



Lehmannaudio[®]

DE

EN

FR

ES

IT

Drachenfels

Kopfhörerverstärker, Streamingvorverstärker

Headphone Amplifier, Streaming Preamplifier/Amplificateur
Casques, Préamplificateur streaming/Amplificador de
cascos, Preamplificador streaming/Amplificatore per cuffia,
Preamplificatore streaming



Bedienungsanleitung/Manual/Mode d'emploi/Manual de instrucciones/Istruzioni per l'uso

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Although you may have had some experience with headphone amplifiers from other manufacturers, please read the manual carefully before putting the Drachenfels to service and keep it close to the device for future reference!



Lehmannaudio Vertriebs GmbH

Waltherstr. 49 – 51

51069 Köln (Germany)

Phone: +49 221 – 29 49 33 20

Fax: +49 221 – 29 49 33 19

info@lehmannaudio.com

www.lehmannaudio.com

www.facebook.com/lehmannaudio

www.twitter.com/lehmannaudio

Introduction

Dear customer,

thank you very much for your trust you have shown us by purchasing the Drachenfels. The Drachenfels is a very accurately handcrafted headphone and preamplifier designed for the connection to line outputs of off-the-shelf hifi devices. Like all our products it was also developed and built in Germany. Since our company foundation back in 1988 we've been representing first-class devices, always devoted to the original sound and manufactured with a passion for detail. Owing to the best components and a sophisticated circuit layout, we're able to guarantee listening pleasure on an excellent level. The Drachenfels is superior in every respect to industrial mass products. It meets the highest standards in authentic music reproduction through practically all customary headphones. In addition, our reference model can simultaneously feed two headphones of identical sensitivity – with a constant fabulous listening experience, of course.

You will find more information in this manual and also on our website under www.lehmannaudio.com.

Now look forward to your music which will sound over the Drachenfels exactly the way you wish it to sound: well-balanced, dynamic and full-bodied!

Your Norbert Lehmann
Managing Director

Important safety notes

In this manual we use hierarchic 'red flags'. Warning notes are printed in bold and also marked and highlighted by a symbol (warning sign) in the text.

The warning notes are classified hierarchically according to the following scheme:

1. **WARNING!**
2. **CAUTION!**
3. **NOTE!**



This symbol points to important operation and maintenance notes in the accompanying documentation. Please refer to the manual.



This symbol warns of the presence of a non-insulated hazardous voltage inside the device and the risk of a potentially life-threatening electric shock.



This symbol refers to additional information in the manual. Here you will find supplementary information, recommendations and tips regarding the use of the product.

Important safety instructions

- 1 | Read these instructions.
- 2 | Keep these instructions.
- 3 | Heed all warnings.
- 4 | Follow all instructions.
- 5 | Do not use this apparatus near water.
- 6 | Clean only with dry cloth.
- 7 | Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- 8 | Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- 9 | Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- 10 | Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- 11 | Only use attachments/accessories specified by the manufacturer.

- 12 | Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
- 13 | Unplug this apparatus during lightning storms or when unused for long periods of time.
- 14 | Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord 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.
- 15 | Connection to mains voltage/disconnection from from MAINS voltage: the socket outlet shall be installed near the equipment and shall be easily accessible. Where the MAINS plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.
- 16 | An apparatus with CLASS I construction shall be connected to a MAINS socket outlet with a protective earthing connection.
- 17 | This apparatus shall only be powered by the original power supply made for this apparatus.
- 18 | The power supply of this apparatus shall not be used to power other manufacturer's products.

General safety notes



CAUTION!

Read all safety and operation notes before putting the device to service.

Storage

Keep the safety and operation notes for future reference.

Warning notes

Observe all warning notes printed on the device or contained in the manual.

Operation notes

Follow all operation notes and advice for users.

Heat

The device must not be placed near heat sources like radiators, heat accumulators, stoves or other heat-generating appliances (e.g. amplifiers).

Ventilation

Do not cover any ventilation slots on the device and when mounting it in a rack, make sure that there is sufficient air circulation. Always heed the appropriate manufacturer notes when installing the unit.

Water and moisture

Do not expose the unit to rain nor use it in close proximity to water (bath tub, swimming pool etc.) or in high air humidity (condensation).

Power cable

Use only power cables which are officially approved for your country. The power cable must be designed for the product and its corresponding power consumption (voltage/current) as stated on the device label and in the user manual.

