

FACEBOOK



Scan QR Code to join
HIFIMAN on facebook



SUSVARA UNVEILED







A Decade of Planar Evolution

"I give a lot of credit to HIFIMAN for the renaissance we're now seeing in high-end headphones, and in particular for the recent resurgence of interest in planar magnetic headphones. Fang Bian has done a great deal to advance the art of headphone sound."

Brent Butterworth
Renowned Audio Writer

HIFIMAN is proudly celebrating its first decade of planar evolution, and what a successful ten years it has been.

The advantages of HIFIMAN planar headphones are not only reflected in technology, but also in the demanding requirements for unadulterated reproduction of music.

In the early days, HIFIMAN launched a planar headset, model HE5. At first, HIFIMAN used wood to make the headphone housing. Wood is a symbol of quality and established the HE5's flagship position.

Later, the HE5 was replaced by the HE5LE, and the wooden housing was changed to high-quality ABS. This design was a great success, making HE5LE a benchmark in the HIFIMAN planar headphone line. With strong curiosity and persistent exploration of "new technologies to improve sound quality," Dr. Fang Bian, Founder of HIFIMAN, relied on his professional academic background in nanochemistry to put several theories into practice.

First, he successfully alleviated the criticized weight problem of planar headphones, starting with every headphone component, in an effort to reduce weight and increase product strength.

Over the years, HIFIMAN launched a series of high-fidelity headphones, such as HE6, HE500 and HE400. However, HIFIMAN did not rest on its achievements, instead concentrating on research and development that led to a subsequent series of superior products.

From the HE560 and HE400i, to the HE1000, which shocked the global audiophile industry and was known as one of the "most beautiful-sounding headphones in the world," to the high-sensitivity, easy-to-drive planar headphones HE400S and Edition X, they continue to win awards at home and abroad. It is undoubtedly the highest recognition of the HIFIMAN team's unremitting efforts in maximizing sound quality.

In 2017, HIFIMAN launched the SUSVARA planar headphone, which not only inherited the gold-coated conductor diaphragm of the HE6, but also used unique "Stealth Magnet" technology and a nanometer-thick diaphragm to surpass the HE1000 and become the best-in-class high-end planar headphone in the audiophile market.



Table of Contents

01-02 Message from the Founder

05-06 Heavenly Sound, Unlike Anything that's Come Before

07-08 UNVEILED Technology

09-10 Technology Evolution from Grill to Non-grill

11-12 Magnetic Veils

13-14 The Nanometer Grade Diaphragm

15-16 Diaphragm conductor layer second only to superconducting material

17-18 The Stealth Magnets

19-20 The Technology Under the Grill

23-24 The Headband

25-26 Cables

27-28 The Ear Pads

30 Craftsmanship

30 Weight

32 Technical Data

35-36 Officially Recommended Headphone Amplifier

37 Headband Adjustment & Replacing Ear Pads

38 Care and Maintenance

39 HIFIMAN Limited Warranty



Message from the Founder

Thank you for your purchase of a HIFIMAN product. We take great pride in offering audio products that provide best-in-class performance and value.

Though it seems like only yesterday when I started HIFIMAN as a passionate audiophile, we just finished our first decade in business and eagerly look forward to an exciting future. The company has grown rapidly and the HIFIMAN brand has become one of the most respected in the industry.

Even with our success, the one thing that has not changed is my passion for music and creating products that help recreate that live experience. Now, I am joined by many others in the company who share my passion and in turn, we humbly share that with you.

Thank you again for your purchase. I hope you will find this guide useful in learning about your product which will help you enjoy countless hours of listening pleasure.

Happy listening,

Fang

Dr. Fang Bian,
Founder and CEO



SUSVARA UNVEILED

A Heavenly Sound, Unlike Anything
That's Come Before



SUSVARA UNVEILED



The fully open-back design of the planar headphone completely eliminates the negative effects of sound wave reflection, eliminating the last obstacle that impairs sound quality.

