



Euridiche L-SX

Top-of-the-line Electrostatic Headphones

Owner's Manual



This product contains high voltage circuitry. To avoid dangerous electric shock, do not disassemble or modify the unit.

RISK OF ELECTRIC SHOCK, DO NOT OPEN!

www.soltanusacoustics.com



Introduction

Thank you very much for purchasing the Soltanus Acoustics high-end **Euridiche L-SX** headphones. This model is a development of the Euridiche S designed to offer even greater compatibility with a wide range of high-quality electrostatic headphone energizers available on the market.

Please read this manual carefully to ensure safe operation and to get the best possible performance from your headphones for years of optimal listening. Be sure to keep this manual and the warranty card for future reference.

Features

The **Euridiche L-SX** was meticulously developed to deliver the emotional intensity and musicality that defined the original Euridiche S, while significantly advancing its technical performance. **Doubling both sensitivity and dynamic headroom**, the L-SX achieves these improvements through an elegant and efficient electro-acoustic design, without compromising the unmistakably warm tonality and profound sub-bass extension—qualities that remain exceedingly rare in the realm of electrostatic headphone technology.

A defining hallmark of the **Euridiche L-SX** is its extraordinarily **linear frequency response**, extending effortlessly from the subsonic depths to the far reaches of the ultrasonic spectrum. This is paired with an **exceptional impulse response**, revealing micro-dynamic detail and transient accuracy with breathtaking immediacy the moment playback begins.

In addition to these technical advancements, the **Euridiche L-SX** delivers an astonishingly natural, **wide, and immersive soundstage**. This is achieved through a synergistic combination of its oversized diaphragm, a uniquely engineered electro-acoustically divided stator design, and generously dimensioned, angled ear pads. These pads allow the earcups to maintain their shape and acoustic geometry, preserving the natural directionality of sound as it reaches the ears. The result is a **holographically rendered spatial presentation** that is not only perceptible but vividly experienced by the auditory system as a true **three-dimensional soundstage**—bringing the listener closer than ever to the recorded performance.

Taking into account the technical requirements of electrostatic systems, existing amplifier-energizer designs on the market, and the high expectations of audiophiles, Soltanus Acoustics has developed a new high-precision stator-electrode technology. This innovation enables the

headphones to reach high SPL (Sound Pressure Level) values, even when driven by amplifiers with lower output voltage capabilities.

We have optimized the air gap between the stators and the moving membrane to meet standard SPL levels while preserving the exceptional low-frequency response already known from previous Euridiche S models.

The stators are constructed from the highest quality stretched copper wires, coated with double-layer high-voltage lacquer insulation. The round cross-section of the wires ensures the most linear airflow, minimizing turbulence and optimizing acoustic impedance across the audio spectrum.

The high-voltage insulation prevents membrane damage from potential arcing between stators—particularly in situations where the membrane may come into contact with the stators due to high air pressure, such as when the headphones are being worn or removed. Additionally, the smooth, round surface of the stretched wires provides a gentle contact point for the membrane, unlike mesh stators with sharp edges, thereby significantly reducing the risk of punctures and extending the membrane's lifespan.

A unique characteristic of the Euridiche series is the stator design: the stators are electrically divided into front and rear halves along the vertical plane. This configuration, combined with a built-in switch, allows users to adjust tonality and soundstage presentation in the horizontal plane across the high-frequency range—from 1 kHz (0 dB) up to 20 kHz (± 2 dB). This feature enables precise high-frequency tuning according to individual listening preferences.

One of the most innovative and user-friendly features of the Soltanus Acoustics Euridiche L-SX and D-SX electrostatic headphones is the easily replaceable membrane system. Over years of use, electrostatic membranes can accumulate dust, stretch, or even tear. Our design allows for the quick and cost-effective replacement of this sensitive component—without needing to return the headphones to the manufacturer for a costly repair.

Replacement membranes are available as spare parts and come pre-stretched and pre-mounted on durable glass-fiber rings, forming a complete membrane capsule. These capsules feature automatic bias contact, eliminating the need for soldering, measuring, or manual tuning. Installation is simple, requiring only a few screws and just a few minutes of assembly time.



