



INFINITY® PRELUDE® FORTY  
LOUDSPEAKER

OWNER'S GUIDE



# INFINITY® PRELUDE® FORTY

This loudspeaker system represents a refinement of the principles that have guided Infinity® loudspeaker designs for more than 40 years. Loudspeaker development is generally an evolutionary process. New models usually perform slightly better than the ones they replace. Over time, the subtle advances add up and, when the latest model is compared to a loudspeaker that is 10 or 12 years old, the improvement is unmistakable.

Every once in a while, a loudspeaker is developed that transcends this pattern – its performance so remarkable, its design so stunning, its technology so advanced, it can truly be described as revolutionary. The new Infinity Prelude® Forty loudspeaker system is an elegant case in point.

The Infinity Prelude Forty 3-1/2-way design utilizes dual 8" CMMD® woofers, four patent-pending Maximum Radiating Surface™ (MRS™) mid-bass/midrange drivers and an all-new 1" CMMD high-frequency driver. With its proprietary Ceramic Metal Matrix Diaphragms, flat-panel MRS drivers and a sophisticated, yet refined, crossover network, the Prelude Forty speaker will breathe life into any musical performance and touch the soul of the listener. The Infinity Prelude Forty system is one more landmark in a 40-year quest to apply "science in the service of art."

## TECHNOLOGY

The Prelude Forty system incorporates several innovative technologies that, when implemented by exceptional engineering talent after hours upon hours of subjective listening evaluations, result in a loudspeaker that realistically and accurately reproduces the signal source with minimal distortion and coloration.

### CERAMIC METAL MATRIX DIAPHRAGMS (CMMD®)

For decades, loudspeaker engineers have known that the ideal transducer should be stiff, yet light, and have high internal damping (i.e., a material's ability to absorb energy). The Infinity CMMD transducer is a significant advance in transducer technology. Ceramic offers better performance than that of other materials. Ceramic is stiffer than metals and lighter than plastics and typical composite materials, in addition to offering improved damping. These ceramic-based transducers take us a giant step closer to the ever-elusive "ideal transducer."

CMMD technology offers accurate piston operation over the entire audible frequency range of the driver, completely eliminating coloration due to diaphragm breakup and dramatically reducing distortion. And when ceramic-metal-matrix transducers are exposed to moisture, sunlight or extreme temperatures, their performance does not deteriorate.

### MAXIMUM RADIATING SURFACE™ (MRS™) DRIVERS

The appeal of flat-panel transducers has never been more obvious, and the basic technology behind them is straightforward enough. But earlier flat panels had performance limitations in the low frequencies, and were prone to thermal compression. In developing the MRS transducers, Infinity engineers incorporated new materials and technologies that have overcome the drawbacks and deliver significant performance benefits.

### CMMD TECHNOLOGY

Optimizing the parameters of the Prelude Forty flat-panel diaphragms presented a serious engineering challenge. But by reinforcing the patented Ceramic Metal Matrix Diaphragms with strategic ribs and gussets, Infinity engineers were able to strike the perfect balance between electro-acoustic efficiency and reliability.

### DUAL ELLIPTICAL VOICE COILS

Another flat-panel challenge was finding a way to uniformly drive as much of the diaphragm's radiating surface as possible. A traditional cone is only driven by a small voice coil at its apex, but flat panels require a completely different approach. Infinity engineers developed dual elliptical voice coils for the MRS drivers. With more than six times the voice-coil contact of a typical cone transducer, they move the diaphragm much like an ideal piston, for superior operation throughout the driver's entire frequency range.

### GREATER DYNAMIC RANGE

In addition to driving the flat diaphragm more uniformly, the dual elliptical voice coils offer another benefit. The greatly increased surface area of the coils allows them to dissipate heat more efficiently, reducing thermal compression and dramatically increasing the speaker's dynamic range. The result is increased sonic clarity with reduced distortion.

### TRANSDUCERS

In addition to CMMD technology, all the transducers incorporate advanced neodymium motors that are inherently magnetically shielded. The 8" and MRS frames are constructed of cast aluminum and have been optimized to reduce resonances through proprietary FEA computer modeling and scanning laser vibrometer measurements. This ensures minimal distortion and incomparable performance.

The 8" low-frequency transducers are the embodiment of uncompromised driver design. The ceramic-metal-matrix cone is attached to a rigid cast-aluminum frame, through a compression-molded, butyl-rubber surround. The motor assembly incorporates a vented polepiece for maximum heat dissipation with negligible air turbulence. The motor structure uses a 2," edge-wound, copper voice coil for high power handling and minimal power compression.

