 kg)

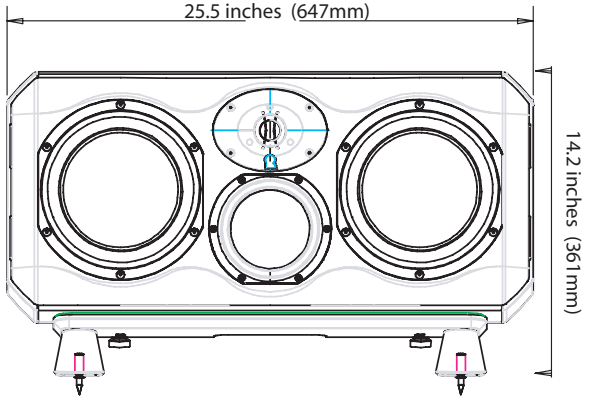
Note
Specifications are subject to change without notice.

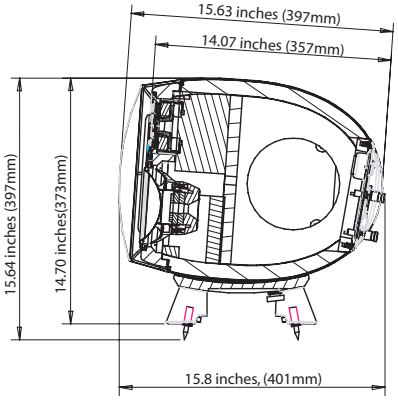
Using optional pedestal:

On-Pedestal Height: 24.2 inches (614 mm)

On-Pedestal Width: 28.0 inches (711 mm)

On-Pedestal Depth: 16.8 inches (427 mm)





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 or spikes/ glides unless instructed to do so.

Product Shipments:

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

Appendix

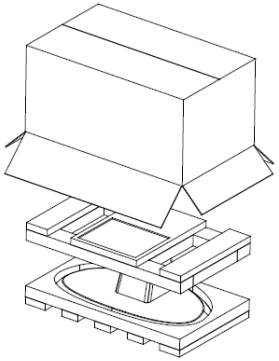
PEDESTAL UNPACKING AND INSTALLATION INSTRUCTIONS

The Voice2 Pedestal is an optional accessory that provides optimum performance in stand-mounted applications. The following instructions provide detailed information regarding how to unpack the Pedestal from its shipping container and how to install the Voice2 loudspeaker onto the pedestal.

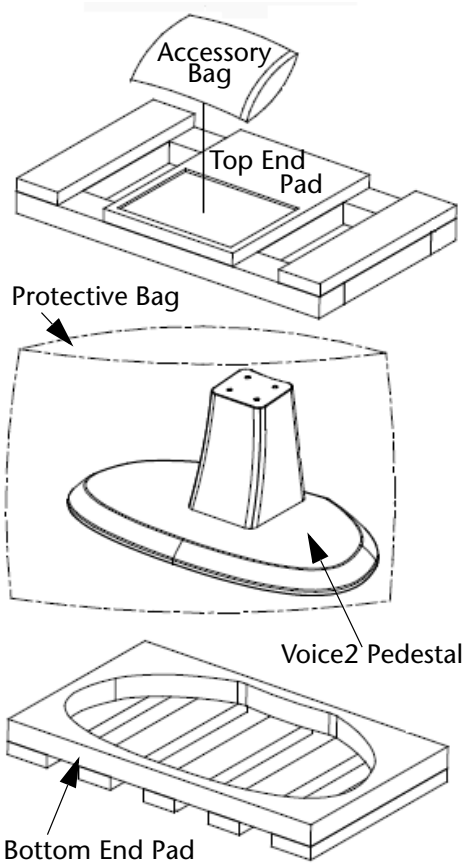
UNPACKING THE PEDESTAL

Step 1: Place the packing carton upside-down and fully open the bottom flaps.

Step 2: Without allowing the flaps to close, invert the packing carton. Lift the packing carton off of the pedestal, leaving the packing material in place.



Step 3: To complete unpacking the pedestal, remove the Unpacking & Installation Instructions sheet from the end pad and refer to the "Unpacking" instructions.



Step 4: Remove the Top End Pad from the top of the Voice2 pedestal.

Step 5: Lift the pedestal from the Bottom End Pad. Put both end pads aside.

Step 6: Remove the cloth bag. Handle carefully to ensure that the pedestal isn't scuffed or bumped.

