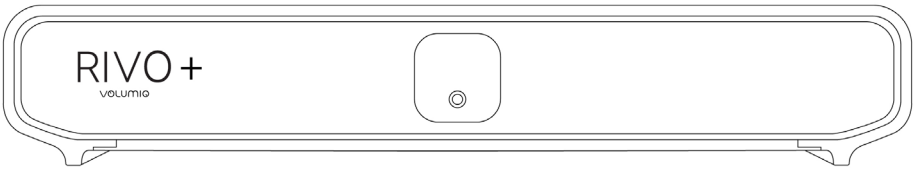
VOLUMIO®

THE MUSIC PLAYER

RIVO+



Audiophile Music Player Transport

USER MANUAL

ENGLISH

FOR MUSIC LOVERS,
BY MUSIC LOVERS

INTRODUCTION

Congratulations on your purchase!

Volumio **Rivo+** is an integrated **audiophile music player transport** designed with three key principles in mind: ease of use, universal compatibility with music sources and sound quality.

To take full advantage of Rivo+'s capabilities, please read this manual carefully.

Our support team is available to assist you with any questions regarding Rivo+ and all of our products via our **chatbot service** on the Volumio website: **www.volumio.org**

USER MANUAL TRANSLATED IN OTHER LANGUAGES

For the translation of this manual in other languages please click on the link below:

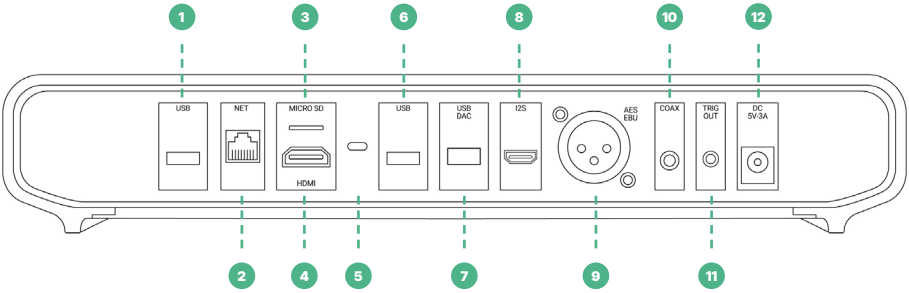
TRANSLATED MANUALS

WHAT'S IN THE BOX?

- Volumio Rivo+ audiophile music player transport
- 5V 3A Switching Power Supply*
- NFC Information Card

(*) Power Adapter is optional, depending on the region and local seller's policy.

I\O OVERVIEW



WI-FI ANTENNAS:
Rivo+ has two integrated wi-fi antennas to ensure optimal wireless performances on 2.4/5GHz network.

1. **USB 3.0:**
   This port can be used to attach USB hi-speed drives, such as SSD, or digital sources such as CD drives.

2. **GIGABIT NETWORK:**
   Wired Network interface. This is the suggested network connection for playing Hi-Resolution content. Connect this interface to your router via an ethernet cable.

3. **MICRO-SD CARD SLOT:**
   Insert a Micro SD card to expand the unit memory and add music files in local. **Note**: To do so please format the sd card in FAT32 and label it - issd

4. **HDMI OUTPUT:**
   This output allows connection to TV or monitor and will display the User Interface. It can be used as an alternative to the smaller screen of a mobile device. **Note**: In order to control the unit the attached monitor must be a touchscreen, unless a mouse and/or keyboard is connected via USB.

5. **USB type-c**:
   not used (service).

6. **USB 2.0:**
   This port can be used to attach USB accessories such as: thumb drives, USB storage drives, keyboards, mice and smart remotes.

7. **USB 2.0 5V low-noise filtered (suggested for DAC):**
   This port is suggested for the USB DAC connection. The low-noise filtering minimizes power interferences on the digital audio signal.

8. **I2S DIGITAL OUTPUT:**
   This output can be used to stream digital audio to an external DAC over an HDMI I2S connection. (see the specs tab for the I2S/DSD over HDMI digital output pin configuration in the SPECIFICATIONS section).