To maximize system performance, the flat-spider assembly and the cone are mounted to different points on the fiberglass former, increasing reliability and reducing distortion, especially at high output levels. An extra-thick top plate and dual-magnet structure are utilized to allow for huge peak-to-peak driver excursions, with significantly lower distortion and a more linear frequency response than is true of typical drivers.

### ROOM-FRIENDLY ACOUSTICAL DESIGN

Driver quality is not the only requirement for exceptional performance. Infinity engineers understand that the room in which the loudspeaker is placed can greatly affect its performance. To ensure that the Prelude Forty system will sound exceptional in even the most unexceptional listening environment, Infinity engineers have developed techniques to solve the most serious room-generated problems having to do with loudspeaker

directivity and which can affect the reproduction of mid and high frequencies. One characteristic of forward-facing loudspeakers is that the sound output lessens as one moves away from the principal axis. If the dispersion characteristics of the loudspeaker are different at various frequencies, the reflected sounds will be very different in quality both from each other and from the first (i.e., direct) sound. The ears don't ignore these differences; they perceive them as coloration, or as sound quality that has been degraded. The Prelude Forty system has been carefully designed to maintain a directional pattern that is similar at every important angle, on and off axis. The positive result is that both direct and reflected sounds arriving at the listeners' ears have similar timbral signatures.

An all-new, controlled-directivity waveguide ensures smooth high-frequency delivery across the entire listening area and increases high-frequency efficiency, lowering distortion and improving dynamic range.

It is hoped that you have enjoyed this brief introduction to the technology of the Prelude Forty loudspeaker system. If you would like to further explore the technology and design of the Prelude Forty system, please ask your Infinity dealer for the CMMD and MRS white papers. The white papers can be downloaded from [www.infinitysystems.com](http://www.infinitysystems.com).

## UNPACKING THE PRODUCT

Finish unpacking the speakers and check the contents. If you suspect damage from transit, report it immediately to your dealer and/or delivery service. Keep the shipping carton and packing materials for future use.

### INCLUDED:

- 1 x Prelude Forty loudspeaker
- 1 x Upper grille
- 1 x Lower grille
- 1 x Left woofer grille
- 1 x Right woofer grille
- 4 x Spikes
- 1 x Owner's manual
- 1 x USA warranty sheet

## ASSEMBLY

### INSTALLING SPIKED FEET

Four metal spikes are supplied for use when using the speaker on a carpeted surface, to decouple the speaker from the floor and prevent unwanted damping. To insert the spikes, gently lay the speaker on its back on a soft, nonabrasive surface. Each spike screws into the threaded insert in each outer foot. Make sure all four spikes are screwed in completely for stability.

NEVER drag the speaker to move it, as this will damage the spikes, the feet and/or the wood cabinet itself. Always lift the speaker and carry it to its new location.

## INSTALLING GRILLES

### Top Grille

1. Insert the two pins into the rubber cups located in the top of the logo bar, as shown in the front view in Figure 1.
2. Let the magnets draw the top of the grille against the driver trim area, as shown in the side view in Figure 2.

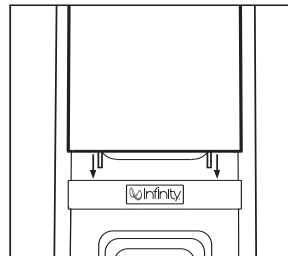


Figure 1.

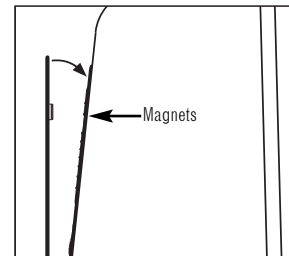


Figure 2.

### Bottom Grille

1. While holding the grille at a 45-degree angle to the speaker, insert the two hook tabs into the two slots on the underside of the logo bar, as shown in the side view in Figure 3.
2. Let the magnets draw the bottom of the grille against the driver trim area. Ensure the hook tabs are properly engaged in the slots of the logo bar to properly support the weight of the grille, as shown in the side view in Figure 4.

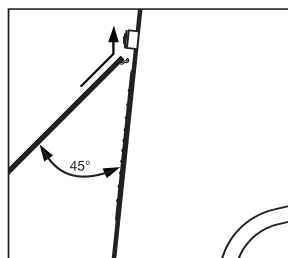


Figure 3.

