



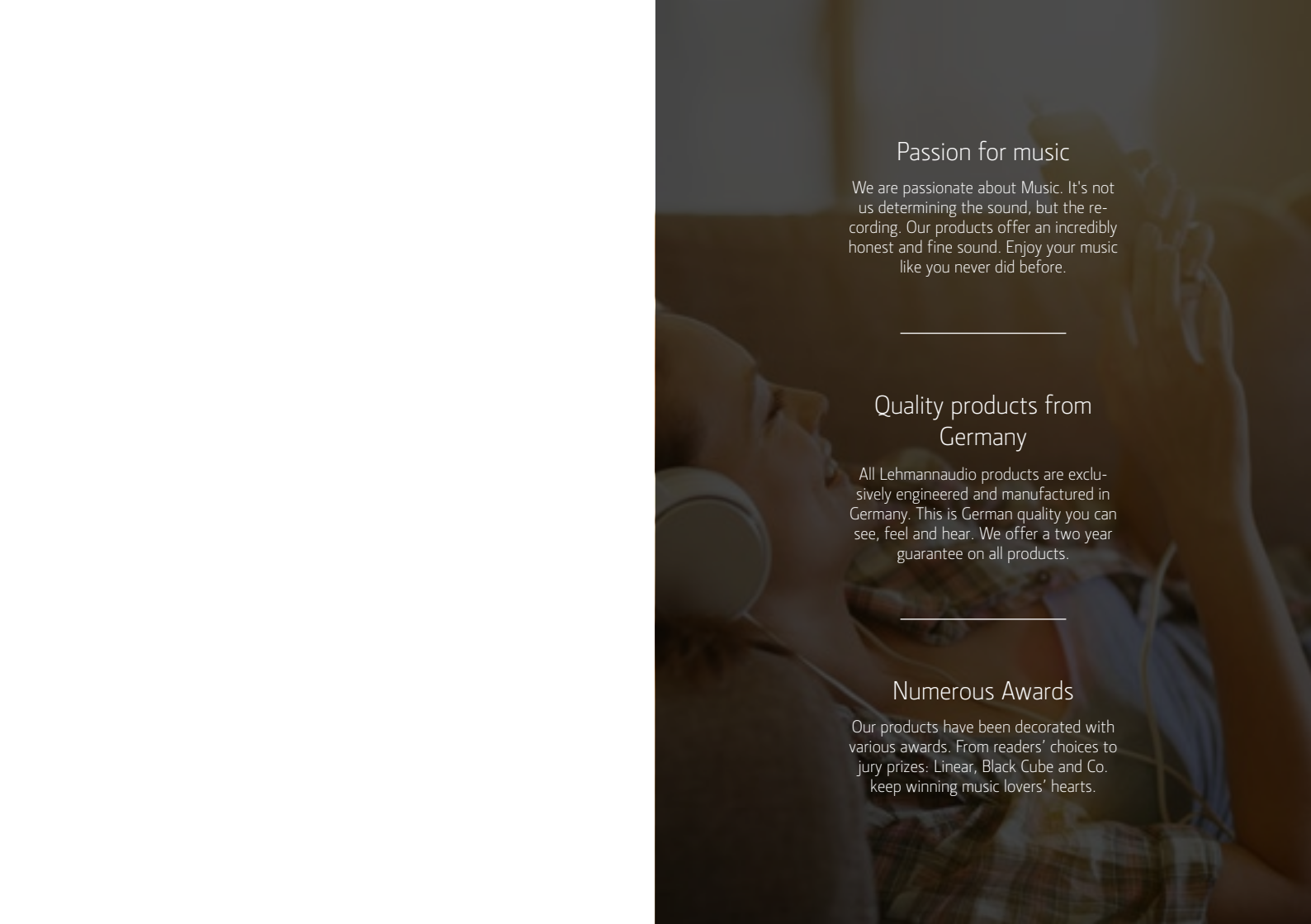
**Lehmannaudio**<sup>®</sup>



# Music to your ears.

## Product catalogue 2023

[www.lehmannaudio.com](http://www.lehmannaudio.com)

A person is shown in profile, wearing large white headphones and holding a guitar. The image is dark and moody, with the person's face and the guitar partially visible. The text is overlaid on the right side of the image.

## Passion for music

We are passionate about Music. It's not us determining the sound, but the recording. Our products offer an incredibly honest and fine sound. Enjoy your music like you never did before.

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## Quality products from Germany

All Lehmannaudio products are exclusively engineered and manufactured in Germany. This is German quality you can see, feel and hear. We offer a two year guarantee on all products.

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## Numerous Awards

Our products have been decorated with various awards. From readers' choices to jury prizes: Linear, Black Cube and Co. keep winning music lovers' hearts.

## Introduction 6

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## Headphone Amplifiers

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# Listening with all your senses

*'I just want people to be happy when they're listening to music. This is simply achieved by better technology.'*

**Norbert Lehmann**, Managing Director

When did you last feel music? Get really swept away by its sound, absorbing literally every single note? With our products – preamps and amplifiers – we would like to bring you exactly this intense experience. We do all we can to make you feel this unique sense of happiness and fully dive into the wonderful depths of the music. Let yourself get carried away by pristine beauty of the sounds and look forward to following the intention of the musicians with all your senses!

For us – and certainly for you, too – the musical enjoyment is only consummate if the employed equipment comes from a sustainable and responsible production. For this reason we develop and manufacture our entire product range in Germany – with love for detail, extreme care and a focus on the durability of our devices. We go easy on our resources in a responsible way, social commitment is another matter of course to us.

Enjoy our catalogue now in a very relaxed mood: discover our products in the categories of headphone amplifiers, phono preamps and power amps for home users. In our interviews you will also learn what's really essential to professionals in music recording and mastering. In our aspiration to satisfy your needs even better in the future, we're looking forward to receiving your feedback anytime!

Sincerely yours,  
Norbert Lehmann

# About headphone amplifiers

## Why headphones?

The use of headphones enables an outstanding music reproduction at a fraction of the costs you would have to pay for a comparable high-class hi-fi system based on loudspeakers. Concerning resolution and dynamics high-quality headphones are not only on par with the best speakers, but in most cases even superior. Moreover, they offer the possibility to enjoy music even at night or in suboptimal, not totally quiet surroundings. The first helps to keep the peace e.g. within the family or with your neighbours, the latter blocks out environmental noise and makes you totally independent of the room acoustics.

## What does a headphone do differently?

There is a number of parallels between (dynamic) headphones and loudspeakers. Both are – technically speaking – so-called ‘complex loads’ for the connected amplifiers and should therefore be run on rather stable outputs. There are high-impedance headphones which, for technical reasons, require a higher operating voltage, and low-impedance models, which demand more current to deliver optimum results and the appropriate sound level. Whoever simply plugs any headphone into a correspondingly labelled output socket without heeding the data of the respective headphone, may be badly disappointed by the result.



## The role of the headphone amplifier

Due to our evolutionary development, the human hearing is super sensitive to transients. To put it crudely, those who didn't hear a snapping twig in time, would soon fall prey to the sabre-tooth tiger. Sure, listening over headphones isn't a matter of life and death, but headphone amplifiers and headphones with an inadequately precise transient reproduction will always become noticeable negatively in multiple respect.

One example would be a musician in the studio: the musician doesn't hear the playback signal correctly, because he's missing the transient portions, so he turns up the volume. But this won't improve the transient reproduction. So the volume is further increased. The possible, immediately audible result: there's more crosstalk from the headphone to active microphones, and the sound engineer is facing problems with the track separation. At the end of the studio day the persons, who have been ill-treated in such a way, will go home with a headache. Moreover, health implications of the hearing are inevitable in the long run.

Bottom line: wherever headphones are used for monitoring, headphone amplifiers of the highest possible quality are of enormous importance to the overall result, whether during mixdown or mastering or for undisturbed music enjoyment at home.

## Power and sensitivity

Irrespective of their impedance, headphones – just like loudspeakers – have very different sensitivities, thus they transform the signal voltage, which is present at the headphone output, more or less efficiently into acoustical energy. With loudspeakers we normally use the achievable sound pressure level for 1 W of input power (dB/1 W) as the measure of efficiency. Something similar also exists with headphones, the most common characteristic variable, however, being dB/mW this time, hence the achievable sound pressure level for 1 mW of input power (not per milliwatt!), which equals 1/1000 watt.

With each doubling of the power, the sound pressure level is increased by 3 dBs. By implication, a headphone whose sensitivity is greater by 3 dBs will require only half of this power to achieve the same sound level. The rule with 3 dBs more SPL for each power doubling equally applies to headphones and loudspeakers. From the sensitivity information one can therefore easily calculate the required power for a desired sound level. The required power for the same SPL can vary with the different headphone models by a factor of approximately up to 500 (!) at the max.

When using or choosing headphones and headphone amps, the first point that matters is, of course, if the desired volume level can be achieved without distortions. But it's also important to know above which levels the respective headphone or – far worse – your own hearing may suffer from damages. The maximum power handling capacity is usually specified in the specs sheet as maximum power. Based on these data, one can in turn calculate the maximum voltage which may be applied to the headphone. When the headphone is overloaded, i.e. when the applied signal voltage is too high, the voice coil will melt.

## Reference level for headphones, referencing

When monitoring over loudspeakers, monitor controls with a listening level indicator used to be common practice e.g. in the ARD studios. The so-called monitoring cassettes in the control room equipment had volume controls calibrated in dB. Here an extra calibration was carried out by the acousticians to create identical monitoring conditions in all studios regarding the volume levels. However, even in the professional sector this subject is most often neglected in headphone monitoring. The user simply turns up the volume until it fits.

Yet for a really precise sonic evaluation, especially in long-term headphone monitoring, a corresponding referencing to standard monitoring levels would not only be desirable here, but utterly helpful as well. For this purpose, however, one would have to agree within the respective house on using a reference headphone and possibly other models of identical sensitivity, since otherwise the calibration would become void due to the potential sensitivity differences among the available headphone models.

### *A note on sound*

Some headphones can be bought with alternative impedances. Here the high-Z versions should be given preference over the low-Z ones.



One for any situation:  
The **Drachenfels** Headphone Amplifier

[www.lehmannaudio.com/drachenfels](http://www.lehmannaudio.com/drachenfels)

## Stress for your ears

When listening over a headphone, the volume levels can get very loud pretty fast. Here is a first chart with different sound pressure levels for comparison:

Table 1: Comparison of different sound pressure levels

| dBA | Sound pressure level       |
|-----|----------------------------|
| 150 | Firecracker                |
| 140 | Jet engine                 |
| 130 | Starting jet               |
| 120 | Rock concert/live band     |
| 110 | Disco/Walkman/jackhammer   |
| 100 | Rehearsal room/car stereo  |
| 90  | Factory/heavy-duty traffic |
| 80  | Road traffic               |
| 70  | Restaurant                 |
| 60  | Conversation               |

Despite all the joy we can treat ourselves to with music listening, we should take good care of our hearing health, especially when listening over headphones. For the permissible acoustic impact on our hearing, depending on the time of exposure, Germany has the so-called workplace ordinance, a federal law which has been in force since 1975 in its current wording. It stipulates that – grossly simplified – the noise exposure at the workplace with so-called ‘other activities’ must not exceed **85 dBA** (weighted continuous noise level). Comparable limit values apply in other European countries.

A full workday is assumed, i.e. eight hours. For this we have once again a 3 dB formula: for each 3 dBs more sound level the so-called permissible exposure time

is reduced by half. There is no dedicated ordinance for leisure time. The following chart shows that with increasing loudness very short permissible times are achieved very quickly.

Table 2: Permissible exposure times depending on SPL (dBA)

| Sound pressure level (dBA) | Permissible duration (hours) | Permissible duration (minutes) | Permissible duration (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 Lärm- und Vibrations-Arbeitsschutzverordnung (LärmVibrationsArbSchV) [Noise and Vibrations Occupational Safety and Health Directive]*

These times should be taken seriously, because if they are exceeded, health damages cannot be excluded, as has been proven (recourse claims against the perpetrator/employer). For logical reasons, you should therefore put on the headphone only after the volume level has been set accordingly before to avoid unpredictable acoustic strains.

Automatic limiters, which limit the level as a function of an applied input voltage, make sense only if they are calibrated to the respective headphone model in use and its sensitivity. Otherwise the resulting control processes have nothing to do with reality, suggesting a deceptive occupational safety.

Table 3: Power consumption by headphones at different voltage levels

| Level ( $U_{eff}$ ) | Headphone impedances     |                            |                          |                           |                            |
|---------------------|--------------------------|----------------------------|--------------------------|---------------------------|----------------------------|
|                     | 16 ohms<br>(e.g. DT 100) | 60 ohms<br>(e.g. HD-25 SP) | 120 ohms<br>(e.g. K1000) | 300 ohms<br>(e.g. HD 650) | 600 ohms<br>(e.g. K240 DF) |
| <b>0.1 V</b>        | 0.63 mW                  | 0.16 mW                    | 0.08 mW                  | 0.033 mW                  | 0.016 mW                   |
| <b>0.5 V</b>        | 15.63 mW                 | 4.2 mW                     | 2.1 mW                   | 0.83 mW                   | 0.42 mW                    |
| <b>1 V</b>          | 62.5 mW                  | 16.7 mW                    | 8.3 mW                   | 3.3 mW                    | 1.7 mW                     |
| <b>2 V</b>          | 250 mW                   | 66.7 mW                    | 33.3 mW                  | 13.3 mW                   | 6.7 mW                     |
| <b>3 V</b>          | 563 mW                   | 150 mW                     | 75 mW                    | 30 mW                     | 15 mW                      |
| <b>6 V</b>          | 2.250 mW                 | 600 mW                     | 300 mW                   | 120 mW                    | 60 mW                      |
| <b>9 V</b>          | 5.063 mW                 | 1.350 mW                   | 680 mW                   | 270 mW                    | 135 mW                     |

Table 4: Required voltage level for 1 mW of power

| Level          | Headphone impedances |         |          |          |          |
|----------------|----------------------|---------|----------|----------|----------|
|                | 16 ohms              | 60 ohms | 120 ohms | 300 ohms | 600 ohms |
| <b>Voltage</b> | 127 mV               | 245 mV  | 347 mV   | 550 mV   | 775 mV   |
| <b>dBu</b>     | -15.7                | -10     | -7       | -3       | 0        |
| <b>dBV</b>     | -17.9                | -12.2   | -9.2     | -5.5     | -2.2     |

Among other things, the above chart clarifies that in connection with headphones of different impedance values the same voltage level can produce deviations in power of up to 37.5 as the factor e.g. for the gap between 16 ohms and 600 ohms. But how loud the respective headphone will actually play, depends on its sensitivity.