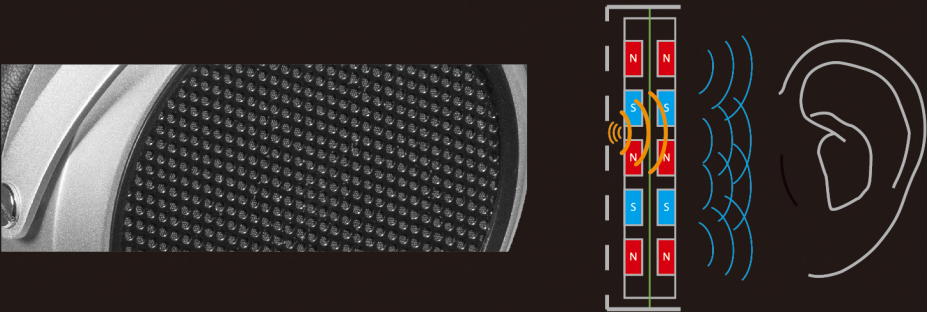
The model is named UNVEILED, because the depth and inherent beauty of the music are unveiled to the listener.

The technology is derived from HIFIMAN's technological evolution of the original SUSVARA. Since the nanometer thickness diaphragm is sensitive to reflected sound waves, it is necessary to further increase the openness of the back of the headphone. This was the inspiration for the SUSVARA UNVEILED's removable back panel.



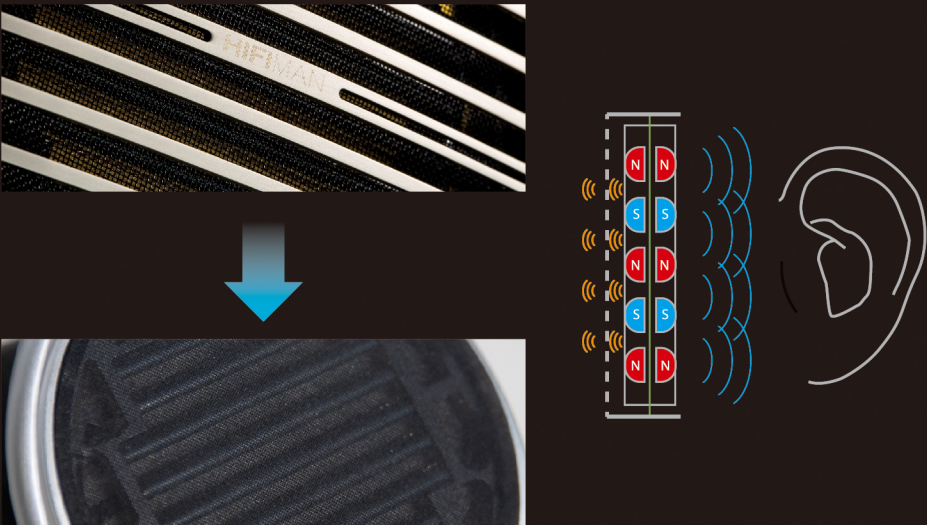
Regular headphones

Commonplace products use mesh with a lower opening ratio as grill that leads to harmful refraction and reflections of sound waves.



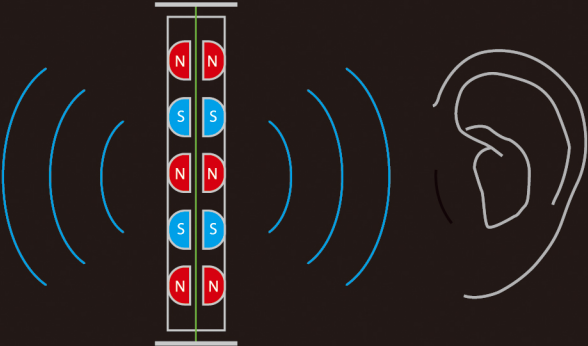
Window Shade Design

Since the nanometer thickness diaphragm is ultra lightweight, it is easily disturbed by sound waves reflected and refracted by the mesh. Therefore, HIFIMAN uses a window shade design to increase the opening ratio, maximize the grill exposure and reduce the probability of refraction and reflection. The result: dramatically reduced distortion.



SUSVARA UNVEILED

However..... the design of the window shade cannot completely avoid refraction and reflection altogether. Only by completely removing the window shade/grill design can near perfect sound quality be achieved.



Magnetic Veils

Magnetic Veils are specially designed to protect the SUSVARA UNVEILED's drivers. Due to the magnetic properties of the driver, it is important to cover the ear cups with the Magnetic Veils to avoid unnecessary problems or damage caused by the attraction of magnetic objects when the product is not in use.