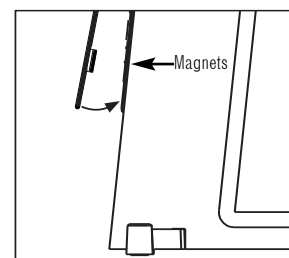


Figure 4.

### Side Grilles

1. Insert the six grille pins from the appropriate grille into the rubber cups in each woofer's trim panel, as shown with the right side grille in Figure 5.

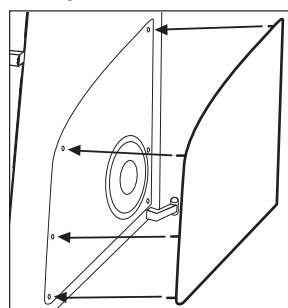


Figure 5.

## PLACEMENT

The Infinity Prelude Forty loudspeaker is designed to offer excellent performance in any listening room. However, the following placement guidelines and suggestions will start you on your way to achieving optimum performance. Remember, these are guidelines. It is suggested that you experiment with positioning the loudspeakers to determine their ideal placement in your particular listening room. Generally, the speakers should be placed at least 3' away from the side walls. The two speakers should be equidistant from your primary listening position. It is recommended that the angle formed between the speakers and the listening area be between 45° and 60°. For example, if the speakers are 8' apart, your listening position should be 8' to 10' from each speaker. See Figure 6. With wider speaker separations, it may be advantageous to slightly angle the speakers, aiming them toward the listening area.

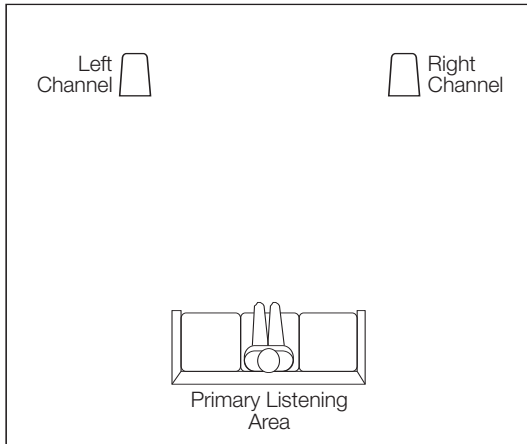


Figure 6.

## WIRING THE SYSTEM

**IMPORTANT: Make sure all equipment is turned off before making any connections.**

For speaker connections, use a high-quality speaker wire with polarity coding. The side of the wire with a ridge or other coding is usually considered positive polarity (i.e., +).

**NOTE:** If desired, consult your local Infinity dealer about speaker wire and connection options.

To ensure proper polarity, connect each + terminal on the back of the amplifier or receiver to the respective + (red) terminal on each speaker, as shown in Figure 7. Connect the – (black) terminals in a similar way. See the owner's guides that were included with your amplifier or receiver and television to confirm connection procedures.

**IMPORTANT: Do not reverse polarities (i.e., + to – or – to +) when making connections. Doing so will cause poor imaging and diminished bass response.**

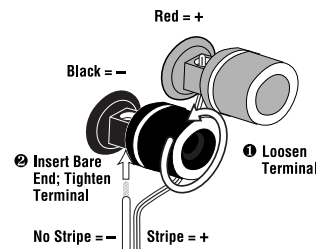


Figure 7. This figure shows how to connect bare wires to the terminals.

1. Open the terminals by twisting the cap counterclockwise.
2. Insert the bare end of the wire into the hole in the post.
3. Tighten the cap by twisting clockwise until secure.

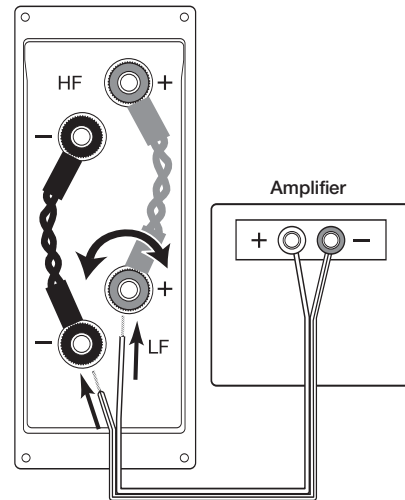
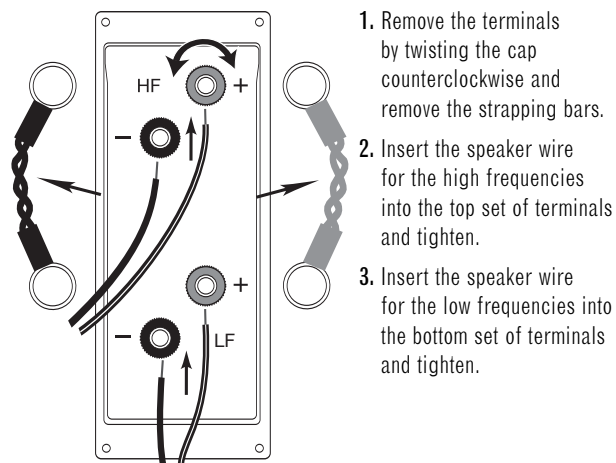


