



OLLO Audio Research and Development Lab Owner's Manual

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Owner's Manual

OLLO Audio
research and development lab

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Safety first

Please read this before you do anything with your new gadget.

- Please read this document in full.
 - Remember to give this document along with the product when giving it forward to anyone else.
 - Save this document in a safe place or download a copy from our website and save it in digital format to your preferred storage system.
 - If the package of the product is damaged and there is a high chance that the product might be damaged more than just cosmetically, please do not use the product and return it to your seller with photos of the damaged package and product. Make sure to check their return policy.
 - Do not use this product at high volume levels for a longer period (more than 7 minutes at 90+ dB can start damaging your hearing).
 - When the use of a product can obstruct your focus and put you in harm's way, please do not use it. For example, listening to headphones while driving a bicycle at levels that mask the ambient sounds.
 - **IF YOU HAVE A CARDIAC PACEMAKER**, please keep the product at least 10 cm (4 inches) away from your Headphones speaker to generate permanent magnetic fields.
 - All small parts of the product, accessories, and packaging should be kept away from children and pets to prevent choking hazards.
 - Do not expose the product to extreme heat or cold.
 - Do not leave the product in the sun for extended periods.
 - Do not use the product on wet
 - The product is not water-resistant.
 - Only use spare parts and accessories supplied or recommended by OLLO
 - Please keep the product clean to enjoy its beauty for many years.
 - OLLO Audio Ltd. (OLLO Audio d.o.o.) does not accept any liability that could arise from abuse or misuse of any of the products in the package.
 - Improper use is considered when the product is not used for listening to music and sounds at moderate volume levels or used inappropriately Please check our list of recommended amplifiers.
 - The product is designed and tested for moderate use on healthy individuals with healthy hearing.
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- Remember to play high-quality audio to experience and enjoy our products

Thank you for reading our safety recommendations.

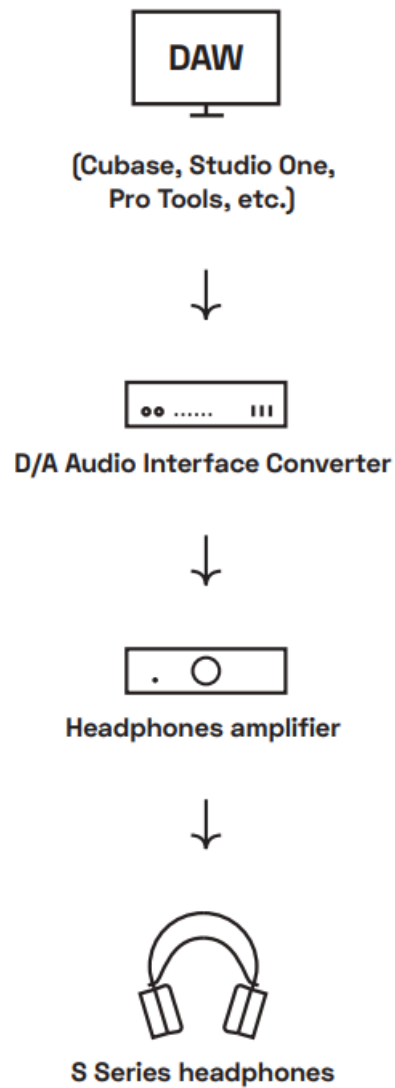
Features

Features

- Dynamic speakers
- Neodymium magnets
- Easy to drive even with smart devices – 32 Ohm
- A detachable connection cable can be upgraded with custom made cables
- Standard connection for any hi-fi gear (DVD, Home theatre amplifiers, smartphones, portable players, studio amplifiers) with TRS jack 3.5 or 6.3mm
- Replaceable earpads
- 360 earcups rotation
- Self-adjusting headband with equal weight distribution

- Fully serviceable with home tools

Signal Chain



Technical data

Speaker size	50mm
Frequency range*	Variation in frequency response in band from 20Hz to 20kHz ~13,7dB SPL (S4X 1.1) & 10,0dB SPL (S4R 1.1)
SPL/sensitivity*	108dB (S4X 1.1) & 111dB (S4R 1.1)/1Vrms@1KHz 30ohm
Impedance	~32ohm – smart devices ready
Ear pads diameter	90mm
Ear pads material	Acoustic foam, extra elasticity poly leather, and velour
Ear cups material	American walnut
Headband material	Stainless steel and nautical artificial leather
Cable termination	Detachable 2 meters long Y 2.5mm mini-jack
Connector	3.5mm jack with an adapter to 6.3mm jack
Weight	350g (S4X 1.1) & 382g (S4R 1.1)
Magnet type	Neodymium
Transducer type	Dynamic
Coil	2 layered
Membrane material	PET 25u
Speakers	Matched speakers
International warranty	5-year limited warranty
Trial period	30 days from the delivery date when purchased directly from OLLO Audio