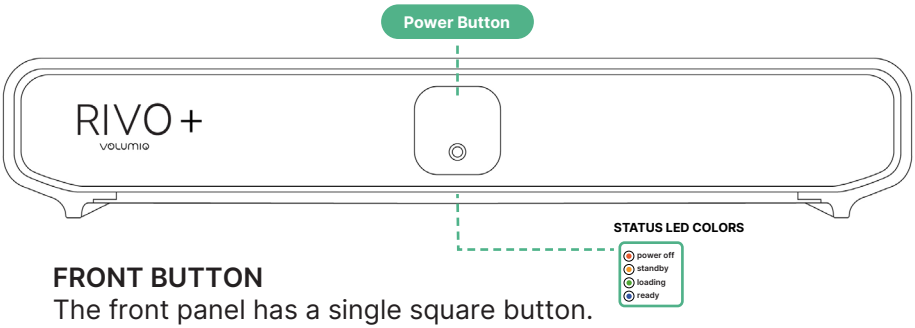
9. **AES-EBU DIGITAL OUTPUT:**
   This output can be used to stream high definition audio via XLR shielded twisted pair balanced cable.

10. **COAX DIGITAL OUTPUT:**
    This output can be used to stream digital audio to an external DAC via coax S/PDIF connection.

11. **12V TRIGGER OUTPUT:**
    It provides a 12V trigger signal to power ON and OFF other compatible devices, facilitating automation and synchronization of various components of the audio system. The connector is a 3.5 mm jack, the positive output is on the tip, the reference return path is on the sleeve.

12. **5V DC IN:**
    Connect the power mains of the provided Power Supply Unit (or a compatible 5V 3A power supply).

FRONT PANEL OVERVIEW



FRONT BUTTON

The front panel has a single square button.

STATUS LED COLOR

- Short press from Power-off state: Turn the device on
- Short press from Ready State: Enter standby mode
- Short press from Stand-by State: Enter ready mode
- Long press for 5 seconds: Turn the device off

The colored led will show the status of the device.

FIRST SETUP

When first powered on, the Rivo+ will initialize and this will take a few minutes to complete. Make sure not to remove power and do not operate it for at least five minutes on first power up.

To reach Volumio Rivo+'s User Interface:

- Download **Android/iOS APP** on your mobile device. Launch the APP and search for a new device. Rivo+ will be automatically discovered.

- Follow the step-by-step instructions inside the APP, to set up the unit.

Once the first setup has been completed, your Rivo+ is ready.

CONNECTION TO THE UNIT

Rivo+ works best when it is connected to your network since it is meant to be used as a headless device: the suggested method to reach and browse inside Rivo+ is the **Android/iOS APP**.

Alternatively:

- You can connect a 4K/60fps screen/touchscreen to the HDMI video output port.

- To connect from your browser, type http://rivo-plus.local in the web address bar. If you have renamed your Rivo+, replace "rivo-plus" with your "device name" as in http://devicename.local.

THE SOFTWARE : VOLUMIO OS

The OS inside the Rivo+ is an highly customized version of Volumio OS, carefully optimized to leverage the sonic capabilities of Rivo+'s hardware design.

Furthermore, Volumio OS on Rivo+ is enriched with premium features accessible right out of the box, without the need of a paid Volumio Premium account.

This means that all premium offerings from AI Music Discovery, to high-resolution streaming services integration, are readily available without additional costs.

A free MyVolumio account is however required if you want to add more functions with plugins, available for free in the Volumio plugin store. In short, Volumio OS is all about making your music sound great, easy to use, and comes with cool features ready to go if you have Rivo+.

SOFTWARE UPDATES

Volumio features an automatic OTA (Over The Air) updater which is meant to provide a seamless and reliable way to update to new system versions.

To change the auto updater to MANUAL go to:

- Go to Settings Menu
- Select *System*
- Click on *Updates*

RESTORE TO FACTORY SETTINGS

Volumio Rivo+ can be reset to factory settings and all settings and music stored on the device will be deleted (no changes will be made on the software version!)

There are two ways to perform a Factory Reset:

- from the UI
- with a USB Thumb Drive (in case the unit is not operational due to software error)

Factory Reset Via User Interface

- Go to Settings Menu
- Select *System*
- Click on *Factory Reset* and confirm the warning dialog
- The unit will restart in about five minutes.
- WARNING: All settings and user data will be permanently deleted
- IMPORTANT: Do not remove power in this phase, as it might damage the unit.