## Common headphones

|                       | Impedance<br>in ohms | Sound<br>pressure level<br>in dBs for<br>1 mW power | Voltage for<br>100 dBs sound<br>pressure level<br>in mV | Power for<br>100 dBs sound<br>pressure level<br>in mW |
|-----------------------|----------------------|-----------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------|
| <b>AKG</b>            |                      |                                                     |                                                         |                                                       |
| K-141 MKII            | 55                   | 101                                                 | 209                                                     | 0.8                                                   |
| K701                  | 62                   | 93                                                  | 558                                                     | 5                                                     |
| K812                  | 63                   | 96                                                  | 300                                                     | 2.6                                                   |
| <b>Audeze</b>         |                      |                                                     |                                                         |                                                       |
| EL-8                  | 30                   | 102                                                 | 138                                                     | 0.6                                                   |
| LCD-2                 | 70                   | 93                                                  | 592                                                     | 5                                                     |
| LCD-X                 | 102                  | 93                                                  | 742                                                     | 5                                                     |
| <b>Audio Technica</b> |                      |                                                     |                                                         |                                                       |
| ATH-M20X              | 47                   | 96                                                  | 344                                                     | 2.5                                                   |
| ATH-M40X              | 35                   | 96                                                  | 297                                                     | 2.5                                                   |
| ATH-SR9               | 47                   | 97                                                  | 306                                                     | 2                                                     |
| ATH-AD2000X           | 40                   | 103                                                 | 142                                                     | 0.5                                                   |
| ATH-R70X              | 470                  | 99                                                  | 770                                                     | 1.6                                                   |

|                     | Impedance<br>in ohms | Sound<br>pressure level<br>in dBs for<br>1 mW power | Voltage for<br>100 dBs sound<br>pressure level<br>in mV | Power for<br>100 dBs sound<br>pressure level<br>in mW |
|---------------------|----------------------|-----------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------|
| <b>Beyerdynamic</b> |                      |                                                     |                                                         |                                                       |
| DT 100              | 16                   | 94                                                  | 253                                                     | 4                                                     |
| DT 1770 PRO         | 250                  | 102                                                 | 398                                                     | 0.6                                                   |
| DT 880/990          | 250                  | 96                                                  | 800                                                     | 2.6                                                   |
| T1                  | 600                  | 102                                                 | 620                                                     | 0.6                                                   |
| <b>Grado</b>        |                      |                                                     |                                                         |                                                       |
| SR80                | 32                   | 98                                                  | 225                                                     | 1.6                                                   |
| SR125               | 32                   | 98                                                  | 225                                                     | 1.6                                                   |
| SR225               | 32                   | 98                                                  | 225                                                     | 1.6                                                   |
| <b>Koss</b>         |                      |                                                     |                                                         |                                                       |
| Porta Pro           | 60                   | 101                                                 | 218                                                     | 0.8                                                   |
| <b>Sennheiser</b>   |                      |                                                     |                                                         |                                                       |
| HD-25 SP            | 60                   | 90                                                  | 800                                                     | 10                                                    |
| HD-280 PRO          | 64                   | 90                                                  | 800                                                     | 10                                                    |
| MOMENTUM            | 18                   | 93                                                  | 314                                                     | 5.5                                                   |
| HD-650/800          | 300                  | 97                                                  | 775                                                     | 2                                                     |
| HD-700              | 150                  | 97                                                  | 550                                                     | 2                                                     |
| <b>Sony</b>         |                      |                                                     |                                                         |                                                       |
| MDR-7506            | 63                   | 106                                                 | 126                                                     | 0.3                                                   |
| MDR-7509            | 24                   | 107                                                 | 69                                                      | 0.2                                                   |

|                  | Impedance<br>in ohms | Sound<br>pressure level<br>in dBs for<br>1 mW power | Voltage for<br>100 dBs sound<br>pressure level<br>in mV | Power for<br>100 dBs sound<br>pressure level<br>in mW |
|------------------|----------------------|-----------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------|
| <b>Ultrasone</b> |                      |                                                     |                                                         |                                                       |
| HFI 580          | 32                   | 101                                                 | 160                                                     | 0.8                                                   |
| Edition 10       | 32                   | 99                                                  | 201                                                     | 1.3                                                   |
| Signature PRO    | 32                   | 98                                                  | 225                                                     | 1.6                                                   |

The headphones listed below are all relatively large headband models. In-ear phones, which are designed for battery-powered devices, mostly have an even far greater sensitivity.

One can easily recognise that headphones can reveal big differences as to their impedance and/or sensitivity, even within the product range of one manufacturer, whereby the headphone impedance plays a hitherto overrated role, at least if the headphone amplifier is capable of delivering enough current. Consequently the sensitivity is meanwhile specified as dBs/1 V for many headphone models; for in-ear phones the unit dB/100 mV is normally used in this case because of their greater sensitivity. Manufacturer information regarding the sensitivity without specifying the reference unit (V or mW) are pointless – but can be observed time and again even with well-reputed manufacturers.

Related to the sheer voltage level, up to about 30 dBs of gain remain with the models in the above chart to achieve the same sound level on the headphone. For this reason it is important to either choose headphone and headphone amp as a combined matched package or to pick a headphone amp with an adjustable gain, which goes together well with most headphones on the market.



# Linear

The reference among the  
headphone amplifiers

September 2013, Red Bull Studios London:  
**AKG presents the new K812 exclusively in combination with  
Lehmannaudio Linear Headphone Amplifiers**

[www.lehmannaudio.com/linear](http://www.lehmannaudio.com/linear)





# Drachenfels

Versatile Champion with High Ambitions



Headphone Amplifiers · Home



With the introduction of the Linear in 2004, Lehmannaudio raised the sound quality of headphone amplifiers to a new level. The Drachenfels now represents a new generation of headphone amps: our champion with an entry-level price tag scores with leading-edge technology and, owing to its modular options, can be matched to ever new situations.

With regard to sound it's particularly the tremendous wealth of detail that strikes the ear, together with a perfect control of what's going on. Even in the thickest musical hurly-burly the structure remains discernible at any time and every detail clear-cut.

## Analogue? Digital? Drachenfels!

The modular design with cutting-edge components opens long-term perspectives for quality-minded music lovers who have demands on sustainability. No matter if streaming via WLAN or ethernet, linking Bluetooth sources or conventional digital players – owing to modular pc boards, which are available at short notice, the Drachenfels gives the right answer to all of these requirements. Even with the advent of new digital standards, a simple swapping of both module and rear panel will enable an upgrade!

The Drachenfels offers 12 dB of practice-oriented gain which, due to the smooth running ALPS Blue Velvet potentiometer with excellent synchronism and the ultra low-noise circuit, dispenses with the need for a gain switch. The power switch located on the front reduces the power consumption in standby mode to an eco-friendly value of less than 1 W. Moreover, its space-saving dimensions offer you plenty of placing options for the Drachenfels. Use it as a headphone amplifier or preamp and discover the happiness of intense music listening.

## Awards



## Technical specifications

|                               |                                                                                                                                              |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Input impedance               | 47 kohms                                                                                                                                     |
| Maximum gain                  | 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                                                                                                                            |
| Output power                  | • 330 ohms/110 mW<br>• 33 ohms/180 mW                                                                                                        |
| Output impedance              | • Line Out 105 ohms<br>• Phones Out 5 ohms                                                                                                   |
| Connectors audio              | • Neutrik headphone sockets with gold-plated contacts<br>• 1 x switching line out<br>• 1 x non-switching line out<br>• Line In/Line Out: RCA |
| Power consumption             | app. 4 W through external wide range wall power supply (without any optional pc board)                                                       |
| Outer dimensions<br>W x D x H | 160 mm x 120 mm x 43 mm (audio section)<br>(6.3 in. x 4.7 in. x 1.7 in.)                                                                     |
| Weight                        | 0.5 kg (1.1 lbs.) net (audio section)                                                                                                        |

## Press commentaries on the Drachenfels



*'It contributes no audible noise or distortion, and tonal colouration is conspicuous by its absence. Control of volume was impeccable across the available range with no audible shifts in imaging or tonal impairments.'*

*If the track you're listening to is propelled by energetic rhythm (e.g. Kraftwerk's "Tour de France Soundtracks") then that dominant aspect of the character emerges intact. With the "bite" of jazz and funk horn sections, such as Brass Construction, you hear it in the right proportions; nothing is added, or taken away.'*

HI-FI WORLD/10 2017



*'Its rhythmically agile, yet at the same time cultivated verve rouses spontaneous enthusiasm. Even the bass of this midget is unexpectedly powerful and deep, so the helicopter on "The Wall" sounds accordingly impressive. (...)*

*Superb headphone amp and minimalist preamp in one, custom-expandable via digital module and soundwise excellent. A universal gem and a bullseye – chapeau!'*

STEREO/05 2017



*'As has rarely been heard before, this compact little machine brings to light acoustic details which so far slipped my attention even with considerably pricier amps. In the long run its nimble, neutral way of dealing with the music material leads to a very essential quality: the suitability for long-time listening. (...)*

*All instruments and the phantastic voice blend into a harmonic overall picture while taking care of every detail – this is true enjoyment.'*

hifi&records/01 2017



# Linear

The reference among the headphone amplifiers



Headphone Amplifiers · Home



Already since 2004 the Linear has made all common headphones shine at their very best. Extremely demanding users rely on our top model, from the West German Broadcasting Corporation to the audiophile TACET label to Sennheiser's and AKG's headphone experts. It's not without reason that the Linear belongs to the reference class in its genre.

## Enjoying music in all its glory

When you put on your headphones and play your favourite CD, the Linear will give rise to wonderful worlds before your mind's eye and inspire you with new perspectives from the fantastic sound of our tone master. Physical, punchy lows and a delicate resolution reveal your favourite tracks in all their glory over the entire frequency bandwidth. Music can hardly sound more intensive and refreshing.

## A universal champion

Carefully selected components and an extremely sophisticated circuit design establish the foundation of our number one. With three gain settings it gives you an impressive listening pleasure – and this using a vast array of headphones on the most diverse sound sources. Also, if you want to enjoy your musical treasures via PC or iPad, the Linear with the optional USB feature offers a solution. The multiple test winner will be happy to feed two headphones at the same time. In every situation a marvellous sound, always aiming for perfection – such is our Linear.

## Awards



# Technical specifications

|                                       |                                                                                                                                                                                                                                 |
|---------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Input impedance</b>                | 47 kohms                                                                                                                                                                                                                        |
| <b>Maximum gain</b>                   | 0 dB, 10 dB, 18 dB, 20 dB<br>selectable via DIP switches                                                                                                                                                                        |
| <b>Frequency response</b>             | 10 Hz (-0.3 dB) to 35 kHz (-1 dB)                                                                                                                                                                                               |
| <b>Signal to noise ratio</b>          | > 95 dB at gain 0 dB                                                                                                                                                                                                            |
| <b>THD</b>                            | < 0.001 % at 6 mW/300 ohms                                                                                                                                                                                                      |
| <b>Channel separation</b>             | > 70 dB at 10 kHz                                                                                                                                                                                                               |
| <b>Output power</b>                   | • 400 mW/60 ohms<br>• 200 mW/300 ohms                                                                                                                                                                                           |
| <b>Output impedance</b>               | • Line Out 60 ohms<br>• Headphones Out 5 ohms                                                                                                                                                                                   |
| <b>Connectors audio</b>               | • Neutrik headphone jacks with gold plated contacts<br>• 1 x switching Line Out<br>• 1 x non switching Line Out<br>• gold plated RCA sockets with teflon insulation<br>• Linear USB: Mini jack Stereo (Loop Out/Line In) 3.5 mm |
| <b>Power consumption</b>              | 10 W                                                                                                                                                                                                                            |
| <b>Outer dimensions<br/>W x D x H</b> | 110 mm x 280 mm x 50 mm<br>(4.3 in. x 11.0 in. x 2.0 in.)                                                                                                                                                                       |
| <b>Weight</b>                         | 1.5 kg (3.3 lbs.) net                                                                                                                                                                                                           |

## USB-DAC (Linear USB)

|                              |              |
|------------------------------|--------------|
| <b>Sampling rate digital</b> | up to 48 kHz |
| <b>Resolution</b>            | 16 bits      |
| <b>Maximum voltage</b>       | 1 V eff.     |

## Press commentaries on the Linear

**AUDIO** *'... delicately resolving with every headphone, musical and revealing a clarity that none of the other test candidates could rival (...) With or without USB the best solid-state headphone amplifier to ever perform at AUDIO's since the beginning of the test series.'*

AUDIO/12 2010

**WHAT HI-FI?** *'As far as sonic performance is concerned, it's the best we've come across.'*

WHAT HI-FI?/11 2009

**hi-finews** *'It measures well and delivers unusually clear insight into the "how?" and "why?" aspects of music making, not just the "what?". (...) A fine sound at a great price.'*

Hi-Fi News/10 2009



# Linear II

Second Generation Legend



Headphone Amplifiers · Home



Everything which has made the Linear headphone amplifier a legend already since 2004, has now become even better: the Linear II lifts the qualities of our reference model to a new standard.