The Nanometer Grade Diaphragm

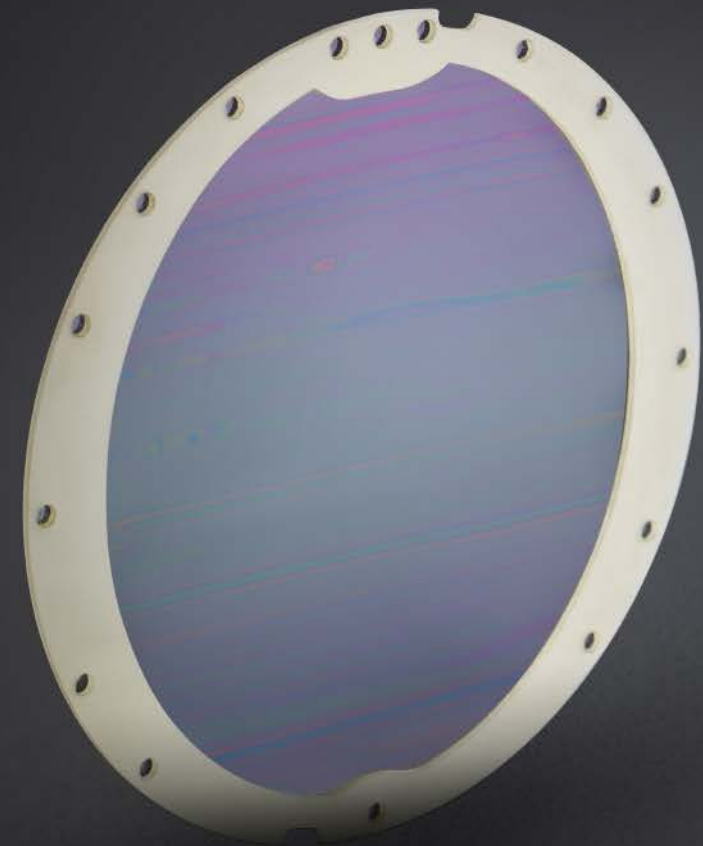


Extremely low distortion, extremely high transient response, comprehensive improvement of dynamics and details.

For many years, HIFIMAN invested extensive resources into Nanometer Grade diaphragm research and development. This core technology has been further refined in the design of SUSVARA UNVEILED.

The production, processing and installation of diaphragm materials is highly complex. In addition to achieving a balance of great strength and low mass, it is combined with Stealth Magnets technology to achieve the goal of excellent sound quality.

The thickness of the SUSVARA UNVEILED's diaphragm is under a millionth of a meter. It is extremely light, gives the headphone extreme responsiveness with outstanding dynamic range and frequency characteristics. Combined with HIFIMAN's "Stealth Magnet" technology, the nanometer thickness diaphragm material is essential to the sonic output being clear and non-fatiguing, even after hours of listening.



Dr. Bian demos how nanometer materials "float" in the air

Diaphragm conductor layer second only to superconducting material

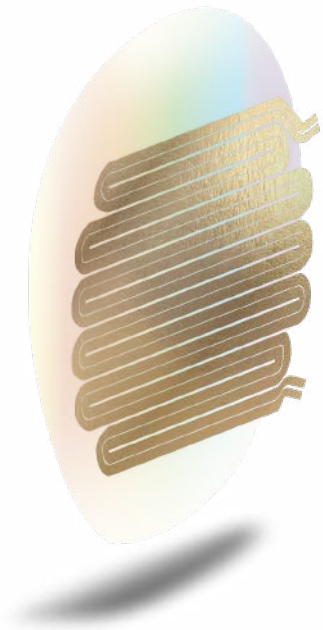
SUSVARA uses a gold coating conductor layer. Thanks to gold’s ductility, the thickness of the conductor layer is extremely thin. However, the conductivity of gold is relatively low compared to metals such as silver and copper, resulting in the overall low sensitivity of the headphones.

SUSVARA UNVEILED, however, uses metallic silver as the conductor layer, as it boasts the highest conductivity of all metals. Sensitivity is maximized, subtle details are revealed, and a sense of “air” that is so important for high-end audio performance is greatly improved.