Figure 8. This example shows how to connect bare wires to the terminals. Banana plugs may also be inserted directly into the rear of the connector.

## BI-WIRING

The outer connection panel and internal dividing network of the Prelude Forty loudspeakers are designed so that separate sets of speaker cables can be attached to the low-frequency transducer and midrange/high-frequency transducer portions of this dividing network. This is called bi-wiring. Bi-wiring can provide several sonic advantages and considerably more flexibility in power amplifier selection.



1. Remove the terminals by twisting the cap counterclockwise and remove the strapping bars.
2. Insert the speaker wire for the high frequencies into the top set of terminals and tighten.
3. Insert the speaker wire for the low frequencies into the bottom set of terminals and tighten.

Figure 9.

### SINGLE-STEREO AMPLIFIER

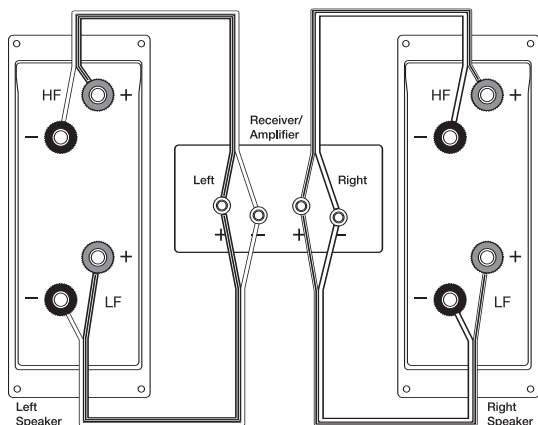


Figure 10.

### DUAL-STEREO AMPLIFIER\*

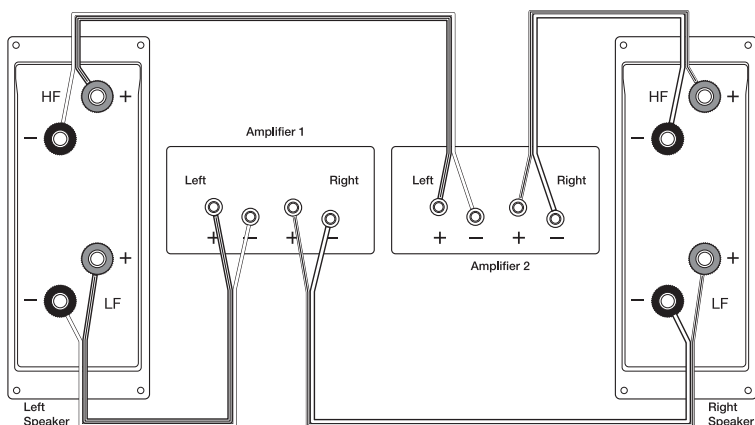


Figure 11.

\* If you are using the dual-amplifier bi-wiring connection, ensure that both amplifiers exhibit the same polarity output when given the same input signal. Consult your amplifier's manual or manufacturer if necessary.

## FINAL ADJUSTMENTS

Check the speakers for playback, first by setting the system volume control to a minimum level, and then by turning on the power of your audio system. Play a favorite music or video segment and increase the system volume control to a comfortable level.

**NOTE:** You should hear balanced audio reproduction across the entire frequency spectrum. If not, check all wiring connections or consult the authorized Infinity dealer from whom you purchased the system.

The amount of bass you hear and the stereo-image quality will be affected by a number of different factors, including the room's size and shape, the construction materials used to build the room, the listener's position relative to the speakers, and the position of the speakers in the room.

Listen to a variety of music selections and note the bass level. If there is too much bass, move the speakers away from nearby walls. Conversely, if you place the speakers closer to the walls, there will be more bass output.

Nearby reflecting surfaces can adversely affect stereo-imaging quality. If this happens, try angling the speakers slightly inward toward the listening position until the optimum effect is achieved.