Experience detailed lucidity when playing your music, effortless lightness even with high signal levels and the low-artefact reproduction of complex music pieces. The Linear II redefines vividness in the reproduction completely. That way you can enjoy even the longest listening sessions without fatigue and with greatest pleasure.

## Powerful, spirited, sovereign

In connection with the elaborately designed pc board in Low-Z copper technology the powerful class-A output stage plays even more dynamically and takes you a big step closer to the music. Mundorf capacitors in the power supply and in the signal path deliver an impressive room imaging and transient response. 3S device feet ensure maximum mechanical quietness for the Linear II.

Not only while enjoying music with one or two headphones, but also when connected to active speakers or a power amplifier, the Linear II delivers its ultimate performance. Allow yourself to be surprised by a punchy, authentic sound which is unique for a device of this size!

## Awards



## Technical specifications

|                                       |                                                                                                                                              |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Input impedance</b>                | 47 kohms                                                                                                                                     |
| <b>Maximum gain</b>                   | 0 dB, 10 dB, 18 dB, 20 dB<br>selectable via DIP switches                                                                                     |
| <b>Frequency response</b>             | 10 Hz (-0.3 dB) to 35 kHz (-1 dB)                                                                                                            |
| <b>Signal to noise ratio</b>          | > 100 dB at gain 0 dB                                                                                                                        |
| <b>THD</b>                            | < 0.001 % at 6 mW/300 ohms                                                                                                                   |
| <b>Channel separation</b>             | > 70 dB at 10 kHz                                                                                                                            |
| <b>Output power</b>                   | • 400 mW/60 ohms<br>• 200 mW/300 ohms                                                                                                        |
| <b>Output impedance</b>               | • pre out 50 ohms<br>• phones out 5 ohms                                                                                                     |
| <b>Connectors audio</b>               | • Neutrik headphone jacks with gold plated contacts<br>• 1 x pre out<br>• 1 x phones out<br>• gold plated RCA sockets with teflon insulation |
| <b>Power consumption</b>              | 10 W                                                                                                                                         |
| <b>Outer dimensions<br/>W x D x H</b> | 110 mm x 280 mm x 50 mm                                                                                                                      |
| <b>Weight</b>                         | 1.5 kg netto                                                                                                                                 |

## Press commentaries on the Linear II



*'With new 3S absorber feet and the Linear II board derived from the SE version, Lehmann takes it up another notch with the Linear II. The effect is amazing.'*

*Its feet were designed to suppress vibrations. But then again our feet were bobbing all the more. Extreme neutrality, a deep, clean, never exaggerated bass with excellent control merge with clear voices of languorous melodiousness, and the huge spaciousness can even thrill headphone grouches.'*

AUDIO/10 2021



*'The Lehmannaudio Linear USB II is a phantastic sounding pre and headphone amplifier. It adds resolution, timbres and spatial imaging to a convincing sound picture – so well that I couldn't wait until Christmas*

*to buy it..'*

hifi&records/01 2019



*'Its musical rendition is better structured and acoustically more transparent while at the same time fuller, with enhanced dynamics and a tidy, more deeply staggered stage.'*

*The entire spectacle appears to be tidier and more natural, with a sparkling elegance and lightness which isn't that much pronounced in the predecessors. With the latest incarnation of the Linear, Lehmann has been able to clearly top his already outstanding preamp/headphone amp line once again.'*

STEREO/11 2018



# Linear D

Clarity, power and class



Headphone Amplifiers · Home



Since Lehmannaudio turned the 'emergency exit' of classic hi-fi amplifiers into a gate to a new musical perception with their Linear back in 2004, headphone outputs with frustrating sound have become a thing of the past. The Linear D in its topical mk II version demonstrates that there's always room for improvement: its digital-analogue converter of the latest generation and its thoroughly revised analogue board let you experience all-new horizons when listening to your favourite music – goose bumps guaranteed.

The Linear D mk II is the perfect complement to streamers and CD players. It recognises digital signals, automatically selects the optimal input and needs no input selector. The Sabre DAC from ESS on the quad-layer circuit board, which has been optimised against HF interference, offers both digital S/PDIF and TOSLINK inputs. Low-loss mica capacitors on the mainboard and in the converter analogue filter as well as ultra fast amplifier stages on the converter board guarantee reference quality. Owing to three settings the Linear D mk II adapts to the most diverse headphone-source combinations, and with one analogue and two digital inputs it also delivers a breathtakingly expressive performance as a streaming preamp on active loudspeakers.

The Linear D mk II makes people happy who want to enjoy music in an intense and pristine way and brings together those who share musical enjoyment: two parallel outputs of equal impedance without compromising the listening experience. Our 3S Device Feet decouple the Linear D mk II from its base and provide calmness. So the Linear D mk II sounds even more sculptural now: with lush, yet never ostentatious lows, delicate resolution and zero-gravity elegance over the entire frequency range. Turn the massive, damped potentiometer of the Linear D mk II. Rediscover your analogue and digital musical treasures!

## Awards



# Technical specifications

|                                       |                                                                                                                                              |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Input impedance</b>                | 47 kohms                                                                                                                                     |
| <b>Maximum gain</b>                   | 0 dB, 10 dB, 18 dB, 20 dB<br>selectable via DIP switches                                                                                     |
| <b>Frequency response</b>             | 10 Hz (-0.3 dB) to 35 kHz (-1 dB)                                                                                                            |
| <b>Signal to noise ratio</b>          | > 100 dB at gain 0 dB                                                                                                                        |
| <b>THD</b>                            | < 0.001 % at 6 mW/300 ohms                                                                                                                   |
| <b>Channel separation</b>             | > 80 dB at 10 kHz                                                                                                                            |
| <b>Output power</b>                   | • 400 mW/60 ohms<br>• 200 mW/300 ohms                                                                                                        |
| <b>Output impedance</b>               | • pre out 50 ohms<br>• phones out 5 ohms                                                                                                     |
| <b>Connectors audio</b>               | • Neutrik headphone jacks with gold plated contacts<br>• 1 x pre out<br>• 1 x phones out<br>• gold plated RCA sockets with teflon insulation |
| <b>Power consumption</b>              | 15 W through internal, regulated power supply                                                                                                |
| <b>Special feature</b>                | • PC board in Low-Z Copper technology<br>• vibration-absorbing 3S Device Feet<br>• optional accessory: mounting kit                          |
| <b>Outer dimensions<br/>W x D x H</b> | 110 mm x 280 mm x 44 mm<br>(4.3 x 11 x 2 in.)                                                                                                |
| <b>Weight</b>                         | 1.5 kg (3.3 lbs.) net                                                                                                                        |

## Digital-analogue converter

|                              |                                                                                        |
|------------------------------|----------------------------------------------------------------------------------------|
| <b>Digital inputs</b>        | • 1 x Toslink (automatically prioritised)<br>• 1 x RCA 75 ohms                         |
| <b>Sampling rate digital</b> | 32 kHz; 44.1 kHz; 48 kHz; 88.2 kHz; 96 kHz;<br>192 kHz                                 |
| <b>Resolution</b>            | 24 bits                                                                                |
| <b>Chipset</b>               | ESS Sabre K2M                                                                          |
| <b>Analogue filter</b>       | Silver Mica capacitors                                                                 |
| <b>Max. output level DAC</b> | 1,8 V eff.                                                                             |
| <b>Special feature</b>       | The analogue input is automatically activated,<br>when no digital signal is recognised |

## Press commentaries on the Linear D

**FIDELITY**

*'You will rarely experience a device which appears visually and acoustically so pleasantly unpretentious and still captivates the listener from the first note, be it as a headphone amplifier or a line-level preamp. And the fact that the digital section is currently state-of-the-art underscores the impression of a device which has been well conceived in every detail. Norbert Lehmann has successfully applied a gentle evolution to his classic unit that will make you prick up your ears in all musical moments.'*

**FIDELITY/01 2019**

**AUDIO**

*'The listening check immediately revealed that the improvement activities have been effective. Regarding fine dynamics, resolution and tonal neutrality the Linear D MKII gave an impressive performance, exposing the finest of details and with enough power at any time to drive higher impedance headphones adequately as well.'*

**AUDIO/12 2018**



*'The plain housing does not contain just a headphone amplifier. With the Linear D Lehmannaudio has created an audiophile masterpiece that will take every headphone to ultimate sonic performance.'*

**stereoplay/05 2016**



*'With the precision of a Swiss chronometer the Linear D made by Lehmannaudio deals with its task – driving headphones to perform at their very best.'*

*The Lehmann sounds as you would expect it from this company: neutral, rich in detail, always involved in the music and definitely suitable for long sessions.'*

**Stereo/01 2016**



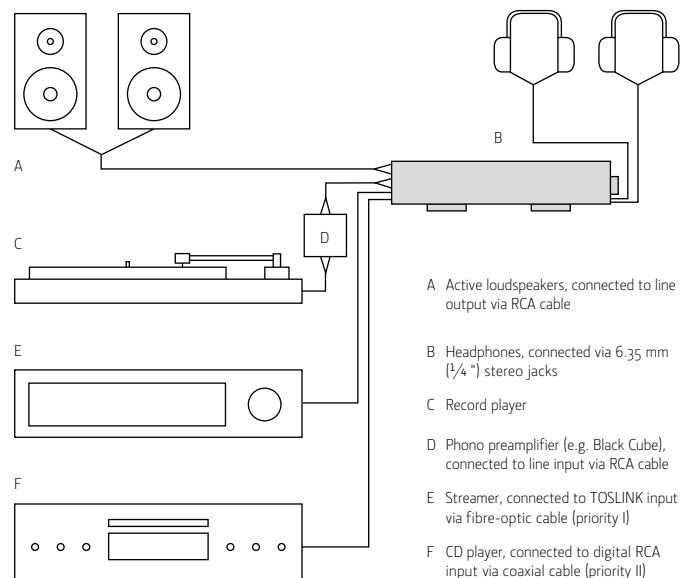
*'Already the first bars foreshadow its potential, the music is reproduced with enormous clarity. Where other models still have a veil between headphone and ear, there is now downright transparency (...) This impressive performance is also unconditionally comprehensible in combination with the active loudspeakers. That's high-end by definition.'*

**hifi&records/04 2015**

## Sample application

On the Linear D two different digital sources and one analogue source may be connected simultaneously. It offers one optical input (priority I), one coaxial input (priority II) and one unbalanced RCA input (fallback). The inputs are switched through in priority order as soon as a digital signal is recognised. If no digital signal is present at one of the digital inputs, the analogue input is automatically selected.

You can use the Linear D as a headphone amplifier and compact preamp by connecting e.g. a pair of active loudspeakers, a turntable, a streamer and a CD player and also up to two headphones. In this case the left headphone connector on the front of the Linear D will mute the rear line output.





# Linear USB II

Sound voyage with your ears



Headphone Amplifiers · Home



Since 2004 the Linear has thrilled all music lovers who expect their hi-fi amplifiers to perform at their best also with headphones. Can this success story still be surpassed? Yes, it can – and how!

The Linear USB II comes up with a digital-analogue converter of the latest generation and a fully revised analog board using the high-grade Low-Z Copper technology. Physical, punchy lows and a filigree resolution over the entire frequency bandwidth: you will never again consider your headphones just as a makeshift solution.

## Best of both worlds

Keeping an eye on your needs at any time, the Linear USB II delivers an impressive listening enjoyment due to its three gain settings – even with the most diverse headphones on very different sound sources. As a headphone amplifier and preamp it joins the carefully selected components and sophisticated circuitry of our crowd favourite, the Linear, with the digital world.

Enjoy your musical treasures from PC, Mac or even your mobile phone in audiophile quality. The Linear USB II automatically detects an incoming USB audio data stream and does without an input selector switch. For double listening pleasure our new champion is ready to feed two headphones simultaneously and as a streaming preamp, it also spurs on your active loudspeakers to play with amazing vigour.

Our 3S Device Feet decouple the Linear USB II from its base and bring about quietness. In every situation a fabulous sound, always striving for perfection – that's our Linear USB II.