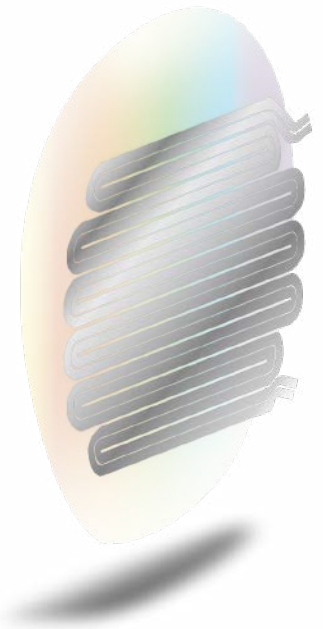
Serial Number	Metal	Conductivity(X106S/M)
1	(Silver) Ag	62.9
2	(Copper) Cu	59.5
3	(Gold) Au	45.2
4	(Aluminum) Al	37.7
5	(Magnesium) Mg	22.6
6	(Tungsten) W	18.9
7	(Molybdenum) Mo	17.5
8	(Zinc) Zn	16.6
9	(Cobalt) Co	15.7
10	(Nickel) Ni	14.3
11	(Potassium) K	13.9
12	(Lithium) Li	10.8
13	(Iron) Fe	10.0



SUSVARA



SUSVARA UNVEILED



The Stealth Magnets



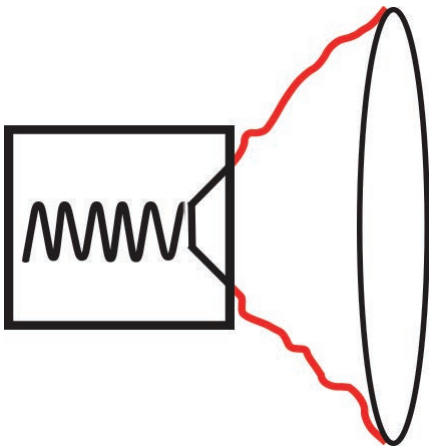
The recent innovation in the world of planar magnetic headphones was the development of a new design of magnet that HIFIMAN dubbed Stealth Magnets, in light of them being as acoustically transparent -- or invisible -- as possible. In traditional designs, the magnets get in the way of the sound waves through reflection and diffraction, creating constructive and destructive interference. As these points shift with frequency changes, there is a mass of wave interference that has a negative impact on the sound.

The use of Stealth Magnets in the SUSVARA UNVEILED means the sound wave reproduction takes place without the magnets getting in their own way and ruining the sonic purity of the output.

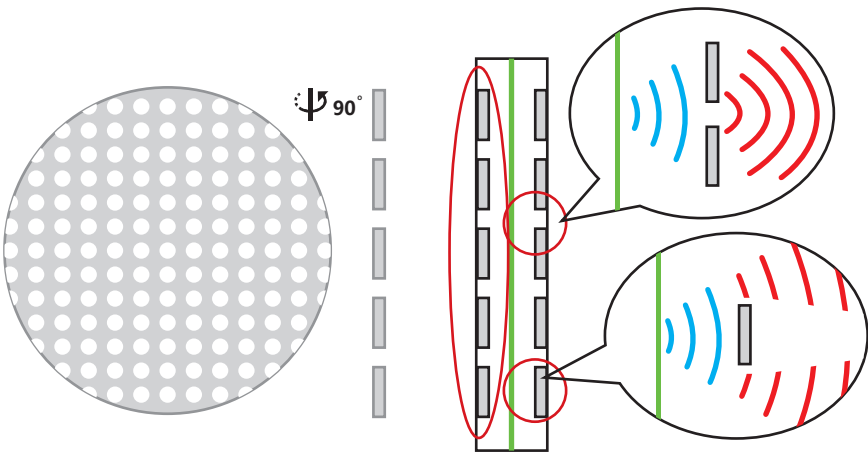


The Technology Under the Grill

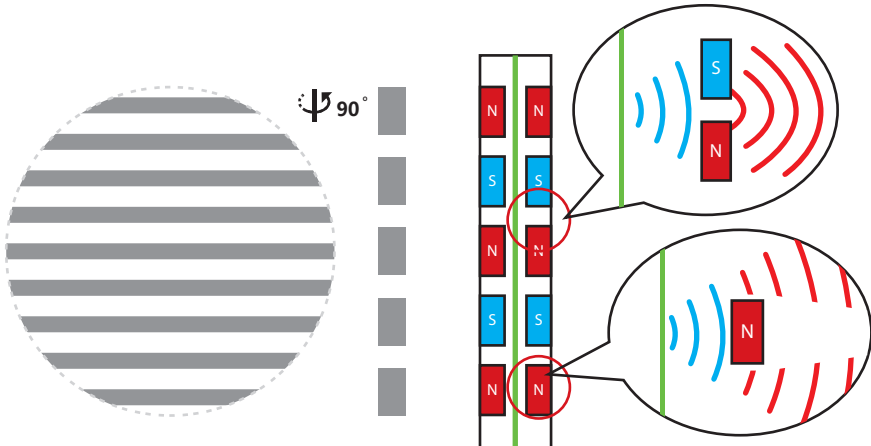
A conventional dynamic driver's frequency response can be altered due to distortions and vibrations across the diaphragm surface.