## CARE OF YOUR SPEAKER SYSTEM

The Infinity Prelude Forty enclosure has a finish that does not require any routine maintenance. When needed, use a soft cloth to remove any fingerprints or dust from the enclosure.

**NOTE:** Do not use any cleaning products or polishes on the cabinet or grille.

If a problem occurs, make sure that all connections are properly made and clean. If a problem exists in one loudspeaker, reverse the connection wires to the left and right system. If the problem remains in the same speaker, then the fault is with the loudspeaker. If the problem appears in the opposite speaker, the cause is in another component or cable. In the event that your subwoofer ever needs service, contact your local Infinity dealer, or go to [www.infinitysystems.com](http://www.infinitysystems.com) to locate a service center near you.

**IMPORTANT:** Please attach your sales receipt to this manual and store it in a safe place. In the event that your Infinity speaker requires warranty service, you will need to provide your sales receipt.

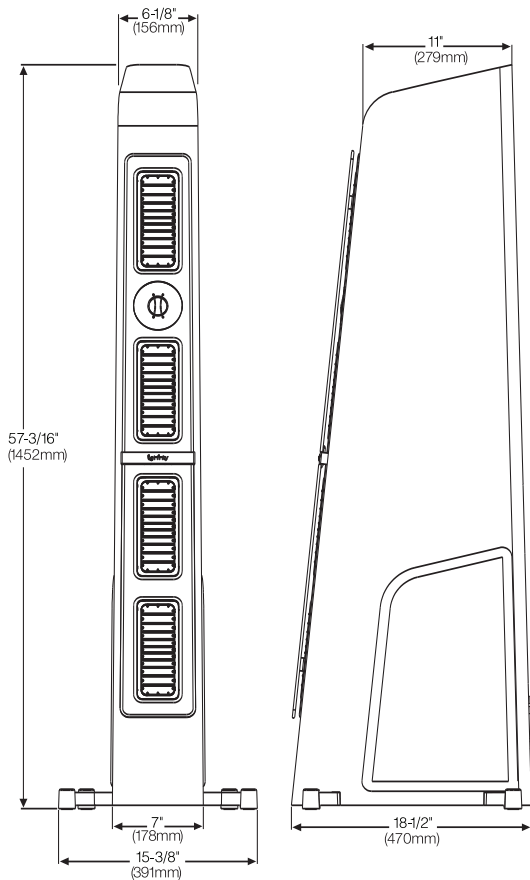
# SPECIFICATIONS

## Prelude® Forty

<b>Frequency Response:</b>	42Hz – 40kHz (±3dB) 36Hz (–6dB)
<b>Recommended Amplifier Power Range:</b>	50 – 250 Watts
<b>Sensitivity:</b>	85dB (2.83V @ 1 meter)
<b>Nominal Impedance:</b>	8 Ohms
<b>Low-Frequency Drivers:</b>	Dual 8" (200mm) CMMD® cast-frame, magnetically shielded
<b>Mid-Bass Drivers:</b>	Dual 7-3/4" x 3-3/8" MRS™ (197mm x 85mm) CMMD® magnetically shielded
<b>Midrange Drivers:</b>	Dual 7-3/4" x 3-3/8" MRS™ (197mm x 85mm) CMMD® magnetically shielded
<b>High-Frequency Driver:</b>	1" (25mm) CMMD® magnetically shielded
<b>Weight:</b>	82 lb (37.3kg)
<b>Dimensions:</b>	

Crossover Frequencies		
Driver	Crossover Frequency	Slope
8" Woofers	120Hz Low-Pass	12dB/octave
Top Two MRS™ Drivers	120Hz High-Pass 2kHz Low-Pass	24dB/octave 24dB/octave
Lower Two MRS™ Drivers	120Hz High-Pass 350Hz Low-Pass	24dB/octave 12dB/octave
1" HF Driver	2kHz High-Pass	24dB/octave

Features, specifications and appearance are subject to change without notice.




Declaration of Conformity

**CE**

We, Harman Consumer Group, Inc.  
2, route de Tours  
72500 Château du Loir  
France

declare in own responsibility that the product described  
in this owner's manual is in compliance with technical  
standards:  
EN 61000-6-3:2001  
EN 61000-6-1:2001

  
 Laurent Rault  
 Harman Consumer Group, Inc.  
 Château du Loir, France 7/08



TECHNOLOGY • PERFORMANCE • DESIGN

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