# Technical specifications

|                                       |                                                                                                                                              |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Input impedance</b>                | 47 kohms                                                                                                                                     |
| <b>Maximum gain</b>                   | 0 dB, 10 dB, 18 dB, 20 dB<br>selectable via DIP switches                                                                                     |
| <b>Frequency response</b>             | 10 Hz (-0.3 dB) to 35 kHz (-1 dB)                                                                                                            |
| <b>Signal to noise ratio</b>          | > 100 dB at gain 0 dB                                                                                                                        |
| <b>THD</b>                            | < 0.001 % at 6 mW/300 ohms                                                                                                                   |
| <b>Channel separation</b>             | > 80 dB at 10 kHz                                                                                                                            |
| <b>Output power</b>                   | • 400 mW/60 ohms<br>• 200 mW/300 ohms                                                                                                        |
| <b>Output impedance</b>               | • pre out 50 ohms<br>• phones out 5 ohms                                                                                                     |
| <b>Connectors audio</b>               | • Neutrik headphone jacks with gold plated contacts<br>• 1 x pre out<br>• 1 x phones out<br>• gold plated RCA sockets with teflon insulation |
| <b>Power consumption</b>              | 15 W through internal, regulated power supply                                                                                                |
| <b>Special feature</b>                | • PC board in Low-Z Copper technology<br>• vibration-absorbing 3S Device Feet<br>• optional accessory: mounting kit                          |
| <b>Outer dimensions<br/>W x D x H</b> | 110 mm x 280 mm x 44 mm<br>(4.3 x 11 x 2 in.)                                                                                                |
| <b>Weight</b>                         | 1.5 kg (3.3 lbs.) net                                                                                                                        |

## Digital-analogue converter

|                              |                                                                                     |
|------------------------------|-------------------------------------------------------------------------------------|
| <b>Digital inputs</b>        | 1 x USB B                                                                           |
| <b>Sampling rate digital</b> | up to 384 kHz                                                                       |
| <b>Resolution</b>            | up to 32 bits                                                                       |
| <b>Formats</b>               | PCM, DOP 128, FLAC, MP3, WAV                                                        |
| <b>Chipset</b>               | ESS Sabre K2M                                                                       |
| <b>Analogue filter</b>       | Silver Mica capacitors                                                              |
| <b>Max. output level DAC</b> | 1,8 V eff.                                                                          |
| <b>Special feature</b>       | The analogue input is automatically activated, when no digital signal is recognised |

## Press commentaries on the Linear USB II



*'The sonic step upward is truly amazing. The USB II reveals its magic independently of the heard track and its sampling rate. (...) The Lehmannaudio Linear USB II is a phantastic sounding pre and headphone amplifier. It adds resolution timbres and spatial imaging to a convincing sound picture – so well that I couldn't wait until Christmas to buy it.'*

hifi&records/01 2019



*'The entire spectacle appears to be tidier and more natural, with a sparkling elegance and lightness which isn't that much pronounced in the predecessors. With the latest incarnation of the Linear, Lehmann has been able to clearly top his already outstanding preamp/headphone amp line once again.'*

STEREO/11 2018



# Linear SE

Musical enjoyment at the pink of perfection



Headphone Amplifiers · Home



The Linear SE satisfies every wish of even the most demanding music lovers. With exquisite components and elegant housing variations it closes up to our award-winning Linear and sets new standards for your music experience. Allow yourself to be convinced of its outstanding sound quality and impressive design – because great sound never looked better!

## Sinking into the sound of your music

Imagine closing your eyes and getting carried away by the sound of your musical treasures: the individual timbres will blend into a fascinating artistic synthesis, causing the music to sound precisely as it was recorded. Our highly representative headphone amplifier can bring you this unique adventure of experiencing music with all your senses time and again.

## Highest quality standards in features and design

For our production we use top-grade components without exception, which we buy from selected manufacturers. Thus our Linear SE is equipped with capacitors from Mundorf, an ahp fuse and Mogami cables. The housing variants satisfying the highest of aesthetic demands range from a noble silk flat aluminium finish to high-quality real wood veneers. Match different housing and faceplate versions with freely selectable LED colours and black or silver SSC feet, as you desire. That way the Linear SE will become your very personal gem.

## Awards



# Technical specifications

|                               |                                                                                                                                                                                                                                       |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Input impedance               | 47 kohms                                                                                                                                                                                                                              |
| Maximum gain                  | 0 dB, 10 dB, 18 dB, 20 dB<br>selectable via DIP switches                                                                                                                                                                              |
| Frequency response            | 10 Hz (-0.3 dB) to 35 kHz (-1 dB)                                                                                                                                                                                                     |
| Signal to noise ratio         | > 95 dB at gain 0 dB                                                                                                                                                                                                                  |
| THD                           | < 0.001 % at 6 mW/300 ohms                                                                                                                                                                                                            |
| Channel separation            | > 70 dB at 10 kHz                                                                                                                                                                                                                     |
| Output power                  | • 400 mW/60 ohms<br>• 200 mW/300 ohms                                                                                                                                                                                                 |
| Output impedance              | • Line Out 60 ohms<br>• Headphones Out 5 ohms                                                                                                                                                                                         |
| Connectors audio              | • Neutrik headphone jacks with gold plated contacts<br>• 1 x switching Line Out<br>• 1 x non switching Line Out<br>• gold plated RCA sockets with teflon insulation<br>• Linear SE USB: Mini jack Stereo<br>(Loop Out/Line In) 3.5 mm |
| Power consumption             | 10 W                                                                                                                                                                                                                                  |
| Outer dimensions<br>W x D x H | 120 mm x 296 mm x 59 mm<br>(4.7 in. x 11.7 in. x 2.3 in.)                                                                                                                                                                             |
| Weight                        | 2.2 kg (4.9 lbs.) net                                                                                                                                                                                                                 |

## USB-DAC (Linear SE USB)

|                       |              |
|-----------------------|--------------|
| Sampling rate digital | up to 48 kHz |
| Resolution            | 16 bits      |
| Maximum voltage       | 1 V eff.     |

## Press commentaries on the Linear SE

**STEREO** *'We had expected that, owing to its potent output stage, it would not only consort better with the Sennheiser than its rival in terms of coarse dynamics, but also with the magnetostatic model from HiFi Man. However, the fact that it was playing the music with the same ardour, drawing the confines of the room by no means tighter, did surprise us after all.'*

*Sound Level: 97%*

*Price/Value: excellent'*

**STEREO/02 2012**

**i-fidelity.net** *'The Lehmannaudio Linear SE is a superb sounding and reasonably equipped headphone amplifier which can even double as a single source preamp if need be. Without neglecting even the smallest of details, this amp's nonchalant style of play can instantly win you over.'*

**i-fidelity.net/02 2012**



# Traveller

Your life. Your sound.



Headphone Amplifiers · Portable



The Traveller sets a new standard in the league of mobile headphone amplifiers. We have designed it for a generation who is constantly on the move: no matter if at home, in the office or when travelling – this elegant companion will always give you a unique sound experience, everywhere. And the Traveller lives up to even the highest aesthetic demands.

## At the pulse of life

On the go around the clock and at home wherever the pulse of life can be felt – this is you. With the pristine sound of your music in your ears the world is at your feet, and you breathe in life to the fullest. For this intense experience our Traveller is just the right partner: despite its compact size, it will always elate you with excellent sound quality on all your short and long voyages. Moreover, it does not only sound phenomenal, but even cuts a fine figure. Besides its practical size and ease of use, we also focus on outstanding sound quality in our mobile companion. This is the result of our decades of experience in the audio sector and our infinite passion for music. First-class components and a sophisticated circuit design are self-evident.

With a maximum battery run-time of more than 20 hours the music won't stop playing even on the longest flights. Moreover our fully analogue headphone amplifier is compatible with all players. It will drive even demanding headphones easily and may also double as a preamp for active loudspeakers. Our Traveller – flexibility and superb audio quality on life's colourful roads.

## Awards



image hifi  
Award 2016



## Technical specifications

|                               |                                                                        |
|-------------------------------|------------------------------------------------------------------------|
| Input impedance               | 47 kohms                                                               |
| Maximum gain                  | 10 dB                                                                  |
| Frequency response            | 20 Hz to 30 kHz (-0.5 dB)                                              |
| Signal to noise ratio         | > 95 dB RMS unweighted at gain 0 dB                                    |
| THD                           | < 0.02 % at 3 mW, 330 ohms                                             |
| Channel separation            | > 80 dB, 10 kHz                                                        |
| Tracking error                | < 0.3 dB                                                               |
| Output power                  | • 12 mW at 330 ohms<br>• 120 mW at 33 ohms                             |
| Output impedance              | 3 ohms                                                                 |
| Connectors audio              | each 2 x 3.5 mm minijack Stereo for Line In and Line Out/Headphone Out |
| Battery                       | LiPo 3.7 V, 4,000 mAh                                                  |
| Battery runtime               | up to more than 20 hours on a single charge (dependent on volume)      |
| Connection power supply       | Micro-USB, 500 mA charging rate                                        |
| Charging time                 | app. 6 hours (with a 500 mA charging device)                           |
| Outer dimensions<br>W x D x H | 80 mm x 90 mm x 25 mm<br>(3.1 in. x 3.5 in. x 1.0 in.)                 |
| Weight                        | 196 g (0.4 lbs.) net                                                   |

## Press commentaries on the Traveller

**STEREO** *'The gnarly bass precision, the natural mid band with palpable presence and the supple, velvety treble range can be unconditionally compared with stationary headphone amplifiers of top-level provenance. Great mental cinema!'*

STEREO/11 2014

**stereoplay** *'The Traveller is the analogue argument contra digital and pro versatile connectivity with high musical addictivity. (...) It sounds powerful, natural and musically smooth-edged and invites to common listening sessions.'*

stereoplay/10 2014

**i-fidelity.net** *'Silky detailedness with brilliant mids and highs and fundamental, tight lows let you enjoy this high-end flair to the fullest even on the go. The musical imaging is considerably enhanced both in richness and depth by that "cream candy" named Traveller.'*

i-fidelity.net/08 2014

**image hifi** *'The Traveller will not allow itself to get duped and stays firmly on a clear, taut line. If you wanted to use a category, one could say: committed to the truth like a tonmeister. (...) Typically Traveller: naturalness without artefacts, also and especially when travelling. There's no time for aerophobia.'*

image hifi/06 2014

**LA** Lehmannaudio®

**LA** Lehmannaudio

More power, more emotion:  
The **Black Cube SE II**  
Phono Preamplifier



[www.lehmannaudio.de/black-cube-se-ii](http://www.lehmannaudio.de/black-cube-se-ii)



# About phono preamplifiers

## What does equalisation mean?

By equalisation we understand the individual adaptation of the frequency response either from an artist's point of view during production (sound shaping, e.g. highpass, lowpass, formant emphasis, timbre shifting etc.) or technically automated during signal processing. The technically automated version (radio transmission, tape transfer, record, digital signal, digital line) always works with tailored centre frequencies/time constants for the respective application.

## Why is there an equalisation for records?

### The problem:

When cutting a record, for technical reasons a linear frequency response of the signal would necessitate ever wider grooves with decreasing frequency, i.e. towards the lows. This in turn would require more storage space on the vinyl. On the other hand, with increasing frequencies, i.e. towards the highs, the groove modulations would become so small that the useful signal would drown in noise during playback. Therefore a sound recording with a constant speed over the entire frequency bandwidth can't be realised in practice.

### The solution:

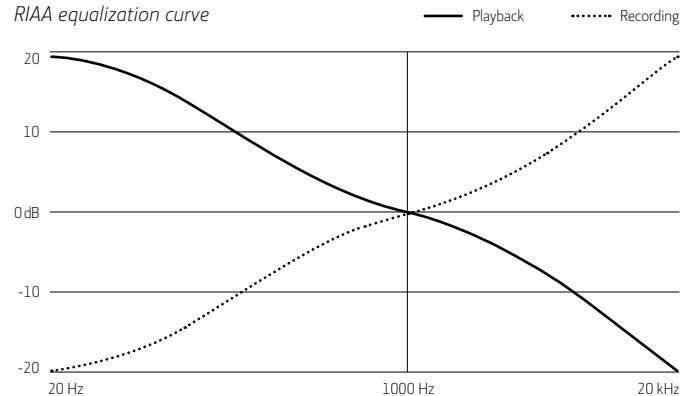
Boosting the highs and reducing the lows during the recording, i.e. a so-called linear distortion (pre-emphasis) of the frequency response. To finally achieve a linear reproduction, this distortion step must be reversed again during playback (de-emphasis). A phono equaliser-preamp ensures an undistorted playback after the stylus has scanned the record.



## History:

In the early days there were different, not fully compatible approaches by various record labels such as EMI or Decca, or by broadcasting stations like the BBC and NAB. Sometimes the respective recording engineers used their personal equalisation curves at their discretion for individual cutting processes, meaning the highs were boosted and the lows reduced at will to get more playtime onto the record. Since 1955 the filter characteristic or equalisation curve for recordings on vinyl has been standardised by the RIAA (Recording Industry Association of America).

RIAA equalization curve





# Black Cube Statement

The entry-level model with star qualities



Phono Preamplifiers



The Black Cube Statement is the entry-level model in our Black Cube series. With the usual high-grade quality of workmanship and the sophisticated circuit design this phono preamp is hardly inferior to its large siblings – and saves your budget!

## An all new musical experience

The Black Cube Statement will impress you – no matter if you are a newbie to the high-end sector or a returner. Your favourite LPs shine in new splendor and new acquisitions really come into their own now. Enjoy this totally new musical feeling and find fresh inspirations. That way collecting records is truly great fun again!

## Welcome to the world of phono preamps

With an excellent price-performance ratio the term 'entry-level model' is fundamentally redefined. The use of high-quality, long-life components from selected manufacturers is self-evident for us so that already the smallest phono preamp of our Black Cube series will bring you the captivating magic of analogue reproduction. Of course, the Black Cube Statement can handle all common cartridges on the market, from high-output MM to MC.