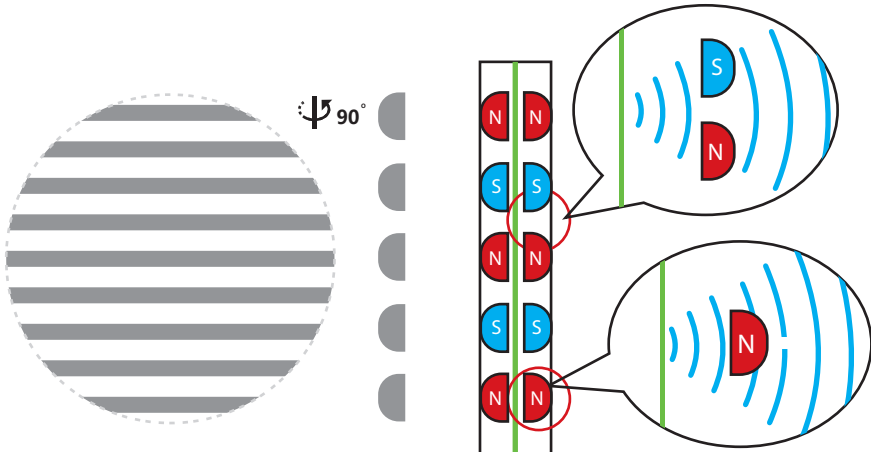
Conventional electrostatic headphones experience degradation of sound quality caused by the stator's interference.



Degradation of sound quality in a conventional planar magnetic headphone is caused by the magnets getting in the way of the sound wave.



Unlike the sound waves created by a conventional magnet, the special shape of stealth magnet of SUSVARA UNVEILED enables the waves to pass through the magnets without generating interference.





The Headband

The ergonomic and comfortable headband is designed to fit most people with greater reliability and durability.

In order to achieve maximum comfort, SUSVARA UNVEILED adopts a composite structural head beam designed to form a stable dual structure. After many tests, HIFIMAN found that this structure also allows a reduction in weight.

The metal headband was created via CNC (computer numerical control) milling and hand polishing. It incorporates traditional Chinese aesthetics and modern industrial design concepts, retaining the metal texture without making the metal surface and edges too sharp or uncomfortable.





Cables

The cable configuration used for the SUSVARA UNVEILED is a single crystalline copper wire alongside a single crystalline silver wire. A special composition ratio and quantity of the materials ensure low resistance in the signal transmission and high mechanical strength for daily use over many years.

The special plug-socket structure makes it easy to swap cable, connecting amplifiers with different components. The highly reliable socket reduces contact resistance to extremely low levels without affecting the transmission of audio signals.

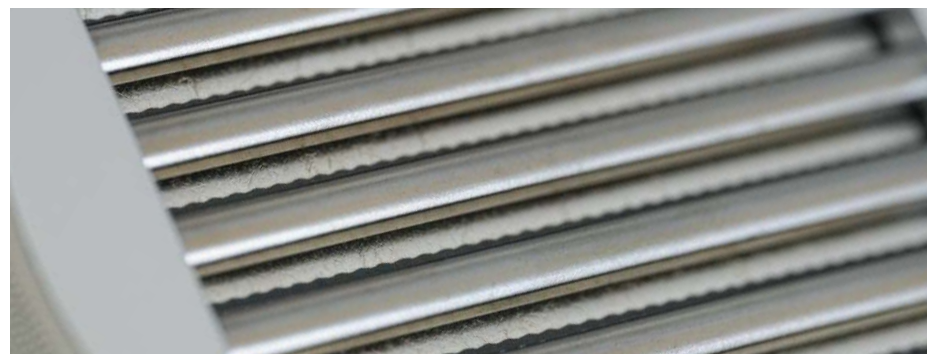
The supplied cables with SUSVARA UNVEILED feature 6.35mm and four-pin XLR plugs for maximum flexibility when connecting to headphone amplifiers and professional audio equipment.