The Euridiche L-SX and D-SX models also feature large, ultra-comfortable ear pads filled with memory foam. The ear pads are angled to enhance soundstage reproduction, and the generous inner diameter ensures they encompass the ears fully without applying pressure or distortion. This design offers a more immersive and natural soundstage while also preventing listener fatigue.

All Euridiche ear pads include a tuned bass-reflex port, which boosts the sub-bass region by +6 dB. Included in the package are foam inserts that can be placed into the reflex ports, allowing users to disable the bass boost based on personal preference.

Two ear pad options are available:

1. **Hybrid Pads:** Velour surface for contact with the skin and Italian lamb leather on the sides. These offers excellent comfort for long listening sessions, with superior moisture and heat ventilation.
2. **Full Lamb Leather Pads:** For those who prefer the luxurious feel and sonic characteristics of full leather.

The Euridiche L-SX and D-SX series are equipped with detachable headphone cables, designed with both versatility and sound quality in mind. On the driver side, the cable features a standard gold-plated 5-pin PRO connector, ensuring compatibility with most electrostatic energizers available on the market. The headphone side uses 3-pin mini XLR connectors for secure and reliable connection.

Soltanus Acoustics headphone cables are engineered with a strong focus on audio performance rather than flexibility or cost-cutting. As a result, these are not "super flexible, budget-grade" cables, but rather high-end, audiophile-grade builds.

Each cable is constructed using solid-core conductors of varying cross-sections and materials, specifically chosen for their sonic characteristics. The internal high-voltage insulation is carefully selected for reliability and safety, while the exterior is wrapped in a pure cotton "snake-skin" sleeve that provides a unique combination of durability and vintage aesthetics.

How to use

Connecting and Handling the Euridiche L/D-SX Headphones

1. Connecting the Cable

Carefully remove the headphones and the attached cable from the case.

- Locate the **Right (R)** marking on the cable plugs and confirm correct orientation.
- Firmly insert the mini XLR plugs into the corresponding headphone sockets.
- When disconnecting the cable, **always hold the plug**, not the cable itself, and **pull it straight out** to avoid damaging the connectors.

2. Power and Compatibility

The Euridiche SX headphones are electrostatic and operate with **STAX PRO series bias (DC 580V)**.

- Confirm the correct alignment of the 5-pin connector before inserting it into the amplifier or driver unit.
- Firmly insert the plug into the outlet.
- When disconnecting, **hold the plug and pull it straight out**.
- **Do not pull the cable at an angle**, as this may damage the plug or the outlet.
- If the outlet feels too tight, support the driver unit while inserting the plug to avoid applying force to the wires.
- **Never pull or push the cable by holding the wires**—always handle the plugs directly.

3. Headband Adjustment

The height of the headband can be adjusted using the sliders located on the left and right sides. Make these adjustments **while holding the headphones in your hands**.

4. Wearing the Headphones

Always use **both hands** when putting the headphones on or taking them off. Hold the ear speakers gently but securely to avoid accidental strain on the frame or cables.



Precautions for use



The **Euridiche SX** series electrostatic headphones are precision-engineered instruments. To ensure proper operation and long-term performance, please observe the following precautions:

1. Handling and Disassembly

- The electrostatic headphones are constructed with high-precision mechanical components.
- **Do not attempt to disassemble the headphones.** Any damage resulting from unauthorized disassembly is **not covered by warranty**.
- Disassembly, such as replacing ear pads or membrane capsules, must only be performed **in consultation with the manufacturer or an authorized dealer**.

2. Cleaning Instructions

- Clean the headphones using a **soft gauze cloth** dampened with slightly soapy water, a mild neutral detergent, or a small amount of alcohol.
- **Do not use strong solvents** such as thinner, benzene, or abrasive cleaners, as these may damage the materials.

3. Use During Sweating

- If wearing the headphones while sweating, place one or two layers of **gauze cloth between your ears and the ear pads** to protect the pads and extend their lifespan.

4. Cable Care

- **Do not forcibly bend, twist, or pull** the cable.
- Always **hold the plug**—not the cable—when inserting or removing it from the driver unit.
- Physical damage to the cable or connectors resulting from improper handling is **not covered by warranty**.

5. Long-Term Storage

- If storing the headphones for an extended period:
 - **Disconnect the cable** from the ear speakers.
 - Ensure all components are **completely dry** before storage.
 - Place the headphones in the **included storage case** to protect them from dust, moisture, and mechanical damage.