## Awards



## Technical specifications

|                                                                                      | MM                                                       | MC            |
|--------------------------------------------------------------------------------------|----------------------------------------------------------|---------------|
| <b>Sensitivity for output level 775 mV/0 dB</b><br>(with activated high gain jumper) | 7.4 mV/1 kHz                                             | 0.74 mV/1 kHz |
| <b>Gain 1 kHz</b>                                                                    | 41 dB                                                    | 61 dB         |
| <b>Maximum input level 1 kHz</b>                                                     | 58 mV                                                    | 5.6 mV        |
| <b>Signal to noise ratio</b><br>(RMS unweighted)                                     | 78 dB                                                    | 57 dB         |
| <b>Gain</b>                                                                          | 31 dB, 41 dB, 51 dB, 61 dB                               |               |
| <b>Channel separation</b>                                                            | > 85 dB at 10 kHz                                        |               |
| <b>Input impedance</b>                                                               | 47 kohms, 1 kohm, 100 ohms<br>1 x custom load            |               |
| <b>Output impedance</b>                                                              | < 100 ohm                                                |               |
| <b>Input capacitance</b>                                                             | 100 pF                                                   |               |
| <b>Channel mismatch</b>                                                              | typ. 0.5 dB                                              |               |
| <b>Bass filter</b>                                                                   | 50 Hz, 6 dB/oct.                                         |               |
| <b>Power consumption</b>                                                             | app. 1 VA                                                |               |
| <b>Outer dimensions</b><br><b>W x D x H</b>                                          | 103 mm x 108 mm x 45 mm<br>(4.0 in. x 4.3 in. x 1.8 in.) |               |
| <b>Weight</b>                                                                        | 0.28 kg (0.6 lbs.) net                                   |               |

## Press commentaries on the Black Cube Statement



*'Overall the Lehmann has a well-mannered, pleasing tone which will not fatigue. (...) It's a prince in its realm.'*

Hi-Fi News/2012



*'The Statement is a fine and flexible phono amp from a well-established quality manufacturer that offers good value.'*

TNT Audio/12 2008

image hifi

*'I can hardly come to any other conclusion than to give it my unreserved recommendation.'*

image hifi/03 2008



*'Giant-killing performance from little black box with big musical heart'*

Audio Video/09 2007

HI-FIChoice

*'We were very taken by this little amp, especially with a moving magnet cartridge as source. Its sound is open and quick with very good insight and also excellent extension at both frequency extremes, and its lack of hum and low noise level are also welcome.'*

HI-FI CHOICE/03 2007



# Black Cube

The classic on the pulse of time



Phono Preamplifiers



The Black Cube is the classic among the phono preamps: since its product launch in 1995 it has enjoyed cult status with a vast number of record lovers, causing a sensation in the specialised press with its compact dimensions and marvellous sound.

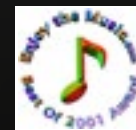
## You and your music – a unique relationship

Can you still remember what it was like to put on your favourite LP for the first time? Which detail cast a spell over you and even today is still fascinating? Do you take pleasure time after time in putting on this record? With the Black Cube phono preamp your favourite music is going to carry you away to cloud nine once more – just as intensely as if it was the first time.

## Quality with tradition

Right from the start, the Black Cube has enabled a new encounter with beloved music classics: owing to its excellent components and sophisticated circuit design, the sound is faithfully reproduced and with plenty of ardour, despite its tiny dimensions – a typical feature of the Black Cube series. Virtually all common pickup systems from high-output MM to MC may be connected, the configuration options ensure an unlimited freedom of choice.

## Awards



## Technical specifications

|                                                                                      | MM                                                                                                                                                   | MC            |
|--------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>Sensitivity for output level 775 mV/o dB</b><br>(with activated high gain jumper) | 3.8 mV/1 kHz                                                                                                                                         | 0.38 mV/1 kHz |
| <b>Gain 1 kHz</b>                                                                    | 46 dB                                                                                                                                                | 66 dB         |
| <b>Maximum input level 1 kHz</b>                                                     | 45 mV                                                                                                                                                | 4.5 mV        |
| <b>Signal to noise ratio</b><br>(RMS unweighted)                                     | 71 dB                                                                                                                                                | 63 dB         |
| <b>Gain</b>                                                                          | 36 dB, 46 dB, 56 dB, 66 dB                                                                                                                           |               |
| <b>Channel separation</b>                                                            | > 85 dB at 10 kHz                                                                                                                                    |               |
| <b>Input impedance</b>                                                               | 47 kohms, 1 kohm, 100 ohms<br>• 1 x custom load<br>• 1 x hardwire slot                                                                               |               |
| <b>Output impedance</b>                                                              | 47 ohms                                                                                                                                              |               |
| <b>Input capacitance</b>                                                             | 100 pF                                                                                                                                               |               |
| <b>Channel mismatch</b>                                                              | typ. 0.5 dB                                                                                                                                          |               |
| <b>Bass filter</b>                                                                   | 50 Hz, 6 dB/oct.                                                                                                                                     |               |
| <b>Power consumption</b>                                                             | < 3 W                                                                                                                                                |               |
| <b>Outer dimensions</b><br><b>W x D x H</b>                                          | • Audio section: 113 mm x 108 mm x 45 mm<br>(4.4 in. x 4.3 in. x 1.8 in.)<br>• Power supply: 92 mm x 232 mm x 45 mm<br>(3.6 in. x 9.1 in. x 1.8 in.) |               |
| <b>Weight</b>                                                                        | • Audio section incl. cable to power supply:<br>0.4 kg (0.9 lbs.) net<br>• Power supply: 1.0 kg (2.2 lbs.) net                                       |               |

## Press commentaries on the Black Cube

### Hi-Fi Choice

*'As soon as the needle hits the groove I can hear that the Lehmannaudio is able to conjure an expansive and open soundstage. But it's not just the size of the sonic landscape it paints which is of merit, where its strengths also lie is in how it lets instruments and voices work together as a cohesive whole, which really brings the music to life.'*

Hi-fi Choice/01 2015

*"Het geheel klonk aanstekelijk en werd met de nodige 'pace rhythm' neergezet wat werd geholpen door de uitstekende weergave van de mandoline en banjo. Deze opname verdient geen referentiestatus, maar kan zelfs menig country of blue grass hater over de streep trekken wanneer het op een tonaal uitgewogen en swingend systeem word afgespeeld. De Duitse phonotrap bewees geen moeite te hebben met deze opname en liet de muziek voor zichzelf spreken."*

Home Studio/04 2006

### image hifi

*'In addition to the previously available slot for impedance matching, a second plug-in base named "Hard Wire Slot" by Lehmann offers even more flexibility. Not only because of the space for another resistor, since at this position also a capacitor may be plugged in for capacitance matching to the employed phono cable. That way Norbert Lehmann has made my only – in this price category in fact exorbitant – request for improvement come true. Kudos!*

*Remarkable progress has also been made in terms of room imaging. The new preamp lets the acoustical performers step back a little and merges the manifold room information (...) in a more conclusive way into a three-dimensional illusion. 'sionalen Illusion."*

image hifi/03 2006

**image hifi** *'The Black Cube has been an established factor since long ago, the primus inter pares among the affordable phono stages. This is exactly how one would imagine a classic: so unaffected that its success must simply be due to its inner values – and is thus almost stylish again. The little black tin box has achieved cult status already a long time ago, it is sort of the VW Golf among the phono amplifiers.'*

*Notably the resolution (...) is phenomenal.(...) Captivating from the very first moment is the downright tonmeister-like neutrality. There are no euphonic, "analogue" beautifications, instead the listener finds himself close to the vinyl.*

*There's actually no reason why the Black Cubes should not be built just like this forever – or at least as long as there is vinyl.'*

**image hifi/o6 2003**



*'Timbres, power and punch in the lower registers, room imaging and "factual precision" leave almost nothing to be desired. (...) The Black Cube could handle all pickups equally well and transported the specific qualities unharmed to the preamp.'*

**hifi&records/o3 2001**



*'The Black Cube, though still a new kid in the block, can be easily considered a "classic", a challenge for every HiFi manufacturer. (...) Any serious analogue-addict should listen to it before buying anything else.'*

**TNT AUDIO/o1 2001**



*'After the obligatory 10-day burn-in time it was sounding absolutely incredible! In fact it was the undisputed best phono stage my ears have heard for under \$1,500 and the Black Cube would retail for about half that!'*

**Enjoy the music.com/11 1999**



*'As for the Black Cube's sound, the first thing I noticed was how fast and detailed it is; how it got leading edges and transients essentially correct. The second thing I noticed was how well it handles large and small dynamic swings – which can spell the difference between hearing canned music and the illusion of live. (...)*

*I don't know if it's offered with a money-back guarantee, but I'd say if you're unhappy – or, especially, bored with your phono section, and you're on a budget of \$1200 or under, get your hands on the Lehmann audio Black Cube. I don't know of anything at or near the price, that sounds this good.'*

**stereophile/10 1999**



*'I found the performance to be superb. Talking about the more obvious characteristics, the noise levels are extremely low. (...) The near-total absence of electronic noise unmasked detail I had not been aware of before. (...) A high-quality phono stage for the serious LP enthusiast.'*

**Australian hi-fi/o8 1999**



*'Without the slightest hesitation or reservation, I can wholeheartedly recommend the Lehmann Audio Black Cube phono stage for inclusion in any high-end analog playback system. It offered performance comparable to my reference phono preamp for a small fraction of its price and I'd call that a bargain – The Best I Ever Had!'*

**the audiophile voice/o5 1999**



# Black Cube II

Our classic – redefined



Phono Preamplifiers



The Black Cube II combines the best assets of our popular Black Cube family: the proven quality of our evergreen Black Cube, upgraded by the high-class connectors and the representative enclosure of the Black Cube SE II.

Like its predecessors, the Black Cube II makes shine virtually all MM and MC pickup systems available on the market, eliciting from your favourite music the complete sound spectrum of the original recording. Its peerless dynamics let you rediscover old and new recordings – as if it was your first time!

## Your ticket for a new world of sound

The ultra precise, passive RIAA filter network of the Black Cube II sits between two linear gain stages and is realised using super-grade, high-transient, closely tolerated polypropylene foil caps. Hence this phono preamp offers the impressive, pure sound image of the premium device league at an attractive entry-level price tag.

The professional input stages of the latest generation ensure an outstandingly accurate, punchy, low-noise reproduction. The audio section is equipped with additional subassemblies for an efficient hum, HF and noise suppression. Its dual-sided audio board allows an optimised trace layout for an exceptionally smooth operation.

The Black Cube II can be flexibly adapted to almost any system: each channel offers a slot for the solderless fitting of a custom impedance, plus there is an extra hard-wire slot with immediate effect. If you would like to get some resistors for matching your personal chain to the Black Cube II, we will include them free of charge with your order. Owing to its high-quality front panel options (silver, black or chrom-plated), the Black Cube II also cuts a fine visual figure in your hi-fi rack, together with Linear & Co. – the perfect gateway to this equipment class.

## Technical specifications

|                                                                                         | MM                                                                                            | MC            |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------|
| <b>Sensitivity for output level</b><br>775 mV/o dB<br>(with activated high gain jumper) | 3.8 mV/1 kHz                                                                                  | 0.38 mV/1 kHz |
| <b>Gain 1 kHz</b>                                                                       | 46 dB                                                                                         | 66 dB         |
| <b>Maximum input level 1 kHz</b>                                                        | 45 mV                                                                                         | 4.5 mV        |
| <b>Signal to noise ratio</b><br>(RMS unweighted)                                        | 71 dB                                                                                         | 63 dB         |
| <b>Gain</b>                                                                             | 36 dB, 46 dB, 56 dB, 66 dB                                                                    |               |
| <b>Channel separation</b>                                                               | > 85 dB at 10 kHz                                                                             |               |
| <b>Input impedance</b>                                                                  | 47 kohms, 1 kohm, 100 ohms<br>• 1 x custom load<br>• 1 x hardwire slot                        |               |
| <b>Output impedance</b>                                                                 | 47 ohms                                                                                       |               |
| <b>Input capacitance</b>                                                                | 100 pF                                                                                        |               |
| <b>Channel mismatch</b>                                                                 | typ. 0.5 dB                                                                                   |               |
| <b>Bass filter</b>                                                                      | 16 settings between 7 Hz and app. 90 Hz                                                       |               |
| <b>Power consumption</b>                                                                | < 3 W                                                                                         |               |
| <b>Outer dimensions</b><br>W x D x H                                                    | • Audio section: 114 mm x 124 mm x 50 mm<br>• Power supply: 70 mm x 115 mm x 55 mm            |               |
| <b>Weight</b>                                                                           | • Audio section incl. cable to power supply:<br>0.65 kg netto<br>• Power supply: 0.3 kg netto |               |

## Press commentaries on the Black Cube II



*'And so it really let the music burgeon freely. The "Moldau" of Smetana's "Ma Vlast" (...) was jauntily gurgling from its sources, bouncing over rapids to finally flow so wide and majestic towards the end. In a highly dynamic way the Black Cube II let the "Running Man" rush ahead, and the exquisite wealth of colours of the delicate jazz on Eva Kruse's "New Legend" was also shimmering and shining. (...) Pimped in such a hot manner, the Lehmann Black Cube SE II is state-of-the-art.'*

AUDIO/11 2020



*'My listening session with the Black Cube ends up being lengthier than anticipated, but it's for the right reasons. I can't quite believe how good it sounds (...) It's fast, agile, remarkably light on its feet and wonderfully transparent.'*

Hi-fi Choice/2020



# Black Cube SE

The power boost for enhanced passion



Phono Preamplifiers



Our classic Black Cube, equipped with the extra potent PWX power supply – this is the Black Cube SE. That way it has even more power for an exceptionally complex, impressive and emotional reproduction of music.

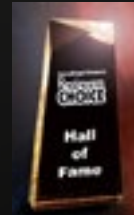
## Enjoying the music in all its beauty

Just imagine you could get even more out of your favourite record: the Black Cube SE does it with far greater bass authority, very relaxed mids plus enhanced top-end sparkle and openness.

## Professional and yet emotional: making music tangible

The Black Cube SE belongs to the premier league of phono preamps. Of course, we use only components of ultimate quality for it. For example, we assemble input stages which other makers of professional studio electronics also build into their mixing consoles and microphone preamps. The potent external PWX power supply is equally compact in size like the audio section, so the Black Cube SE may be placed right next to your turntable drive, leaving no chance for acoustic detriments.