* IEC 60318-1

Use case scenarios

Studio use



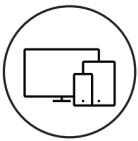
Plug your S-series headphones into your dedicated headphones amplifier. If you do not have one, you can use headphones output on your sound card. For best results, we recommend using a dedicated headphones amplifier. For extra flexibility, we recommend you have one S4R model in your recording booth and one S4X in your mixing room. If you are using open-back models in a recording session, make sure your playback volume is not too high and picked up by microphones.

Using a laptop in everyday life



We know you are going to love your new headphones for sound design and mixing so much that you will use it in everyday situations as well. If you want to connect any of the S series headphones to a laptop computer, just find the TRS mini-jack audio output. Usually, there's a small icon suggesting headphones output. If your laptop does not have a TRS output, you will have to find a suitable converter. Please refer to your laptop manufacturer's manual.

Working remotely



In case of working on a project remotely, we recommend both (or more) sides have the same monitoring experience. You can ask us for a rent offer if the project requires multiple people from all over the world. Reach out to us through our Help Desk.

Recording artists



In today's competitive music production industry, the expectations of everyone involved in a project are high. As a recording artist, you're the connecting link between the songwriter's idea and music producers. Having monitoring that is very revealing and studio or room independent is a must-have tool. With the S4R, you will have it in any studio. It's designed to fit home or pro studio signal chains. They are easy to drive, so if circumstances require very high playback volume, you can achieve it even on entry-level equipment. Plug them into the headphones amplifier output that most studios will have in every recording booth. If needed, you can use 3.5 or 6.3mm jack extension cords.

Tips and tricks

Why is it important to have the right mixing volume

Two reasons, one is obviously to keep your hearing safe and healthy. The second is project dependent. When you're mixing background music that might be played quietly in a hotel lounge, you need to incorporate different instrument balances to achieve a nice balanced mix when played back quietly. The same goes for projects that will most likely be played at higher volumes. The way human hearing works was researched many times, and probably the most known research is the one by Fletcher and Munson. Our hearing has a lot less sensitivity for low frequencies; hence you need them to be a bit louder, especially with projects that are planning to be played back at low volumes. This requires that you mix (or check) at approximate levels as the final productions will be played back. To do that, you need an SPL meter, or you can calculate it using the headphones' sensitivity data.

Example table of SPL levels

SPL +/- 1dB	
108dB	111dB
102dB	105dB
96dB	99dB
90dB	93dB
84dB	87dB
78dB	81dB

OLLO recommended SPL for mixing is 78dB for songs intended to be played back at lower volumes or for longer mixing sessions. For music that is intended for moderate volume playback, we recommend mixing at about 85dB. Only check mixes at 90dB or more for loud venue playback and keep track of the time you are listening to these levels.

We recommend you do not exceed 1 hour to keep your hearing safe and healthy.

How to use individual headphones measurements

All measurements after 2nd March 2020 are based on IEC 60318-1 standard issued measurement gear. If you want to correct the response of your headphones to closely match the IEC standard of equal loudness, you can do this by following these steps:

1. Find the serial number of your headphones.
2. Log in to your account on our website, where you'll be able to download the measurements or send us an inquiry (for orders after April 2020).
3. Make an inverse curve on your master channel equalizer as we show it in our blog section on our webpage.
4. Make sure you bypass it when exporting or switching monitoring options.

GRAS Sound & Vibration



DEWESoft®
measurement innovation



Warranty terms and conditions

Duration

OLLO Audio Ltd offers a 5-year limited warranty to the S-series headphones and all upgrades to the newer models. For the first two years, OLLO Audio provides a limited guarantee as directed by EU directive 1999/44/EC. This limited guarantee is valid worldwide in all countries in which in each respective case the national laws do not conflict with these guarantee terms.

Consumers may be entitled to statutory rights in their resident countries, which are not restricted by these warranty terms and conditions.

OLLO Audio Ltd. reserves the right to refuse warranty claims against products or services that are obtained and/or used in contravention of the laws of any country. We cover all the costs of repair, parts exchange or product replacement and shipping costs both ways for these first two years. Excluded are custom duties. Depending on your location, there might be a way to void these as well if paperwork and documentation are properly prepared. The owner covers the cost of shipping the product to OLLO Audio's headquarters for inspection before any warranty claim is granted. If granted, costs are reimbursed. Repaired or exchanged product is sent back to the original owner via standard courier services. For the subsequent years, OLLO Audio offers a limited warranty, covering repair and parts exchange costs, excluding shipping costs and duties or levies both ways. The warranty period begins on the date of delivery of a brand new, unused product by the first end-user.