Thunderstorm

Disconnect the unit from mains to protect it from lightning strokes and excess voltage.

Electric overload

Do not exceed the maximum load current for power outlets, extension cables or integrated multi sockets. Overload may cause a fire.

Fire sources

Do not put any open fire sources (e.g. burning candles) on the device.

Accessories

Use only accessories/extensions with the device which have been approved by the manufacturer for this purpose.

Mounting

Use the device only in a safe, level position on a table, dolly or a special designed stand. Don't drop the unit, since this may cause personal injuries and damages to the device. When installing the device, make sure that the mains plug will remain easily accessible.

Cleaning

Use only a dry cloth for cleaning the device.

Non-use

Pull the mains plug if the unit is not used over prolonged periods of time.

Ingress of liquids

Make sure that no dripping or spray water can enter into the interior of the unit. Don't place objects filled with liquids (such as vases or drinking vessels) on the device.

Power supply

Only use the included power supply.

Fuse

Use only fuses of the same type and rating as required by the manufacturer. Please refer to the manual!

Earth/polarity



CAUTION!

Use the device only on a power outlet with protective conductor connection and correct polarity. Do not disable the function of the protective conductor connection on the included power cord. If the plug of the included cable won't fit into your mains outlet, contact your local electrician.

Mains connection

Protect the power cord from footsteps and crushing, notably on the device plug, the extension cord and the cable outlet on the device.

Service

All service and repair works must be carried out by an authorised service technician. Service is required if the device has been damaged in any way, for instance if

- the power cord or mains plug have been damaged,
- liquid or some object has got into the unit,
- the device has been exposed to rain or moisture
- or if it does not function normally or after it has been dropped.

Spare parts

Only such spare parts must be used exclusively for repair works which have been specified and approved by the manufacturer.

Important safety instructions for wide range wall power supplies

- The operating manual must be read carefully prior to use, stored in a safe place and followed.
- Only use the included power supply.
- In case of visible damage to the housing or cables, do not use the power supply.
- The wall power supply is not suitable for outdoor operation.
- Make sure that the wall power supply:
 - Is properly plugged into the outlet
 - Is easily accessible and in good condition
 - Is only used within the allowable temperature range (ambient temperature of 0°C to +40°C (up to 90% relative humidity, non-condensing). Storage temperature: -40°C to +70°C (10% to 95% relative humidity)
 - Is not uncovered or exposed to sunlight for extended periods
 - Is not overheated, and is adequately cooled
- The device should never be installed or stored in the following locations, since damage may occur during operation:
 - Locations exposed to high moisture levels and/or condensation
 - Locations exposed to various environmental influences
 - Locations exposed to continuous vibrations
 - Locations exposed to pronounced temperature fluctuations
- Only use accessories such as line adapters recommended by the manufacturer
- Disconnect the wall power supply from the outlet:
 - When the device is not being used for a longer time
 - During a thunderstorm

- Never pull on the cable to disconnect the device from the mains network.
- Only use the wall power supply with power sources that meet the specifications in the section „Technical data“.
- Make sure that using the wall power supply does not overload the outlet or an extension cord. Otherwise there is a risk of fire or electric shock.
- The power supply does not require maintenance. Opening it is prohibited (risk of electric shock).
- Modifying the power supply is prohibited (voids the warranty).
- The device may only be repaired by authorised, qualified personnel.

Information on hearing protection



ATTENTION!

Headphones can reach volumes that may be hazardous to health. Before putting on your headphones, always verify that the volume setting is not too high.

Allowable exposure times depending on sound level (dBA)

Sound level (dBA)	Allowable time (hours)	Allowable time (minutes)	Allowable time (seconds)
85	8	–	–
88	4	–	–
91	2	–	–
94	1	–	–
97	–	30	–
100	–	15	–
103	–	7.5	–
106	–	–	225
109	–	–	112
112	–	–	56
115	–	–	28
118	–	–	14
121	–	–	7

Calculations based on the German Noise and Vibration Occupational Safety Ordinance (LärmVibrationsArbSchV)

Installation

In this chapter you'll learn more about the connections, controls and possible applications of your Lehmannaudio Drachenfels headphone amplifier.

1 | Unpacking

After unpacking the Drachenfels check it for possible transport damages. If you notice visible damages, you must by no means connect the device to mains. In this case consult your dealer immediately.