## Awards



## Technical specifications

|                                                                                      | MM                                                                                                                                                       | MC            |
|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>Sensitivity for output level 775 mV/0 dB</b><br>(with activated high gain jumper) | 3.8 mV/1 kHz                                                                                                                                             | 0.38 mV/1 kHz |
| <b>Gain 1 kHz</b>                                                                    | 46 dB                                                                                                                                                    | 66 dB         |
| <b>Maximum input level 1 kHz</b>                                                     | 45 mV                                                                                                                                                    | 4.5 mV        |
| <b>Signal to noise ratio</b><br>(RMS unweighted)                                     | 71 dB                                                                                                                                                    | 63 dB         |
| <b>Gain</b>                                                                          | 36 dB, 46 dB, 56 dB, 66 dB                                                                                                                               |               |
| <b>Channel separation</b>                                                            | > 85 dB at 10 kHz                                                                                                                                        |               |
| <b>Input impedance</b>                                                               | 47 kohms, 1 kohm, 100 ohms<br>• 1 x custom load<br>• 1 x hardwire slot                                                                                   |               |
| <b>Output impedance</b>                                                              | 47 ohms                                                                                                                                                  |               |
| <b>Input capacitance</b>                                                             | 100 pF                                                                                                                                                   |               |
| <b>Channel mismatch</b>                                                              | typ. 0.5 dB                                                                                                                                              |               |
| <b>Bass filter</b>                                                                   | 50 Hz, 6 dB/oct.                                                                                                                                         |               |
| <b>Power consumption</b>                                                             | < 3 W                                                                                                                                                    |               |
| <b>Outer dimensions</b><br><b>W x D x H</b>                                          | • Audio section: 113 mm x 108 mm x 45 mm<br>(4.4 in. x 4.3 in. x 1.8 in.)<br>• PWX power supply: 93 mm x 233 mm x 45 mm<br>(3.6 in. x 9.1 in. x 1.8 in.) |               |
| <b>Weight</b>                                                                        | • Audio section: 0.4 kg (0.9 lbs.) net<br>• PWX power supply: 1.0 kg (2.2 lbs.) net                                                                      |               |

## Press commentaries on the Black Cube SE



*'Don't be fooled by the Black Cube's diminutive size. The internals bear testimony to a painstaking eye for detail and a focus on quality circuit components. Lehmann claims the input stages are identical to those employed in upper-end mixing consoles and microphone pre-amps.'*

AUDIO VIDEO/10 2006

**image hifi**

*'The music gets a direction, notes are bowing to arcs of suspense. Whether you're tapping your feet to the beat, fake the conductor or give free rein to your love of singing, (...) – the "big" new Black Cube is by all means a truly talented animator.'*

image hifi/03 2006



*'Lehmann's domain is the vocal band. Here the unit is drawing so precisely and highly resolving that even heavy weight contenders are not really able to keep distance. (...) It is difficult to give a clear cartridge recommendation because the output shows what you put in. This and only this is how a studio professional develops equipment.'*

LP/03 2005

**image hifi**

*'Just take (...) an upgrade power supply named PWX, which converts the standard Cube to the SE version. And then follow with amazement the transformation of a very good, exemplarily accurate and objectively unassailable phono stage into a high end music machine.'*

image hifi/06 2003



# Black Cube SE II

More is more: more power, more emotion



Phono Preamplifiers



The advanced version of the multi-awarded Black Cube SE has a lot to offer: based on the SE audio circuit, the SE II has been upgraded with superior sockets, visually it excels by a housing with a faceplate. A bass filter, which can be finetuned extensively to your personal needs, takes the performance of the Black Cube series to a new level.

## Music was my first love...

As the proud owner of a Black Cube SE II you will get the feeling as if the music had been composed just for you. There is hardly a system that can be tailored so individually to your listening habits and acoustic preferences like this technical masterpiece. A new chapter in the book of your very personal love for music is opened when the Black Cube SE II brings you and your favourite music together even more closely!

## A truly audiophile phono stage

In the whole Black Cube series it becomes evident how the best of components provide an excellent sound image. All the more the Black Cube SE II enjoys a special status: the improved sockets and a widely configurable bass filter with sixteen different settings will easily satisfy even uptown tastes. With its high-class front panel (silver, black or chrome-plated) the Black Cube SE II also cuts a fine figure in your hifi rack.

## Awards



# Technical specifications

|                                                                                      | MM                                                                                                                                                       | MC            |
|--------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>Sensitivity for output level 775 mV/0 dB</b><br>(with activated high gain jumper) | 3.8 mV/1 kHz                                                                                                                                             | 0.38 mV/1 kHz |
| <b>Gain 1 kHz</b>                                                                    | 46 dB                                                                                                                                                    | 66 dB         |
| <b>Maximum input level 1 kHz</b>                                                     | 45 mV                                                                                                                                                    | 4.5 mV        |
| <b>Signal to noise ratio</b><br>(RMS unweighted)                                     | 71 dB                                                                                                                                                    | 63 dB         |
| <b>Gain</b>                                                                          | 36 dB, 46 dB, 56 dB, 66 dB                                                                                                                               |               |
| <b>Channel separation</b>                                                            | > 80 dB at 10 kHz                                                                                                                                        |               |
| <b>Input impedance</b>                                                               | 47 kohms, 1 kohm, 100 ohms<br>• 1 x custom load<br>• 1 x hardwire slot                                                                                   |               |
| <b>Output impedance</b>                                                              | 47 ohms                                                                                                                                                  |               |
| <b>Input capacitance</b>                                                             | 100 pF                                                                                                                                                   |               |
| <b>Channel mismatch</b>                                                              | typ. 0.5 dB                                                                                                                                              |               |
| <b>Bass filter</b>                                                                   | 16 settings between 7 Hz and app. 90 Hz                                                                                                                  |               |
| <b>Power consumption</b>                                                             | < 3 W                                                                                                                                                    |               |
| <b>Outer dimensions</b><br><b>W x D x H</b>                                          | • Audio section: 114 mm x 124 mm x 50 mm<br>(4.5 in. x 4.9 in. x 2.0 in.)<br>• PWX power supply: 93 mm x 233 mm x 45 mm<br>(3.6 in. x 9.1 in. x 1.8 in.) |               |
| <b>Weight</b>                                                                        | • Audio section: 0.6 kg (1.3 lbs.) net<br>• PWX power supply: 1.0 kg (2.2 lbs.) net                                                                      |               |

# Press commentaries on the Black Cube SE II



*"Upgraded to the SE version by the PWX, it was definitely poking the fire again like almost no other phono pre in its price range. [...] Pimped in such a hot manner, the Lehmann Black Cube SE II is state-of-art."*

AUDIO/11 2020



*"The Cube managed to be sweet and supple without sounding soft or ill-defined. Its bass control in context of the entire sonic picture was ideal. In the attack-sustain-decay department, which I think is key to defining and describing sonics, the Cube produced a graceful, yet precise attack, a generous sustain unusual at this price point and with its coal-black backgrounds, decay generosity and resolution befitting a far more expensive phono preamplifier."*

*"Most impressive though was the Lehmann Black Cube SE II's transparency and mid-range ease. (...) Of the three referenced phono preamplifiers, my choice would be the Lehmann Black Cube SE II (...)."*

Michael Fremer, Analog Planet/12 2013



*"This is a true audiophile phono stage and, partnered with equipment of equal quality, the results are remarkable. Indeed, the SE II is difficult to fault even compared to competition in a much higher price bracket. The exceptionally low background noise allied to a fabulous rhythmic and tonal rendition make it worthy of consideration for those seeking the most detail from their vinyl without having to make a hyperspace price jump."*

*"To find more depth and detail in music I know so well was a remarkable experience and I warmed to this little gem of a phono stage all over again."*

Hi-Fi News 02/2010

# Decade

A milestone among the phono preamps



Phono Preamplifiers



An ambitious phono stage that forges a link between the Black Cube series and the top-of-the-line model Silver Cube: this is our Decade. However, it is rather a high flyer than a stopgap, for owing to its cutting-edge technology, it has the wonderful gift to spoil even the most demanding music enthusiasts. And this with a flawless sound which points far beyond its price category.

## Brilliant in minute detail

It doesn't matter if you keep playing your favourite LPs time and again or love to discover unknown records, if you are all alone or celebrate your music in an intimate circle together with family and friends, if you enjoy the complete artwork in a totally relaxed mood or follow the individual sounds entirely focused – the Decade impresses in every situation with a harmonic performance of passionate temper and precise contours. For this is why we have created it: for you and your very private music fireworks.

## Audiophile all the way

Of course, due to its extremely carefully selected components and manifold setting options the Decade, too, is fully custom-tunable to your individual needs. Thus e.g. even exotic MC systems can be connected hassle-free to this outstanding phono stage. Always with your musical enjoyment in mind, we have also developed the PWX II power supply which lets you benefit from a further enhanced performance. Owing to the downward compatibility of the PWX II with the PWX the audio devices of the Black Cube series can also be connected. Our Decade – custom-tailored and with a vast array of facets for you and your music.

## Awards



## Technical specifications

|                                                                                         | MM                                                                                                                                                                | MC            |
|-----------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>Sensitivity for output level</b><br>775 mV/o dB<br>(with activated high gain jumper) | 3.8 mV/1 kHz                                                                                                                                                      | 0.38 mV/1 kHz |
| <b>Gain 1 kHz</b>                                                                       | 46 dB                                                                                                                                                             | 66 dB         |
| <b>Maximum input level 1 kHz</b>                                                        | 45 mV                                                                                                                                                             | 4.5 mV        |
| <b>Signal to noise ratio</b><br>(RMS unweighted)                                        | 78 dB                                                                                                                                                             | 69 dB         |
| <b>Gain</b>                                                                             | 36 dB, 46 dB, 56 dB, 66 dB                                                                                                                                        |               |
| <b>Channel separation</b>                                                               | > 80 dB at 10 kHz                                                                                                                                                 |               |
| <b>Input impedance</b>                                                                  | 47 kohms, 1 kohm, 100 ohms<br>• 1 x custom load                                                                                                                   |               |
| <b>Output impedance</b>                                                                 | 5 ohms                                                                                                                                                            |               |
| <b>Input capacitance</b>                                                                | 47 pF to 1,370 pF                                                                                                                                                 |               |
| <b>Channel mismatch</b>                                                                 | typ. max. 0.5 dB                                                                                                                                                  |               |
| <b>Bass filter</b>                                                                      | 50 Hz, 6 dB/oct.                                                                                                                                                  |               |
| <b>Power consumption</b>                                                                | app. 13 VA                                                                                                                                                        |               |
| <b>Outer dimensions</b><br>W x D x H                                                    | • Audio section: 110 mm x 280 mm x 50 mm<br>(4.3 in. x 11.0 in. x 2.0 in.)<br>• PWX II power supply:<br>110 mm x 280 mm x 50 mm<br>(4.3 in. x 11.0 in. x 2.0 in.) |               |
| <b>Weight</b>                                                                           | • Audio section: 0.87 kg (1.9 lbs.) net<br>• PWX II power supply: 1.56 kg (3.4 lbs.) net                                                                          |               |

## Press commentaries on the Decade



*'It offers silence and a svelte sound rather than high drama. A neat and well designed phono stage that avoids the slight hiss of many, but best to get an audition first to ensure it works with the system.'*

lite-magazin/05 2019



*'When Ricki Lee is about to hit and hold the final note, sung very softly, I held my breath in anticipation. It represented to me the art of analog in a single, breathy, extended, glorious moment.'*

the absolute sound/02 2015



*'Switching over to the MM settings, I found the Lehmann impressive as it clearly had no difficulty in bringing out a well-detailed and convincingly dynamic sound from a moving-magnet cartridge.'*

HiFi News/04 2010



*'In a completely relaxed mood the Lehmann keeps the balance between lush timbres and imperative neutrality, between temperament and cool analysis.'*

*The Decade virtually sends a challenge for a pickup comparison as it meticulously sticks by its specifications.'*

image hifi/01 2009



*'Tonally on the safe side, yes – however not just boringly reproducing, but in an absolutely exciting and tingling manner.'*

lp magazin/03 2008

# Decade Jubilee

Musik hautnah erleben



Phonovorverstärker



We at Lehmannaudio love challenges. It's our special ambition to make something really excellent still better in a clear and sustainable manner. The Decade Jubilee raises playing back of records to a new level even for the most demanding pleasure listeners. To this end it has got the entire passive RIAA network from its big brother Silver Cube – for an infatuating music reproduction. Owing to the available customising options, even the most exotic pickups will find their perfect game partner in the Decade Jubilee.

## Ease and playfulness that will get under your skin

Thanks to its powerful discrete output stage the Decade Jubilee can show off with all its sonic assets even when using long cables. The reproduction is clear down to the finest details and characterised by an effortless ease. And it's also easy to operate: all important functions can be switched conveniently via toggles on the front panel of the audio section. Inside the device the signals reach their destination in dual mono via one relay per channel. This clearly improves the crosstalk behaviour and helps to keep the signal paths short. Hence you will enjoy your music in an even more 3D-like and immediate way – as if you were at a live concert!

With the PWX II LC power supply the audio section has an adequate support by its side. Due to the significantly increased use of copper and an elaborate capacitor upgrade, the revised power pack is now an appropriately sovereign energy source. This enables the Decade Jubilee to handle transients even faster. Both the audio section and the power supply rest on the 3S feet that were specially refined by Lehmannaudio and bring total calmness into the sound image. No matter what kind of music you love – the Decade Jubilee will enchant you with its clarity and truly touch you!