Factory Reset Via USB Thumb Drive

- Get a USB thumb drive
- Format your USB thumb drive as: *FAT32*
- Download the factory reset file from: https://static.vlmapi.io/volumio/factory_reset
- Copy the factory reset file to your thumb drive and make sure the file is named exactly “factory_reset” (Do not rename this file after download.)
- Power OFF the unit
- Insert the thumb drive to one of the USB ports
- Power ON the unit
- IMPORTANT: During this phase the unit may restart multiple times and the factory reset will take about five to ten minutes to complete.

SPECIFICATIONS

XLR AES/EBU output:
up to PCM 192kHz/24bit, DSD64 (DoP Mode)

COAX S/PDIF output:
up to PCM 192kHz/24bit, DSD64 (DoP Mode)

I2S/DSD over HDMI output:
up to PCM 768kHz/32bit, DSD256

USB:
1X USB 2.0 , 1X USB 3.0 (memory units dedicated), 1X USB 2.0 5V power filtered (DAC dedicated), up to PCM 768kHz/32bit, DSD256

CPU:
Amlogic S905D3-N0N x4, Quad Core Cortex A55, 1.9GHz

RAM:
2GB DDR4

Internal Memory:
16GB EMMC

Memory card slot:
SDSC/SDHC/SDXC support

Video Output:
HDMI, up to 4K resolution

LAN:
Gigabit 10/100/1000M

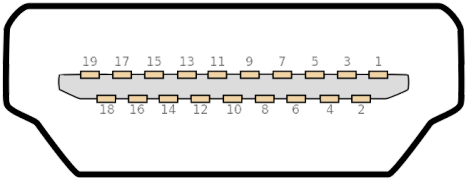
Wireless Networking:
Wi-Fi 802.11a/b/g/n/ac & Bluetooth 5.0

Dimensions:
270×150×50 mm

** Specifications subject to change without notice.*

I2S/DSD over HDMI specs

The I2S/DSD over HDMI digital output can be configured to match the pin assignment of most of the DACs available on the market, selecting the corresponding brand in the Playback Options menu.
Details on the pin assignment can be found in the table below:



PIN NUMBER	TYPE	DESCRIPTION
1	Fixed	I2S DATA+ / DSD DATA-R+
2	Fixed	GND
3	Fixed	I2S DATA- / DSD DATA-R-
4	Fixed	I2S BCK+ / DSD BCK+
5	Fixed	GND
6	Fixed	I2S BCK- / DSD BCK-
7	Fixed	I2S FS+ / DSD DATA-L+
8	Fixed	GND
9	Fixed	I2S FS- / DSD DATA-L-
10	Fixed	I2S MCLK+ / DSD MCLK+
11	Fixed	GND
12	Fixed	I2S MCLK- / DSD MCLK-
13	Fixed	Not Connected
14	Configurable	DSD/PCM status (if enabled); 1=DSD, 0=PCM
15	Configurable	DSD/PCM status (if enabled); 1=DSD, 0=PCM
16	Fixed	Not Connected
17	Fixed	GND
18	Configurable	5V Power (if enabled)
19	Fixed	GND

IMPORTANT SAFETY INFORMATION

- Review this user manual carefully.
- Keep this user manual for future reference.
- Heed all warnings.
- Follow all instructions.
- Do not use the Rivo+ near water or liquids of any sort.
- Clean only with dry soft cloth. Household cleaners or solvents can damage the finish of the Rivo+. Please clean and handle the product only after disconnecting from mains power for at least five minutes.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus that produce heat.
- Protect the power cable from being walked on or pinched, particularly at the plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use original attachments/accessories.
- Unplug the Rivo+ during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cable or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- The mains plug should be readily available to disconnect the equipment.

- Warning: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
- Do not expose apparatus to dripping or splashing and do not place objects filled with liquids, such as vases, on or near the apparatus.
- AC outlet voltages vary from country to country. Before connecting to the mains, make sure that the voltage in your area meets the voltage requirements printed on the power supply.
- The power supply is used to disconnect the unit from the mains. Make sure that the power supply is easily accessible at all times. Never handle the device or the power supply while your hands are wet or damp.
- Avoid allowing liquids to enter the device or the power supply. Never place any item containing liquid, such as a flower vase on or near the device. Never spill any liquid on or near the device or the power supply.
- Never place any naked flame sources, such as lighted candles on or near the device. The product shall not be used in damp or wet locations, next to a bathtub, sink, swimming pool or any other similar conditions.
- For optimal performance please place the unit on a well vented spot.