The delivery comprises the following components:

- Drachenfels unit
- Power supply with matching primary adapter
- User manual
- Guarantee voucher



Note

We recommend keeping the entire packaging for later shipment. That way you will avoid transport damages. Use by no means 'foam chips' or similar packaging material. Otherwise the device will jolt through to the bottom of the cardboard box during transport and can be damaged!

If the original packaging is no longer available, it's best to use bubble wrap in which to wrap up the device in a generous manner. Finally the whole should be put into a solid cardboard box.

2 | Placement

Always put the Drachenfels on a solid base. Due to its compact dimensions and low weight you can take the Drachenfels easily with you.

3 | Connecting

Check whether the included mains adapter is suitable for connection to the mains network used in your country. On the adapter, you will find information about the specified mains voltage for the device. Now connect the Drachenfels to the mains network using the external power supply and the connection on the rear of the device.

Observe the safety notes from page 30!



CAUTION!

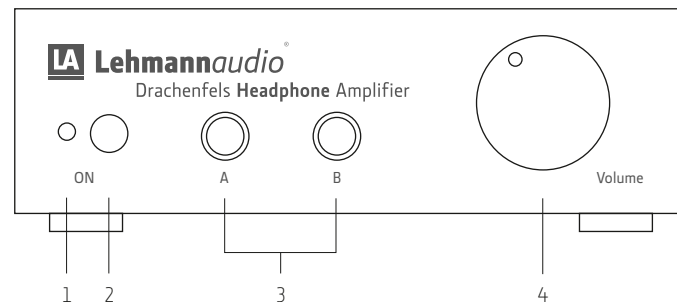
Headphones can produce volume levels which may be hazardous to your health. So before you put on your headphones, always check that the selected volume level is not too high.

More information about the **permissible exposure times depending on the sound pressure level (dBA)** based on the German Lärm- und Vibrations-Arbeitsschutzverordnung (LärmVibrationsArbSchV) [Noise and Vibrations Occupational Safety and Health Directive] can be found on **page 38**.

Functional description

In this chapter you will learn more about the connections, controls and also the application possibilities of your Lehmannaudio Drachenfels headphone amplifier.

Front panel



1 | LED indicator

The light emitting diode (LED) on the front panel indicates the operating status of the device. When the LED is lit, the Drachenfels is ready for operation.

2 | Power switch

The on/off switch built into the Drachenfels puts the integrated DC/DC converter into shutdown mode, thereby reducing the power consumption of the device to an environmentally friendly wattage below 1 VA. The external switching power supply linked to the Drachenfels will remain connected to the mains grid.

3 | Headphone outputs

6.35 mm (1/4") stereo jack sockets for headphones with a corresponding connector. Headphone models with a smaller jack plug (3.5 or 2.5 mm) can also be connected using an adapter. Suitable adapters are available at specialist retailers.

The two headphone outputs may be used to drive two headphones in parallel mode, preferably of the same type if possible.

Whenever a headphone is plugged into the left jack socket (A), the pre-out on the rear panel will be muted (mute function).



CAUTION !

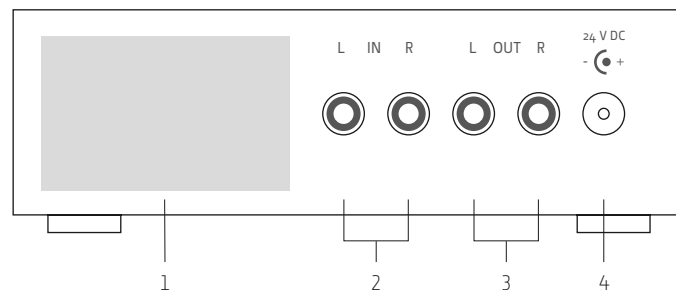
With active loudspeakers or power amplifiers connected to the line out of the Drachenfels, make sure the volume control is turned fully counterclockwise before pulling a plug out of this headphone output.

4 | Volume control

Using the volume control you can adjust the output level of both the pre-out and the headphone outputs. Turn the volume control counterclockwise to lower the volume; turning it clockwise will increase the level.

We suggest you turn this control fully counterclockwise at the end of operation, thus setting the output level to zero.

Rear panel



1 | Room for expansion module

We have planned various expansion modules to be upgraded by your specialist retailer. Please find the functional description of the respective module in the corresponding module description.