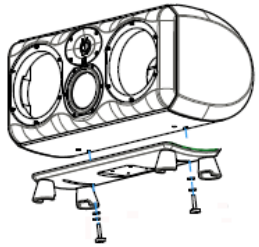
You are now ready to begin the Voice2 Pedestal installation procedure. The Installation procedure begins on the following page.

NOTE: Save all original packaging materials.

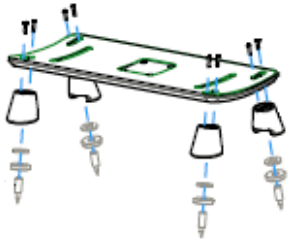
INSTALLING THE PEDESTAL

Step 1: Set the Voice2 Loudspeaker upside down on a soft non-scratch surface.

Step 2: Remove the speaker from its cradle by carefully removing the tilt adjustment knobs and washers.

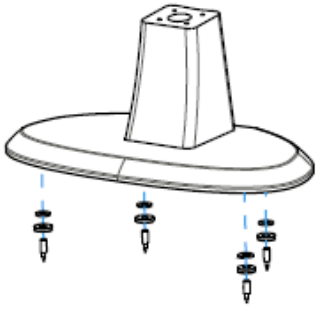


Note: Keep the knobs and washers together as they'll be re-used in Step 6.



Step 3: If the combination spikes/glides were installed on the cradle, remove the spikes, felt washers, and knurled locking rings. If the combination spikes/glides were not installed, continue to Step 4.

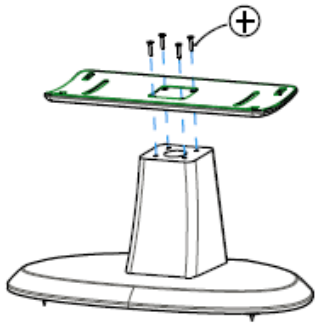
Step 4: Remove the feet and screws from the cradle. Put them aside.



Step 5: Install the combination spikes/glides with the felt washers and knurled locking rings to the bottom of the Voice2 pedestal. Hand-tighten the spikes firmly, but do NOT over-tighten.

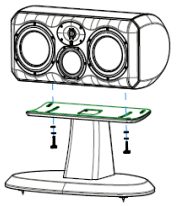
Note: If the combination spikes/glides were not previously installed on the cradle, the hardware will be with the Voice2 loudspeaker hardware accessories.

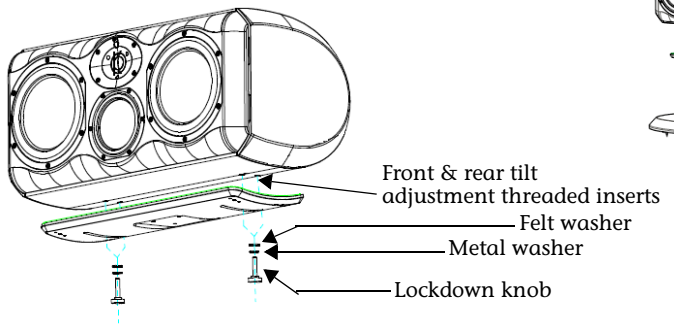
Note: Refer to page 16 for further instructions on how to install the combination spikes/glides to the bottom of the pedestal.



Step 6: Use the four Phillips head screws located in the Pedestal accessories bag to install the cradle to the top of the Voice2 pedestal. Tighten the screws firmly but do NOT over-tighten.

Step 7: Install the Voice2 loudspeaker onto the cradle/pedestal assembly. Insert each threaded tilt adjustment knob first through a metal washer and then through a felt washer before inserting it into one of the threaded inserts toward the rear of the Voice2 loudspeaker.





Step 8: Slide the Voice2 loudspeaker in the cradle to adjust the tilt. When the loudspeaker has been appropriately positioned, firmly hand-tighten the tilt adjustment knobs to lock the loudspeaker in place. Do NOT over-tighten.

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.

REVEL®

Harman Specialty Group
3 Oak Park Drive
Bedford, MA 01730-1413
USA

Tel 781-280-0300
Fax 781-280-0490
www.revelspeakers.com

Customer Service
Tel 781-280-0300
Fax 781-280-0495 (Sales)
Fax 781-280-0499 (Service)

Harman Specialty Group, 3 Oak Park Drive, Bedford, MA, 01730-1413 USA | Telephone: 781-280-0300 | Fax: 781-280-0490 | www.revelspeakers.com
Customer Service Telephone: 781-280-0300 | Sales Fax: 781-280-0495 | Service Fax: 781-280-0499
Product Shipments: HSG/Revel, Returns Dept., 801 S. 75th Avenue, Phoenix, AZ 85043 USA

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