Understanding Air Pressure and Diaphragm Behavior

Due to the tight seal created by the earpads of the **Euridiche Electrostatic Headphones**, air pressure changes can affect the diaphragm movement when the earcups are pressed against your head. When this occurs, air trapped between your head and the drivers is compressed, causing the diaphragm to move back and forth. If the diaphragm gets too close to the stator plate, it may momentarily touch it due to the electrostatic force—which increases exponentially as the distance decreases.

When this happens, you may hear a “**click**” or “**pop**” sound from one of the earcups. This is **normal and not harmful**. The ear pads are highly airtight, and the diaphragm is extremely sensitive to air pressure differences between its two sides. This occasional sound does **not affect the performance** of the headphones. However, repeated excessive pressure on the earcups may eventually **damage the ultra-thin diaphragm**.

If the Diaphragm Sticks

In some cases, the diaphragm may **temporarily stick** to the stator plate, especially after a pressure event. This can lead to:

- An imbalance in left/right channel output
- Distorted frequency response
- A low hum from the amplifier (depending on the design)

If this occurs:

- **Unplug the headphone cable** from the amplifier or energizer.
- **Touch the metal pins on the plug with your hand** to discharge the electrostatic force.
- This action neutralizes the charge and allows the diaphragm to return to its normal position, restoring proper function.

Design Considerations

To achieve exceptional bass response, we have chosen to tension the diaphragm in a way that may occasionally result in the above-mentioned sensitivity. Under normal use—without pressing the headphones against your head or moving them forcefully—this issue should not occur.

Tips to Minimize Pressure-Related Issues

To reduce the occurrence of diaphragm sticking or popping:

- **Always position the headphones on your head before plugging them into the amplifier.**



- If the headphones are already connected, **avoid pressing down on the earcups** while adjusting them on your head.
- If a diaphragm does become stuck, follow the above steps to discharge it safely.
- **Store the headphones in the supplied carrying case or a sealed container** when not in use to prevent dust buildup, which can also affect performance.
- **Avoid direct sunlight and high-temperature environments**—keep the headphones below **35°C (95°F)** for optimal preservation of components.

Additional Handling Precautions

- **Do not leave the unit powered on when not in use.**

Euridiche Headphone parts

1. Headphone cups
2. 3 PIN mini XLR connectors for headphone cable.
3. High frequency switch. Use it symmetrically, switching in 'mirror' (horizontally). Inside position +2dB @ 20 KHz, outside position 0dB @ 20KHz, middle position -2dB @ 20 KHz.
4. M3 screws, holding the ear-pads and the headphones together.