2 | Line input (stereo)

The RCA sockets of the line input are used to connect your signal source. This may be e.g. a CD player, DA converter, receiver or media player.

3 | Pre-out (stereo)

The RCA sockets of the pre-out can be used to connect all devices with a line input, for instance a power amplifier, active loudspeaker or receiver.

4 | Connector for external power supply

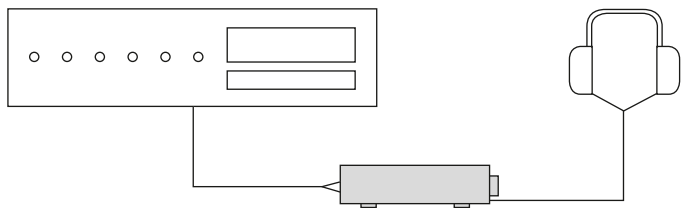
This socket is used to connect the power supply included with the Drachenfels. It is a high-quality, wide range switching power supply which you can use worldwide with the appropriate primary adapters (accessories).

The power supply complies with the latest European ECO Design (EuP) Directive and is energy-saving.

Sample applications

1 | SACD player and one headphone

In this sample configuration the Drachenfels is used as a headphone amp with an SACD player.

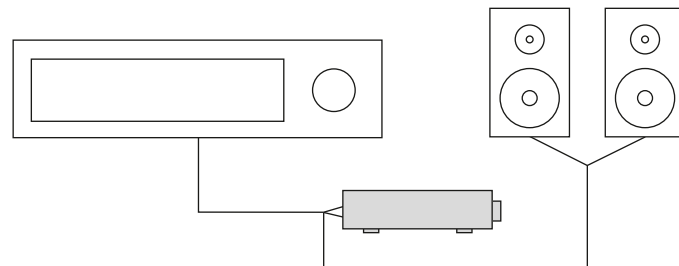


After connecting the Drachenfels to the mains grid connect the SACD player to the line input located on the rear panel of the device by means of an RCA cable.

The headphone is then connected on the front panel of the device.

2 | Media player, active loudspeakers

In this sample configuration the Drachenfels is used as a preamp for active loudspeakers in combination with a media player.



After connecting the Drachenfels to the mains grid connect the media player to the line input located on the rear panel of the device by means of an RCA cable. Now connect the active speakers to the pre-out of the Drachenfels by using an RCA cable.

Technical specifications

Input impedance	47 kohms
Maximum gain setting	12 dB with maximum potentiometer setting
Analogue frequency response	10 Hz (-0,3 dB) to 35 kHz (-1 dB)
Analogue S/N ratio	> 85 dB at +0 dB gain
Analogue THD	< 0,006 % at 18 mW/330 ohms
Channel separation	> 80 dB at 10 kHz
Power output	• 330 ohms/110 mW • 33 ohms/180 mW
Output impedance	• Pre-out 105 ohms • Phones out 5 ohms
Audio Connections	• Neutrik headphone sockets with gold-plated contacts • 1 x pre-out • 2 x phones out • Line in/pre-out: RCA
Mains connections	100 V – 240 V AC
Power consumption in operation	app. 4 W through external wide range wall power supply (without any optional pc board)
Enclosure dimensions W x D x H	160 mm x 120 mm x 43 mm (audio section)
Weight	0,5 kg (1.1 lbs.) net (audio section)

Accessories

For the Drachenfels as a purely analogue device we will offer several module boards in the long run that can be fitted into the designated plug-in location inside the unit by your specialist retailer. Your dealer will inform you about all options and possibilities.

Troubleshooting

Fault	Cause	Solution
LED indicator is not on	Power supply is not connected to a power outlet.	Connect the power supply with the power outlet.
	Device is not turned on.	Turn on the device with the power switch located on the front side of the unit.
	Power supply is not connected with the device.	Connect the power supply with the device.
No headphone signal	Device receives no sound signal.	Make sure the signal source provides a signal to the device.
	Volume control is set to minimum.	Set the volume control to the desired volume level.
	Headphone is not plugged into the socket.	Plug the headphone into the headphone socket.
No signal at the pre-out	Headphone is plugged into the left headphone output.	Pull the headphone connector out of the device or plug it into the right headphone socket.