WARRANTY

The manufacturer accepts no responsibility for damage caused by not adhering to these instructions for use. Modification or changes to any part of the product by unauthorized persons release the manufacturer from any liability over and above the lawful rights of the customer.

The Volumio Warranty is valid for all new products purchased from an officially authorized Volumio retailer or from our online store (volumio.com). This warranty is non-transferrable and does not apply to third-party or private sales of Volumio products.

All parts defective in material and workmanship are covered under warranty for two (2) years from the date of original purchase by the original owner. Software defects are not covered by Warranty.

The product must be returned in the condition you received it and with the original box and/or packaging, including manufacturer tags where applicable.

We will not accept the return of products damaged due to negligence or abuse. Please include all packaging and accessories prior to shipping.

Please take the time to carefully package your returns. It is the responsibility of the customer to pay costs related to the repair of returned items damaged in shipping due to improper packaging. The customer is responsible for all return shipping costs for new or used products.

If you feel that your product is eligible for a warranty evaluation due to defect in its materials, operation or workmanship on arrival, please contact our team at: via our **chatbot service** on the Volumio website to receive an RMA and return shipping label.

Detailed infos on warranty and return policies here:

https://volumio.com/en/terms-of-service/

OPEN SOURCE SOFTWARE USED IN THIS PRODUCT

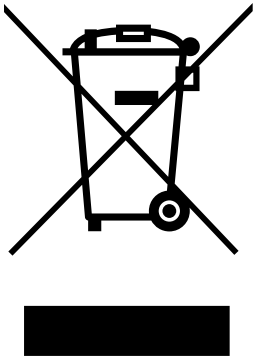
The software included in this product contains copyrighted software that is licensed under the GPL.
A copy of that license is included in the "**Credits**" section of the software, accessible via the System settings menu.

If you would like a copy of the GPL v2.0 source code contained in this product shipped on a DVD, you may obtain the complete Corresponding Source code from us for a period of three years after our last shipment of this product for a charge of 20$ no more than the cost of preparing and mailing a DVD to you.
Please contact **foss@volumio.org**
This offer is valid to anyone in receipt of this information.

Additionally, complete source code of open source components included in this product is available at: **http://sources.volumio.org**

DISPOSAL INFORMATION

For private households:



Information on Disposal for Users of WEEE This symbol on the product(s) and / or accompanying documents means that used electrical and electronic equipment (WEEE) should not be mixed with general household waste. For proper treatment, recovery and recycling, please take this product(s) to designated collection points where it will be accepted free of charge. Alternatively, in some countries, you may be able to return your products to your local retailer upon purchase of an equivalent new product. Disposing of this product correctly will help save valuable resources and prevent any potential negative effects on human health and the environment, which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point. Penalties may be applicable for incorrect disposal of this waste, in accordance with your national legislation.

For professional users in the European Union:

If you wish to discard electrical and electronic equipment (EEE), please contact your dealer or supplier for further information.

For disposal in countries outside of the European Union:

This symbol is only valid in the European Union (EU). If you wish to discard this product please contact your local authorities or dealer and ask for the correct method of disposal.

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The information contained in this manual is believed to be accurate and reliable. Volumio assumes no responsability for any error contained in this manual. Volumio assumes no responsability for any differences between the product mentioned in this manual and the product you may have.
The information in this user manual was correct at the time of going to press. The manufacturer reserves the right to make changes to the technical specification without prior notice as deemed necessary to uphold the ongoing process of technical development.

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ITALIA

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Bluetooth® is a trademark owned by the Bluetooth SIG, Inc.,
Apple is registered trademark of Apple Inc.,
Android™ is a trademark of Google Inc.
All other products and services mentioned may be trademarks or service marks of their respective owners.

Revision 1.0

Contains FCC ID: 2AVFM-VIM3

FCC Warning

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not expressly approved by the party responsible
for compliance could void the user's authority to operate the equipment.