Proof of purchase

Original invoice from OLLO Audio or authorized reseller acts as proof of purchase. If you do not present it, you will be obliged to pay for any repairs or administration costs that are carried out during the claim investigation.

Warranty is transferable to the second user if the original purchase receipt is presented with the warranty claim. If OLLO Audio repairs the product, exchanges parts or replaces the product, then the guarantee claim for the defect in question or the replaced product is valid for the remaining duration of the original guarantee period.

The latest version of the limited warranty terms is available at our website and is subject to change when laws are updated.

The warranty does not cover

1. Minor faults or deviations in the quality of a product that do not affect the product's value or fitness for its intended purpose as described in the EU directive mentioned in the first *Cosmetic damage, such as very small scratches, rips in textile elements, or straps, and faults resulting from improper use (e.g., operating errors, mechanical damage, incorrect operating voltage, etc.).
2. Damage caused by accident, abuse, misuse, water, flood, fire, or other acts of nature are also not covered by this
3. Damage to a product that has been modified or altered without the written permission of OLLO Audio Ltd.
4. Faults of which the purchaser was already aware at the time of purchase (B stock items for example).
5. A cable warranty is limited to three months from the delivery date (permanently installed, pluggable, or as accessories).
Due to their nature, cables have strong exposure to wear and tear factors, which specifically depend on the intensity of use and mechanical load presented by the user.
6. Faults due to general wear and tear due to inappropriate usage are not covered.
7. Headband straps or pads, ear pads, and all parts of the product that have constant body contact while being used.
8. Damage in the product resulting from failure to comply with the users' guide for proper use and maintenance (for example air pressure warning label).

9. All warranty claims become void if the product is tampered with by unauthorized persons or repair shops. Further, this warranty is voided by removal or alteration of identification labels, serial numbers, or safety labels on the product or its parts. OLLO Audio is in no instance liable for indirect or consequential damages of any kind – including and not restricted to loss of profits or economic disadvantages. In some legislation regions, the exclusion or limitation of indirect/consequential damages or the limitation of the duration of the guarantee is not allowed. In this case, local laws are above EU directives and do not apply to you. You need to present local laws by which you wish to process your claim and are different from the EU directive mentioned in the first paragraph.

Warranty claims

can be enforced from any country. The owner covers the cost of shipping the product to OLLO Audio's headquarters for inspection before any warranty claim is granted. Repaired or exchanged product is sent back to the original owner via standard carrier services.

Consumers may be entitled to statutory rights in their resident countries, which are not restricted by these warranty terms and conditions. OLLO Audio Ltd. reserves the right to refuse warranty claims against products or services that are obtained and/or used in contravention of the laws of any country.

All repairs have a 90-day warranty. To obtain warranty service, submit a warranty claim to OLLO Audio's e-mail: info@olloaudio.com or via the Help Desk.

Describe the problem you're experiencing, and if you can, add some pictures or videos. OLLO Audio's team will evaluate your situation and will provide further instructions to you by e-mail.

To obtain warranty service, you will need an original or copy of the sales receipt from the original retailer.

Warranty claim quick guide

1. Send the description of the problem with pictures, videos or sound samples to info@olloaudio.com or through our Help Desk.
2. Wait for further instructions by OLLO Audio. You'll receive an e-mail with the next steps.
3. Send the product to OLLO Audio's headquarter in the EU. OLLO Audio covers shipping of the repaired product back to the owner with standard courier services.
4. We will repair the headphones in up to 45 days. If the product is not repairable, we'll grant you a new product currently available at the same quality level in case your product is no longer being produced.
5. If in doubt, ask. Don't worry. We're human.

Product handling and care

When you listen – air is trapped between your head and the speaker's diaphragm. The acoustics design of the earcups prevents air from leaving the pressure zone created. In case of sudden pressure changes created by quickly pressing earcups onto your ears, you might hear the speaker membrane mechanical crinkling.

We strongly recommend being cautious when handling any headphones. Trapped air can create high pressure, and sudden pressure changes could damage the membranes, and our warranty does not cover this. We recommend slow and steady movement to allow the air pressure to stabilize.

For traveling, make sure the earpads are not covered or sealed by a flat surface. For example, having them in between a laptop and a notebook. When you walk, the mass of the laptop will create sudden air pressure changes and could distort the membranes.

My notes

Made in Slovenia-EU



OLLO Audio
research and development lab

Documents / Resources

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