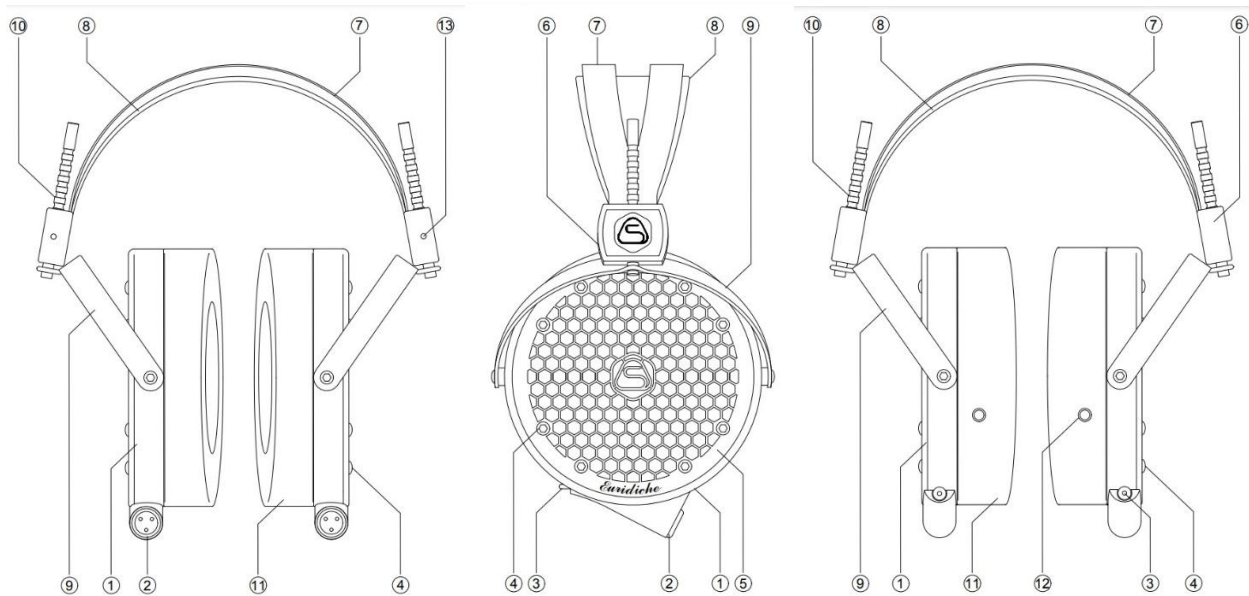


Figure 1. Headphones: front, side and rear views

5. Guard mesh.
6. Slider mechanism with adjustable sliding force (with 1.5mm imbus screwdriver)
7. Carbon fiber dual arc head spring.
8. Leather head pad
9. Case holder
10. Sliding shaft
11. Ear pads
12. Bass reflex tubes



Specifications

•Push-pull electrostatic element, open air type enclosure.

•Frequency responses:

1. f_{-3} =16Hz-45KHz
2. f_{-6} =4Hz-55KHz

•Sound Pressure Sensitivity: **100dB**/100V/1KHz
(103dB@28Hz)

•Bias Voltage: DC 580V

•L/R indicators on the inside surface of the slider mechanism. R indicator on the cable.

•Weight: 498g (without cable)

•Maximum sound level: **117dB**@1KHz, **120dB**@28Hz-bass port open (with Soltanus Acoustics Mezzoforte MK II or Driver Unit MK II, 115/118dB with Blue Hawaii SE)

•Cable mounted with Stax 5 pin Pro type connector. Conductors are different cross sectioned solid core types, made from different metals, separately insulated.

•Maximum input voltage: 700Vr.m.s.

Specifications and appearance are subject to change without notice as part of ongoing improvements.

•Is the source playing and outputting signal ?

Sound is distorted

•Is Bias Supply voltage at correct DC 580V ?

•Is your amplifier functioning properly ?

•Distortion may occur if the volume is set too high—try lowering it.

•Are all cable connections secure and free from contact issues ?

Unbalanced L/R sound

•Are the input signals balanced and correct?

•Is the headphone cable properly and securely connected?

•Is there any breakage or contact issue in the cables ?

•Could one of the diaphragms be stuck to the stator due to air pressure? (See the *Precautions* chapter for details)

Accessories

- Headphone cable.....1
- Warranty card.....1
- Sponge inserts for Bass Reflex ports.....4
- Sponge insert removal tool.....1
- Actual Frequency response graphs, measured on dummy head, without smoothing.

Troubleshooting

No Sound

•Are the plugs properly and securely inserted ?

•Is the energizer or amplifier powered on and functioning correctly ?

Hum or cracking noise is heard

•Is the grounding intact? A broken ground in the power cable or wall socket of the energizer can cause hum.

•Are the input terminals connected correctly? A floating or poorly connected ground wire may lead to hum noise.

•Are all cable connections secure and free of contact issues?

•Is the supply voltage within the specified range?

•Is there any damage or contact problem in the cables?

•Is the humidity level too high? Using air conditioning in hot, humid climates is recommended.

•Is there any dirt, dust, or hair trapped between the stator and membrane?

•If you experience any issues not covered above, please contact your dealer, authorized distributor, or the manufacturer for assistance.



Warranty

Soltanus Acoustics products are covered by warranty from the original date of purchase (the "Warranty Period").

What's covered

Soltanus Acoustics warrants to the original purchaser that the Soltanus product will be free from defects in manufacturing, parts, materials, and workmanship under normal use, in accordance with Soltanus Acoustics' published guidelines. These guidelines include, but are not limited to, information provided in technical specifications, user manuals, and service communications.