Left and right channels (L and R) are clearly indicated inside the headband. Once the cable is connected to the correct channel orientation, an easy way to tell left from right is that the cable should slightly extend toward the front of the ear cup, draping across the user's chest for greater comfort.

The Ear Pads

The elegant asymmetry of the SUSVARA UNVEILED's ear pads conform to and fits around the human ear, comfortably distributing the weight evenly yet offering a secure and sound grip. The pads themselves are gently beveled, contouring and molding to the user's head, providing superb comfort for long listening sessions.





Craftsmanship

In order to ensure the durability of SUSVARA UNVEILED and represent the craftsmanship of the HIFIMAN brand, each pair of SUSVARA UNVEILED headphones undergoes manual component assembly, surface treatment and quality inspection. Each assembly process undergoes multiple quality inspections by engineers with more than 10 years of experience. This process ensures that each pair of SUSVARA UNVEILED headphones is unique and durable.

Weight

Thanks to improvements in every component, SUSVARA UNVEILED weighs only 430g, making it stress-free and comfortable for long listening sessions.



Technical Data

Specifications

Frequency Response: 6Hz-75kHz

Impedance: 45Ω

Sensitivity: 86dB

Weight: 430g (excluding Magnetic Veils and headphone cable)

Package Contents

- (1) Pair of headphones
- (1) 3m headphone cable (4-pin XLR plug)
- (1) 3m headphone cable (6.35mm plug)
- (1) Pair of Magnetic Veils
- (1) Pair of ear pads (mounted on headphone)
- (1) Owner's Guide



Metropolitan Opera, New York



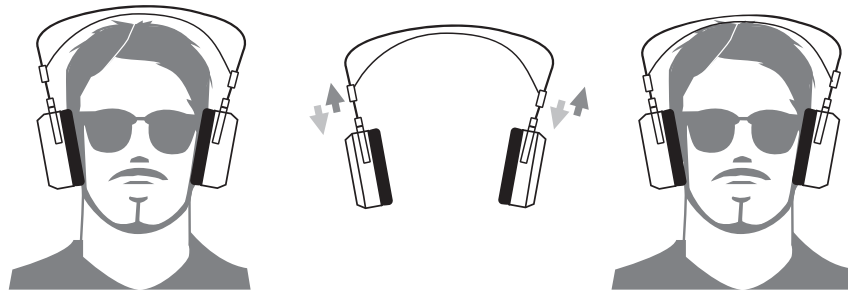
Officially Recommended Headphone Amplifier

The SUSVARA UNVEILED requires more than average amplifier power for maximum performance. It is important to match the headphone to a high quality, powerful amp, such as HIFIMAN's EF1000DAC/Amp. When used with the SUSVARA UNVEILED, the two products team up to create a new standard in personal audio sonic output. It's an unbeatable combination.

Further information can be found on our website at www.hifiman.com

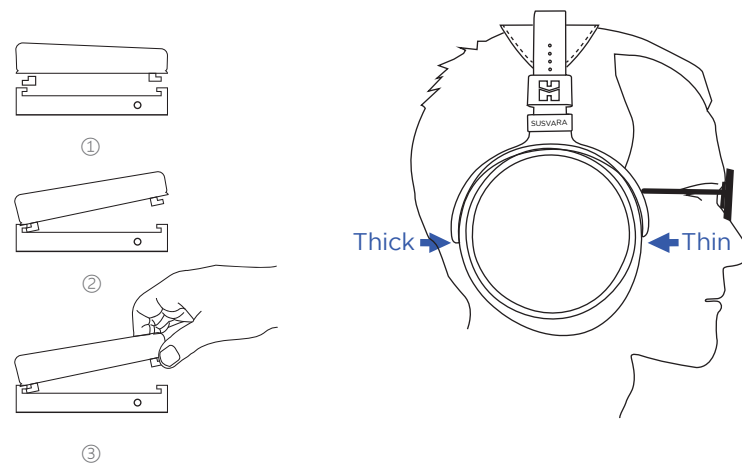
Headband Adjustment

To help fit the headphone to your head, you may use the two adjustment blocks to change the position of the headband strap to better accommodate your head.