No signal at the pre-out	Device receives no sound signal.	Make sure the signal source provides a signal to the device.
	Volume control is at minimum.	Turn the volume control to the desired volume level.
Signal is too soft	Volume control is not turned up high enough.	Turn up the volume control higher.
	Signal source is too weak.	Select another signal source or raise its level, if possible.
Headphone signal does not respond to the volume control	The cable coming from the signal source has been plugged into the output sockets.	Plug the cable coming from the signal source into the input sockets.
Signal only on one channel.	Connection cable between source and headphone amplifier has a loose contact, has not been fully inserted into the sockets or is defective.	Check the connection cable for a faulty contact, loose pushfit and defects and replace it when necessary.
Left and right channels have been messed up	The channels in the connection cable have been interchanged.	Check all connection cables in use and reverse the channels, if necessary.
	The headphone has been put on the wrong way round.	Check if you have put on the headphone in line with its labelling and, if needed, put it on correctly
Signal is distorted	The input level is too high.	Turn down the volume of the connected signal source.
	The headphone is defective.	Use another headphone set.

Signal is distorted	The signal itself is distorted.	Play another track or use another sound carrier.
There is an audible hum	Several connected devices cause a ground loop.	Establish a correct earth connection. If necessary, contact an electrician.
Radio interference can be heard in the background	Wrong signal cables were used.	Use suitable signal cables.
	Screen on signal cable is defective.	Check the screen on the signal cable and replace the cable, if necessary.

Errors caused by a potentially installed expansion module are listed in the respective module description.

If a problem cannot be remedied with the help of this summary, please contact the specialist retailer where you purchased the device. If this is not possible, you can easily find another competent dealer in your area with the dealer search at www.lehmannaudio.com/service/dealers/.

Legal notes

Warranty

Each device from Lehmannaudio is tested individually and subject to a comprehensive functional check. The use of only the very best components enables us to grant a warranty of two years.

The receipt/proof of purchase shall serve as warranty proof. A registration form is supplied with the product or can be downloaded at www.lehmannaudio.com/service/register.html. Damages due to incorrect installation or inappropriate handling are not covered by warranty and will therefore be repaired at the owner's expense. Claims for damage of any kind, notably for secondary failures, are excluded. In addition we exclude any liability which exceeds the merchandise value of the device.

The general terms and conditions apply of:



Lehmannaudio Vertriebs GmbH
 Waltherstr. 49 – 51
 51069 Köln (Germany)
 Phone: +49 221 – 29 49 33 20
 Fax: +49 221 – 29 49 33 19
www.lehmannaudio.com

State of technology

To ensure the highest audio quality, Lehmannaudio devices are constantly updated to the current state of the art. We reserve the right to make necessary alterations in design and circuitry without prior notice. Technical data and visual appearance may therefore differ from the present user manual.

Service

In any event all maintenance or repair works must be carried out by qualified technical staff. If you want to send back the device, please contact Lehmannaudio directly to discuss the procedure in detail.

For service works on the Drachenfels please contact the retailer where you purchased the device. If this is not possible, you can easily find another competent dealer in your area with the dealer search at www.lehmannaudio.com/service/dealers/.

Any modifications on the device are not permissible. In case of nonobservance the device will lose its CE conformity and warranty claims.

Trademark and copyright

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When properly installed in line with this handbook, this product complies with the following European directives:

Low-Voltage Directive 2006/95/EG: EN 60065

EMV Directive (electromagnetic compatibility) 2004/108/EG:
 EN 55103-1:2009, EN 55103-2:2009

The product has been manufactured in compliance with the directive 2002/95/EG.



WEEE no.

DE 40695871

WEEE Disposal of waste electronic equipment

The crossed-out trash bin is the EC symbol for the separate disposal of waste electronic equipment. The Drachenfels contains electric and electronic components which, after disposal of the device, will either be reused or salvaged and recycled. According to the directive 2003/108/EG it must therefore not be disposed of together with household waste. In case of disposal please take the junk device back your dealer or request further information there.

The Lehmannaudio Vertriebs GmbH is listed in the WEEE registry.

A handwritten signature in black ink, appearing to read 'Norbert Lehmann', written in a cursive style.

Norbert Lehmann, managing director

Cologne, September 02, 2019



Lehmannaudio Vertriebs GmbH
Waltherstraße 49 – 51
51069 Köln

info@lehmannaudio.com
www.lehmannaudio.com
www.facebook.com/lehmannaudio
www.twitter.com/lehmannaudio

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