What's not covered

This warranty does not cover defects resulting from improper or unreasonable use or maintenance; cosmetic damage, including but not limited to scratches, dents and broken parts; failure to follow operating instructions; accident; excess moisture; excess temperature; power surges; connections to improper voltage supply; unauthorized alteration or modification of original condition; damage caused by use with non-Soltanus Acoustics products; products purchased from unauthorized dealers; or defects incurred during transportation for which claims must be presented to the carrier.

What we will do

At our sole discretion, and to the extent permitted by law, we will repair or replace (using new or refurbished Soltanus Acoustics products) any Soltanus Acoustics product that is covered under warranty for the period listed, starting from the date of the original retail purchase.

What we will not do

We will not pay shipping, insurance or transportation charges, or any import fees, duties and taxes.

Warranty eligibility statement

To be eligible for service under this warranty, you must include a warranty card and valid bill of sale from an authorized Soltanus Acoustics retailer with the repair item(s). The bill of sale must detail the following information: retailer's name, original purchase date, proof of purchase, and serial number.

Additional product information and limitations

Warranty Replacements Soltanus Acoustics strives to improve the performance of our products and reserves the right to make changes to designs, specifications, or materials at any time without prior notification. At its discretion, Soltanus Acoustics may choose to replace the product completely with a new or remanufactured unit. In the event of product obsolescence, a suitable replacement will be selected based on the features, intended use (as

determined by Soltanus Acoustics), and the retail price of the original product.

Product

All warranty replacements are guaranteed for 90 days or until the end of the original Soltanus Acoustics product's warranty period, whichever is longer. Soltanus Acoustics does not offer advance replacements for Soltanus Acoustics products.

Determining authority

Soltanus Acoustics will be the final determining authority for all potential warranty claims for service and/or replacement.

Other conditions/rights

EXCEPT AS PROVIDED IN THIS WARRANTY AND TO THE MAXIMUM EXTENT PERMITTED BY LAW, SOLTANUS ACOUSTICS IS NOT RESPONSIBLE FOR DIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY BREACH OF WARRANTY OR CONDITION, OR UNDER ANY OTHER LEGAL THEORY, INCLUDING BUT NOT LIMITED TO LOSS OF USE; LOSS OF REVENUE; LOSS OF ACTUAL OR ANTICIPATED PROFITS; LOSS OF GOODWILL; LOSS OF, DAMAGE TO, COMPROMISE OR CORRUPTION OF DATA; OR ANY INDIRECT OR CONSEQUENTIAL LOSS OR DAMAGE HOWSOEVER CAUSED INCLUDING THE REPLACEMENT OF EQUIPMENT AND PROPERTY. THE FOREGOING LIMITATION SHALL NOT APPLY TO DEATH OR PERSONAL INJURY CLAIMS, OR ANY STATUTORY LIABILITY FOR INTENTIONAL AND GROSS NEGLIGENCE ACTS AND/OR OMISSIONS. SOME STATES IN THE USA OR OTHER COUNTRIES. DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU. TO THE EXTENT PERMITTED BY LAW, THIS WARRANTY AND THE REMEDIES SET FORTH ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, REMEDIES AND CONDITIONS, WHETHER ORAL, WRITTEN, STATUTORY, EXPRESS OR IMPLIED. SOLTANUS ACOUSTICS DISCLAIMS ALL STATUTORY AND IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND WARRANTIES AGAINST HIDDEN OR LATENT DEFECTS, TO THE EXTENT PERMITTED BY LAW. IN SO FAR AS SUCH WARRANTIES CANNOT BE DISCLAIMED, SOLTANUS ACOUSTICS LIMITS THE DURATION AND REMEDIES OF SUCH WARRANTIES TO THE DURATION OF THIS EXPRESS WARRANTY AND, AT SOLTANUS ACOUSTICS'S OPTION, THE REPAIR OR REPLACEMENT SERVICES DESCRIBED HEREIN. SOME STATES (INCLUDING COUNTRIES AND PROVINCES) DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY (OR CONDITION) MAY LAST, SO THE LIMITATION DESCRIBED ABOVE MAY NOT APPLY TO YOU.

Warranty periods for all Euridiche Headphone series:

Electrostatic drivers:.....3years

Membranes:.....1year

Headphone cable:.....1year

Headband assembly.....2years

Ear pads and head pads come into direct contact with the skin and are considered consumable parts. They are **not covered under the warranty**.