Replacing Ear Pads

To remove the ear pads, locate the clips on the inside of the pad, and use two fingers to gently bend them in and slip them out. To install new pads, simply align the ear pad with the mounting ring, and gently bend the clips so they slot in their appropriate locations.



Care and Maintenance

Planar headphones benefit from break-in to achieve optimum performance. Usually this takes up to 150 hours however there is nothing special you need to do other than enjoy your headphones.

Wipe the surfaces (ear pads, cups) with a microfiber cloth and store the headphone in a dry, cool and safe place (away from dust, heat, humidity, sunlight, younger kids and pets if possible.) For the headband, wipe it periodically to remove any dust.

Do not expose the headphone to excessive heat or cold temperatures.

Do not use any headphone while driving or operating machinery.

Do not use volatile substances alcohol, acetone, gasoline or dish detergent to clean the headphone.

HIFIMAN Limited Warranty

SUSVARA UNVEILED is warrantied for a period of three years beginning with the original date of purchase. If you join the official HIFIMAN group on Facebook, your product warranty will be extended for an additional six months. Please contact HIFIMAN customer service if you need any assistance.

The dated sales or delivery receipt is your proof of purchase. You may be required to provide proof of purchase as a condition of receiving warranty service so please keep it handy.

If your product is under warranty and malfunctions occur, please contact HIFIMAN customer service or your authorized dealer. If necessary, and at the discretion of HIFIMAN, the company will provide a warranty repair or replacement of your product.

Caution: do not disassemble or modify the product in any way. Tampering with or modifying your HIFIMAN product will void its warranty.

This Limited Warranty does not apply to :

1. Defective or discolored parts if the damages are caused by fluids, dirt, missing keys, broken plastic parts or improper use.
2. Damage caused by misuse with another product.
3. Use of the product for other than its normal intended use, including, without limitation, failure to use the product in accordance with the supplied "Owner's Guide"
4. Damage caused by accident, abuse, neglect or misuse.
5. If you do not have a valid dated receipt showing proof of purchase.
6. Damage caused by services/repairs or other modifications to the system carried out by anyone other than HIFIMAN or an authorized HIFIMAN distributor or dealer.
7. Damage caused by self-repair or if the unit has been disassembled or modified in any way.

HIFIMAN guarantees your satisfaction and will do everything reasonable to achieve that. If you have any questions or concerns with your product, simply contact your authorized dealer or HIFIMAN directly (if purchased from us) and explain the issue in detail. Should a return be required, a RA# will be issued. Return shipping to HIFIMAN or authorized service facility will be at the owner's expense.

The warranty applies to the first purchaser and is not transferable. Should you need warranty service please contact your authorized HIFIMAN dealer. Or email us directly at customerservice@HIFIMAN.com

If you have any concerns with your product: please contact us to explain the issue in detail. If a return/refund is required, a RA# will be issued. Return shipping to HIFIMAN or authorized service facility is done at the owner's expense.

For any further information or questions, please contact your authorized HIFIMAN dealer. Or email us directly at customerservice@HIFIMAN.com.

1. Correct disposing of waste electrical and electronic equipment (WEEE) and symbol of the “crossed-out wheeled bin”

The crossed-out wheeled bin on WEEE means that you are obliged by law to dispose of this equipment separately from the unsorted municipal waste collection system. Disposing of it in the residual waste bin, the yellow bin or yellow bag for recyclable materials is legally prohibited. If the equipment contains portable batteries, accumulators or lamps that are not permanently installed, these must be removed before disposing of the product and be disposed of separately as waste portable batteries.

2. Ways of returning waste electrical and electronic equipment

Owners of waste electrical and electronic equipment can return them to those facilities for returning or collecting waste electrical and electronic equipment set up and provided by the public-sector waste disposal authorities or alternatively with collection points installed by producers, retailers or distant sellers to ensure that the waste electrical and electronic equipment is disposed of correctly. The following link leads to an online registry of the available collection and take-back sites: <https://e-schrott-entsorgen.org/>

3. Data privacy

We should point out to all end-users of waste electrical and electronic equipment that they themselves are responsible for deleting all personal data from the waste electrical and electronic equipment to be disposed of.

WEEE Reg. No. DE 73830605

WEEE Reg. No. DE 48150071



facebook.com/hifimanelectronics



twitter.com/hifimanofficial



www.hifiman.com

HIFIMAN ELECTRONICS CORPORATION
Address: 2602 Beltagh Ave, Bellmore, NY 11710, USA