## Awards



## Technical specifications

|                                                                                         | MM                                                                                                                              | MC            |
|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>Sensitivity for output level</b><br>775 mV/o dB<br>(with activated high gain jumper) | 3.8 mV/1 kHz                                                                                                                    | 0.38 mV/1 kHz |
| <b>Gain 1 kHz</b>                                                                       | 46 dB                                                                                                                           | 66 dB         |
| <b>Maximum input level 1 kHz</b>                                                        | 45 mV                                                                                                                           | 4.5 mV        |
| <b>Signal to noise ratio</b><br>(RMS unweighted)                                        | 78 dB                                                                                                                           | 69 dB         |
| <b>Gain</b>                                                                             | 36 dB, 46 dB, 56 dB, 66 dB                                                                                                      |               |
| <b>Channel separation</b>                                                               | > 80 dB at 10 kHz                                                                                                               |               |
| <b>Input impedance</b>                                                                  | 47 kohms, 1 kohm, 100 ohms<br>• 1 x custom load                                                                                 |               |
| <b>Output impedance</b>                                                                 | 5 ohms                                                                                                                          |               |
| <b>Input capacitance</b>                                                                | 47 pF to 1,370 pF                                                                                                               |               |
| <b>Channel mismatch</b>                                                                 | typ. max. 0.5 dB                                                                                                                |               |
| <b>Bass filter</b>                                                                      | 50 Hz, 6 dB/oct.                                                                                                                |               |
| <b>Power consumption</b>                                                                | app. 13 VA                                                                                                                      |               |
| <b>Outer dimensions</b><br>W x D x H                                                    | • Audio section: 110 mm x 280 mm x 50 mm<br>• PWX II power supply:<br>110 mm x 280 mm x 50 mm<br>(4.3 in. x 11.0 in. x 2.0 in.) |               |
| <b>Weight</b>                                                                           | • Audio section: 0.87 kg (1.9 lbs.) net<br>• PWX II power supply: 1.56 kg (3.4 lbs.) net                                        |               |

## Press commentaries on the Decade Jubilee

**stereoplay**

*'Sonically, the Decade Jubilee prepares a fistful of surprises even for intimate core listeners of the matter: it is incorruptibly precise, completely uncolored and straightforwardly serious to the bone without any glossing over, but also engaging, deeply emotional, colorful, mediating and insistent. (...) For the deeply impressed tester there remains only one thing, namely to give a thick recommendation on the way - compliments, Mr. Lehmann!'*

**stereoplay/02 2022**

**stereod+**

*'Au contraire, Lehmann's youngest creation throws itself with almost voluptuous enthusiasm at the task of evoking the illusion of an orchestra in the listening room and getting the audience involved in the event. The vigour of the numerous instruments, fanned out from the far left to the extreme right edge of the stage, is reproduced by the Jubilee in a downright sublime way. Powerful and dynamic, with an openness that is regrettably so rarely heard with complex orchestral music, the phono amp from Cologne knows how to enchant.'*

**stereo+/09 2021**

**lp**

*'Anyone who wants to distill the tonal essence of a cartridge is well served by this machine. The Cologne team forms an incredibly happy marriage with the Ortofon Windfeld Ti. With this combination, even after weeks of continuous operation, I can't with the best will in the world discern any preferences for certain areas of the spectrum. However, very much those for a lively and powerful playing style. This is analog pleasure at the highest level, but if you ask me how the Anniversary-Lehmann sounds, then I must owe you the answer a bit: It doesn't sound, it passes music. What more could you want?'*

**lp magazin/06 2021**



# Silver Cube

The high art of music listening



Phono Preamplifiers



The Silver Cube plays in the league of the world's consummate phono stages. Dressed in a noble guise and with finest components, it delivers an excellent sound and thus clearly belongs to the best things that can happen to your records. Look forward to a priceless musical experience, let yourself get carried away by the masterful acoustic performance of our attractive top model.

## The most beautiful way to enjoy music

The listening delight provided by your records is a very unique experience for you which can only be compared to the magic of a live concert? A perfect musical experience means a lot more to you than the sum of individual sounds? Besides concentrated energy you also expect matchless transparency, a captivating wealth of detail and a spectacular three-dimensional reproduction of space when enjoying your favourite LPs? Then the Silver Cube offers you everything you ever dared to dream of.

## Excellence all the way

SilverCube phono stage

To make the Silver Cube perfect, we have put our decades of experience and all our audiophile passion in the balance. Like always we use the best components from first-class makers. With love for detail we have optimised circuits and raised the mechanical system to a downright masterful level. These adaptations provide breathtaking dynamics, excellent specifications as well as an impressively holographic imaging. The sheer elegance of this phono stage once again shows in its high-class aluminium design, which also makes it the visual star of your high-end system.

## Awards



## Technical specifications

|                                                                                         | MM                                                                                                                                                      | MC            |
|-----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>Sensitivity for output level</b><br>775 mV/o dB<br>(with activated high gain jumper) | 3.8 mV/1 kHz                                                                                                                                            | 0.38 mV/1 kHz |
| <b>Gain 1 kHz</b>                                                                       | 46 dB                                                                                                                                                   | 66 dB         |
| <b>Maximum input level 1 kHz</b>                                                        | 50 mV                                                                                                                                                   | 5 mV          |
| <b>Signal to noise ratio</b><br>(RMS unweighted)                                        | 78 dB                                                                                                                                                   | 69 dB         |
| <b>Gain</b>                                                                             | 36 dB, 46 dB, 56 dB, 66 dB                                                                                                                              |               |
| <b>Channel separation</b>                                                               | > 80 dB at 10 kHz                                                                                                                                       |               |
| <b>Input impedance</b>                                                                  | 47 kohms, 1 kohm, 100 ohms<br>• 1 x custom load                                                                                                         |               |
| <b>Output impedance</b>                                                                 | 5 ohms                                                                                                                                                  |               |
| <b>Input capacitance</b>                                                                | 47 pF to 1,370 pF                                                                                                                                       |               |
| <b>Channel mismatch</b>                                                                 | typ. max. 0.1 dB                                                                                                                                        |               |
| <b>Bass filter</b>                                                                      | 50 Hz, 6 dB/oct.                                                                                                                                        |               |
| <b>Power consumption</b>                                                                | app. 15 VA                                                                                                                                              |               |
| <b>Outer dimensions</b><br><b>W x D x H</b>                                             | • Audio section: 300 mm x 195 mm x 48 mm<br>(11.8 in. x 7.7 in. x 1.9 in.)<br>• Power supply: 112 mm x 312 mm x 80 mm<br>(4.4 in. x 12.3 in. x 3.1 in.) |               |
| <b>Weight</b>                                                                           | • Audio section: 2.25 (5.0 lbs.) kg net<br>• Power supply: 2.8 kg (6.2 lbs.) net                                                                        |               |

## Press commentaries on the Silver Cube



*'Fit it and then forget the stage, no matter what cartridge you buy in future, and no matter how much you spend on the rest of your system it's going to cope admirably.'*

*The Silver Cube is expensive, but by no means extravagantly priced compared to some. As far as I can hear, it offers as near faultless performance as makes no difference and can cope with any cartridge/preamp combo you care to throw at it. Some will buy it because it looks so good next to the Black Cube SE, but in fact it's a significant upgrade on that very worthy design.'*

**TNT Audio/02 2003**



*'The Silver Cube has a remarkable purity to its performance (...) the Lehmann really does offer a sense of precision and insight that is usually the territory of even more expensive units (...) The Silver Cube is a fitting pinnacle to the Lehmann phono stage range, with a build quality that would embarrass some dearer designs. Sonically, it expands on the strengths of its cheaper brethren to offer a remarkably even-handed performance.'*

**Hifi News/07 2015**



# Stamp

A paragon of inner greatness



Power Amplifiers



This stereo power amplifier convinces with its inner values: music lovers are raving about the excellent sound quality of our Stamp which astonishes the audiophile world because of its compact dimensions. Instead of another power amp behemoth, we present to you this more than serious amplifier which can stand its ground in every environment despite – or just because of – its size.

## Focus on the love for music

You're looking forward to your music each and every time? You value a lush and uniquely pure sound which captures all your senses – even if you're the owner of small loudspeakers or listen to music over your second sound system? The Stamp will allow you to do just this without pushing itself visually or soundwise into the limelight. Because the focus lies on you and your musical adventure!

## A role model power amp

Like all our devices, the Stamp will leave Lehmannaudio with first-class components which produce a uniquely faithful and fascinating sound. Setup of this refreshingly different power amplifier is a snap: thanks to its modest size, you can put it right next to your chain or attach it quite easily using the optional mounting kit wherever it fits best for you. By the way, if your speakers have bi-amping terminals, you can reconfigure the Stamp in a breath. For bi-amping operation you'll need two Stamp power amps. Teamed with our Linear, the result is a puristic pre/power amp combo that's going to thrill you.

## Technical specifications

|                                       |                                                           |
|---------------------------------------|-----------------------------------------------------------|
| <b>Frequency response</b>             | 12 Hz – 20000 Hz +/- 1 dB at 4 ohms                       |
| <b>Gain</b>                           | 20 dB                                                     |
| <b>Max. power</b>                     | 20 W per channel at 4 ohms                                |
| <b>Outer dimensions<br/>W x D x H</b> | 110 mm x 280 mm x 44 mm<br>(11.0 in. x 4.3 in. x 1.7 in.) |
| <b>Weight</b>                         | 1.9 kg (4.2 lbs.) net                                     |

## Press commentaries on the Stamp



*'The Stamp I can recommend wholeheartedly. As long as you are realistic with room/speaker matching it offers true hi-fi sound.'*

*Lastly it's one of those components that I'd recommend blind to someone because it's not fussy in use and seems to have a benign rather than difficult character.'*

TNT Audio/09 2007



**LA** **Lehmannaudio**®



## Check us out.

At [www.lehmannaudio.com/service/dealers](http://www.lehmannaudio.com/service/dealers) you'll find authorised dealers in your area – worldwide!

Our network comprises specialist audio retailers in more than 30 countries around the world. You can check out a lot of Lehmannaudio devices right in the stores. Convince yourself of the superiority of our products and get carried away by their unique sound!

[www.lehmannaudio.com](http://www.lehmannaudio.com)



# Stamp SE

The aesthete among the power amps



Power Amplifiers



The Stamp SE is a compact, trend-setting stereo amplifier which has caused a sensation in the audiophile world because of its impressive sound, combined with the high-class design of our attractive Linear SE. With its small size, its unique sound and the elegant housing variations it's an antithesis to the clumsy power amp giants.

## Balm for the soul

Whether it's the calm in life's stormy weather or a change in your daily routine, be they merry or melancholic notes: your music will always give you what's just right for you at any given moment. Here our Stamp SE would like to spoil you with an impressive sound which goes deep under your skin. Besides the acoustic top performance our compact amplifier can also put an elegant, customisable design in the balance.

Like all our devices, the Stamp SE is manufactured in Germany with utmost care and fitted with premium components. For the next generation of our well-known Stamp we use components from Mogami, ahp and Mundorf. That way we achieve a greatly improved transient behaviour and spatial representation of your favourite sounds. SSC feet and a thicker housing wall gauge help dampen vibrations and microphonic effects. You'd rather assure yourself first-hand of the audible advancements and the elegant housing variations: owing to the manifold refinement options you can create your very personal high-end gem and look forward to an acoustical and visual delectation each and every time.

## Technical specifications

|                                       |                                                           |
|---------------------------------------|-----------------------------------------------------------|
| <b>Frequency response</b>             | 12 Hz – 20000 Hz +/- 1 dB at 4 ohms                       |
| <b>Gain</b>                           | 20 dB                                                     |
| <b>Max. power</b>                     | 20 W per channel at 4 ohms                                |
| <b>Outer dimensions<br/>W x D x H</b> | 120 mm x 296 mm x 59 mm<br>(4.7 in. x 11.7 in. x 2.3 in.) |
| <b>Weight</b>                         | 2.75 kg (6.0 lbs.) net                                    |

## STUDIO & KONZERT FOR HEADPHONES



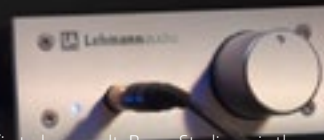
'The Linear Pro is fantastic. The precise representation of spatiality and transients helps to make the right decisions, and even long mixing days are possible without listening fatigue. It supports exactly what we want to achieve with the binaural mixes: provide the listener with a listening experience that touches them immediately.'

Adrian von Ripka, sound engineer Bauer Studios

# From the studio directly into your ear

STUDIO KONZERT is the name of the audiophile direct 2-track fully analogue recorded concert series, which has been produced at Bauer Studios Ludwigsburg since the beginning of 2013 and is available in stores as 180 g vinyl in high-quality sleeve album artwork and as a hand-numbered limited edition.

After more than 43 "STUDIO KONZERT" releases on vinyl, selected titles of the series are now also made available digitally. The result is not the usual stereo mixes, but binaural mixes created according to artistic criteria. This means that the tracks offer an immersive surround sound experience on headphones. A much more listenable and enveloping soundstage than conventional stereophony creates immediate, emotional access to the musical content.



For a first-class result, Bauer Studios mix through high-quality headphone preamplifiers from Lehmannaudio.

Available now for download and streaming on all digital platforms!

**Discover our complete vinyl series at**  
**[www.bauerstudios.de](http://www.bauerstudios.de)**



**BAUER  
STUDIOS**  
LUDWIGSBURG

# 3S Device Feet

A new level for your favourite music



For several years resonance absorbing feet using fabric technology have already been used in the higher price segment of the Lehmannaudio products to largely eliminate sound impairing micro resonances. In collaboration with the inventor of this fabric technology, Manfred Diestertich, and thanks to our own further development, we can now offer you decisively improved device feet.

## State-of-the-art technology for an even more intense music experience

Due to an innovative combination of different materials and technologies as well as advanced state-of-the-art fabric, the 3S absorber feet produce a clearly audible sound refinement of the music reproduction. Micro vibrations are effectively converted into heat by the central three-piece string suspension element combined with the additional absorption materials. The music can develop freely – for an even stronger feeling of intimate involvement!