Note 1:
This equipment includes the KHADAS VIM3L single board computer that has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules.
These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:
— Reorient or relocate the receiving antenna.
— Increase the separation between the equipment and receiver.
— Connect the equipment into an outlet on a circuit different from that to which the receiver is
connected.
— Consult the dealer or an experienced radio/TV technician for help.

Note 2:
1. Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
2. The minimum separation generally used is at least 20 cm.

EU DECLARATION OF CONFORMITY

Model Name: Volumio Rivo+

EU DIRECTIVES

2014/53/EU, Radio Equipment

2011/65/EU, RoHS

EU DECLARATION OF CONFORMITY

1. Model No. :

   Volumio Rivo+

2. This declaration of conformity is issued under the sole responsibility of the manufacturer:

   Volumio Srl
   Borgo Albizi 15
   50122 Firenze
   ITALY

3. Object of the declaration:

   Audiophile Music Player Transport

4. The object of the declaration described above is in conformity with:

   2014/53/UE and 2011/65/EU

5. Where applicable, references to the relevant harmonised standards used or references to the technical specifications in relation to which conformity is declared:

   EN Emissions: Radiated
   ETSI EN 301489-1 V. 2.2.3
   ETSI EN 301489-17 V. 3.2.4
   CEI EN 55032:2015 +/A11:2021
   Emissions: Conducted
   ETSI EN 301489-1 V. 2.2.3
   ETSI EN 301489-17 V. 3.2.4
   CEI EN 55032:2015 +/A11:2021
   Emissions: Radio Requirements
   ETSI EN 301893 V.2.1.1
   Emissions: Radio Requirements
   ETSI EN 300328 V.2.2.2
   Emissions:
   Harmonic current
   ETSI EN 301489-1 V. 2.2.3
   ETSI EN 301489-17 V. 3.2.4
   CEI EN IEC 61000-3-2:2019 + /A1:2021

EN Emissions: Radiated
ETSI EN 301489-1 V. 2.2.3
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ETSI EN 301489-1 V. 2.2.3
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CEI EN 55032:2015 +/A11:2021
Emissions: Radio Requirements
ETSI EN 301893 V.2.1.1
Emissions: Radio Requirements
ETSI EN 300328 V.2.2.2
Emissions:
Harmonic current
ETSI EN 301489-1 V. 2.2.3
ETSI EN 301489-17 V. 3.2.4
CEI EN IEC 61000-3-2:2019 + /A1:2021
Emissions: Voltage fluctuations and Flicker
ETSI EN 301489-1 V. 2.2.3
ETSI EN 301489-17 V. 3.2.4
CEI EN 61000-3-3:2014 + /EC:2016 + /A1:2021
Immunity: Electrostatic discharges (ESD)
ETSI EN 301489-1 V. 2.2.3
ETSI EN 301489-17 V. 3.2.4
CEI EN 55035:2021 + /A1:2021
Immunity: Radio Frequency Electromagnetic Fields
ETSI EN 301489-1 V. 2.2.3
ETSI EN 301489-17 V. 3.2.4
CEI EN 55035:2021 + /A1:2021
Immunity: Fast transients (EFT-Bursts)
ETSI EN 301489-1 V. 2.2.3
ETSI EN 301489-17 V. 3.2.4
CEI EN 55035:2021 + /A1:2021
Immunity: Surge
ETSI EN 301489-1 V. 2.2.3
ETSI EN 301489-17 V. 3.2.4
CEI EN 55035:2021 + /A1:2021
Immunity: Radio Frequency common mode
ETSI EN 301489-1 V. 2.2.3
ETSI EN 301489-17 V. 3.2.4
CEI EN 55035:2021 + /A1:2021
Immunity: Voltage dips and short interruptions
ETSI EN 301489-1 V. 2.2.3
ETSI EN 301489-17 V. 3.2.4
CEI EN 55035:2021 + /A1:2021
EMF
CEI EN IEC 62311:2020
Electrical Safety
EN IEC 62368-1:2020

6. Where applicable, the notified body (name and number), description of intervention and certificate

Not applicable, the declaration of conformity is compliant with annex II of the European Directive 2014/53/EU, so the notified body it's not necessary.

Signed for and on behalf of Volumio Srl CE

Firenze, November, 15, 2024

Michelangelo Gudrise

VOLUMIO
THE MUSIC PLAYER

Volumio Srl
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