Experience significantly improved dynamics and clarity, enhanced bass control and more realistic stage imaging, as well as an almost holographic ambience reproduction.

## The benefits of the 3S Device Feet

The following improvements may occur:

- considerably improved dynamics
- greater clarity of reproduction
- holographic room imaging
- more realistic stage imaging
- more palpable texture of the instruments
- enhanced bass control
- blacker backdrop



Accessories



## Versions of the 3S Device Feet



### 3S Point 1

This absorber foot uses a top section with an extra layer of soft heavy foil. It is simply put under the corresponding audio device or screwed to the respective unit with a matching screw through the centre hole – a procedure which only takes a few seconds per piece.



### 3S Point 2

This absorber foot features an aluminium plate with a little spike hollow as top section to take up the spikes which are particularly widespread in connection with loudspeakers.



### 3S Point 3.6

This version has a fixed 20 mm threaded rod with an M6 thread as top section. These feet must be screwed directly under devices or loudspeakers with a corresponding female thread.



### 3S Point 3.8

This version has a fixed 20 mm threaded rod with an M8 thread.

## Technical Data

|          |                                                                                                                                                                  |
|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Diameter | 50 mm                                                                                                                                                            |
| Height   | <ul style="list-style-type: none"> <li>• 3S Point 1: 12 mm</li> <li>• 3S Point 2: 12 mm</li> <li>• 3S Point 3.6: 32 mm</li> <li>• 3S Point 3.8: 32 mm</li> </ul> |
| Weight   | <ul style="list-style-type: none"> <li>• 3S Point 1: 16 g</li> <li>• 3S Point 2: 17 g</li> <li>• 3S Point 3.6: 20 g</li> <li>• 3S Point 3.8: 21 g</li> </ul>     |

## Press commentaries



*„...but the component feet when used under the right device bring about some fairly impressive improvements too. (...) Well worth trying - I can't see you being disappointed.“*

TNT-Audio/10 2021



# Stage 1 Turntable Mat

Resonance decoupling for all drives



Accessories



Are you familiar with this problem? With great care you've put together your top-level hifi chain and now you're pleased to immerse yourself fully into your analogue music treasures. Yet despite the very finest technology even the best recordings are accompanied by annoying static noises! A low rumble, electrified crackling, distorted tones or a muddy bass are clouding the musical enjoyment.

## The problem:

When playing back records two different sorts of inadvertent vibrations can distort the sound image: The direct vibrations of the record itself, which are generated during playback by the stylus moving in the groove, will come back delayed to the pickup due to mechanical reflections on the record's outer edge and thus distort the signal. Indirect vibrations due to airborne sound are generated by acoustic waves hitting on the record and thereby causing the stylus to oscillate.

The cartridge picks up the vibrations without being able to make a distinction between the wanted vibrations from the record playback and the irritating parasitic vibrations. The overlaying of those transients creates the unpleasant jarring notes.

## Our solution:

The Stage 1 Turntable Mat will decouple the record from the ground, thereby neutralising the vibrations from the turntable drive. Static charges are avoided, the record is lying perfectly flat and vibration-free on the turntable. Enjoy a much more precise reproduction in the bass and fundamental range and experience close-up how the dynamics of your music can develop undisturbed.

## The benefits of the Stage 1 turntable mat:

1. Optimum height adjustment for virtually all pickup systems,
2. Prevention of unwanted resonances
3. Greater sonority and precision
4. More sculptural room imaging
5. Soothed sonic image
6. Centre hollow for a perfect contact of the record with the mat
7. Optimised coupling of the record to the drive
8. No static charges



# Drachenfels Circuit boards

Analogue? Digital? Drachenfels!



Accessories



## Drachenfels D

The Drachenfels D complements the detailed, light-footed sound of the analogue model by a digital-analogue converter of the latest generation. The Sabre DAC from ESS on the quad-layer circuit board, which is optimised against RF interference, offers both digital S/PDIF and TOSLINK inputs. Low-loss mica caps on the mainboard and in the analogue filter of the converter as well as ultra fast amplifier stages on the converter board guarantee reference quality in transient reproduction. Enjoy your digital musical treasures from a streamer or CD player in full Lehmann-audio quality!

## Drachenfels USB

A new way of hearing digital music: the USB version of the Drachenfels plays back your music files from PC, Mac or even mobile phone in audiophile quality. The Drachenfels USB automatically recognises an incoming USB audio data stream and needs no input selector switch. Whether from a digital or analogue source – our compact local hero lets you experience your favourite music with a wealth of details in a fatigue-free, thrilling manner. Never again will you regard your headphones as a makeshift solution.



# Mounting Kit

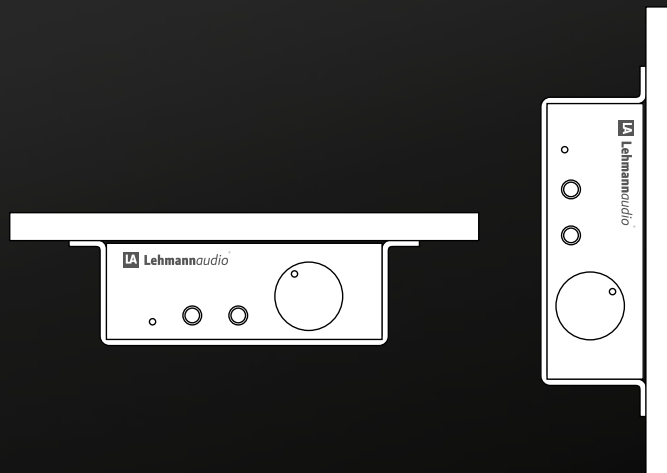
Giving Linear and Stamp a firm support



Accessories

With our mounting kit your Linear or Stamp mounts quite easily and inconspicuously on furniture and walls. No matter if you wish to disguise the view of your valuable devices or simply enjoy a tidy ambience: our mounting kit is the ideal and, at the same time, no-fuss solution for this purpose, not only for empty-deskers! This set allows both the horizontal and vertical device affixing.

Typically German: combine fun, tidiness and acoustic delectation at your workplace and in your home. Create space and rejoice over a clean desk! That way you'll have room e.g. for beautiful small desk speakers. The mounting kit for Linear and Stamp is available through specialised Lehmannaudio retailers.



# Device upgrades

Exclusively for Lehmannaudio customers and in keeping with the longevity of our products, we offer high-quality equipment upgrades.

## Headphone amplifier

### Platinenupgrade der Linear-Serie

Equipment with new Low-Z copper analogue board  
Additional option: equipment with 3S unit feet

from 499 EUR  
plus. 99 EUR

## Phono preamplifier

### Silver Cube

3S Device Feet, WBT Nextgen-sockets, glimmer capacitors in input, amagnetic TFD-resistors, power supply with Mundorf electrolytic capacitors

1.599 EUR

### Decade

Glimmer update

199 EUR

### Black Cube vor 2006

Board exchange  
Board exchange + conversion to PWX

290 EUR  
590 EUR

### Black Cube/Black Cube SE/Black Cube SE II

Glimmer update  
RIAA update Epcos MKP

119 EUR  
139 EUR

Shipping via UPS within Europe included. Payment method: Invoice

More information and the order forms can be found at  
[www.lehmannaudio.de/service/upgrades](http://www.lehmannaudio.de/service/upgrades)



# Individual options for the SE variants

Linear SE, Linear USB SE and Stamp SE are delivered standard with a silver front, silver SSC feet and a blue LED. The version in satin black aluminium comes with a black front, black SSC feet and a blue LED. But the devices can also be custom configured during the order process. Choose from the following options:

## Housing options



Silver



Black

## Front panel and potentiometer knob



Silver



Black



Chrome

## LED



Blue



Red



Green



Yellow



White



Orange



Interview

## Master of Dynamics

Equally at home in the mastering domain, probably the most demanding audiotechnical discipline, and in the recording studio, Friedemann Tischmeyer has acquired an excellent reputation internationally. His tutorial videos on DVD and his mastering book have sold worldwide in huge numbers. Currently his main focus is the loss of dynamics in music, but also the health consequences resulting thereof.

*Norbert Lehmann: Since when have you been active in the audio business and what is your personal relationship with music?*

Friedemann Tischmeyer: My musical career began at the age of five when I was playing the recorder. Later as a professional guitarist I was already strongly involved with the subject of technology to provide the best possible sound on stage and in the studio. Long before the first Midi-controlled effects board I owned a completely remote-controlled guitar rig that occupied a whole VW bus. Shifting my interests towards technology and engineering was therefore only a logical progression.

Being an engineer today I'm lucky to have a musical background knowledge, aural training and skills in the theory of harmonics on hand. In the daily studio routine, even at mastering, this often comes in useful and leads to decisions that otherwise would turn out different without this experience.

*Roughly, how many CDs did you master so far?*

Ten years ago I had already done more than 300 masterings. This can be traced back easily, because in those days everything was stored on DDP tape backups. Since hard drive space has become so cheap, I stopped counting at 500. Today I can add another 50 to 80 masterings per year, as my sphere of action has broadened and I also need room for other activities like mixing, workshops, writing books, producing tutorial videos as well as the foundation work.

*Who are the best known artists for whom you have been doing mastering work?*

The greatest celebrities are artists like Steely Dan, Iron Maiden, Johnny Cash, Eric Burdon etc., for whom I did lots of masterings and remasterings on behalf of the Institute of Art. Due to my teaching job my client structure has changed significantly. One of my specialities is to cultivate mastering as a process of development and learning. As a consequence of the readily available low-cost production tools, the customers – often young sound engineers and producers – realise budget independent productions on their own funds, which, for lack of sound engineering experience and because of a mediocre monitoring environment, often still reveal some potential for improvement. A focused cooperation where the mastering studio takes over a guiding role,

can bring forth huge increases in quality for reasonable budgets. This work is much more rewarding than to master a 'fat sausage' on the quick, as I use to paraphrase those overcompressed masters as they are almost invariably requested by major record companies.

*Overmodulated masters are becoming an ever more important topic. How can a master be overmodulated even when you still have more than 1 dB of headroom, i.e. modulation reserve?*

When converting the digital stairs back into the round analogue world, signals cannot be cut off at 0 dBFS, but will overshoot beyond zero just because the analogue world is not angular. In other words: If you have ten samples in a row which have been limited (cut off) at minus 1 dB, then the analogue waveform will not be able to follow this artificial curve, but continue to rise for a while, then exceed zero and fall again. Top-level D/A converters do tolerate up to 6 dB of overmodulation.

But there are many hifi devices on the market whose converters will even respond to 0 dBFS (full-scale) of a single sample with distortions. Not to mention the numerous overmodulation chances with data compression like e.g. mp3 encoding. Because of the data reduction based on the masking effect we have some kind of energy reallocation here which produces enhanced peaks and a reduced loudness (RMS). The greater the density of the source material, the higher distortion figures are to be expected in the data-reduced copy. But it's also true the other way round, the lower the data rate (i.e. the higher the data compression) is. Motivated readers who have an audio software may take a undistorted track from a CD (wave), convert it into mp3 and then back into wave format. The result will suffer from overmodulation.

*Dynamics is one of the most essential means of expression in music. Much is being written about the 'Loudness War', i.e. the very loss of musical dynamics. What can musicians and music listeners do to bring the dynamics back into the music?*

It's a bit like with premium foods. If the demand for dynamic music goes up, the market is bound to follow some day. Our enemy is the adaptation effect of the human ear. Often the drawbacks of undynamic music are

merely perceived on a subconscious level, which results in people turning down the music or even turning it off completely. However, people who are not accustomed to a high sound quality regrettably tend to turn up hyper-compressed music, hoping to be able to compensate the mutilated transients with loudness. This is what makes hypercompression so dangerous with respect to hearing damages.

*What are the consequences – also with reference to health –, if the trend towards ever less dynamics in pop music will not be stopped and reversed?*

All collected studies and empirical findings suggest that hypercompression and NOT sound pressure level (SPL) is responsible for the extreme rise in youth deafness! According to the European Scientific Commission, up to 10 million listeners in the EU are already threatened by a permanent hearing loss caused by the long-term consumption of overly loud music.

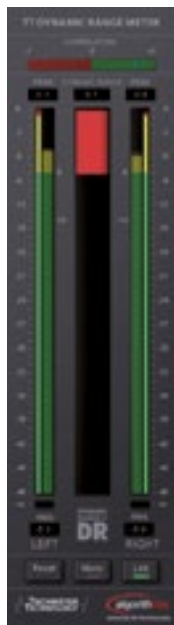
Hypercompression plays a major part here, since this kind of music exerts much more stress on our ears than dynamic music with the same sound pressure level. Heavy compression will lower our ability to follow spoken dialogues under certain conditions and requires much more concentration for this. You can visualise the acoustical burden if you picture the auditory cilia which are stimulated by a transient, hence an impulse. In dynamic music, a loud sound event which sends a strong stimulus to the auditory cilia is followed by a natural pause with softer events. In this context a statement by Miles Davis comes to my mind: He says music is the rests between the notes.

The bad thing is that a European commission is now pushing forward the loudness war by limiting the headphone playback level to 80 dB/SPL. This solely creates an ideal prerequisite for the record companies to keep compressing CDs to death, because under many listening conditions dynamic music would be too soft on those playback devices. We are witnessing a situation worsened by ignorance with intent to improve noise control and hearing protection. In order to deal extensively with these topics, the Pleasurize Music Foundation urgently needs further support.

*When do you use headphones for mixing/mastering and what's the good of this?*

One of its biggest advantages is the complete isolation from the room acoustics. Monitoring via headphones is therefore a perfect complement for judging and finetuning the nowadays so critical sub-bass and bass range. The quality of a headphone amplifier becomes apparent in the low frequency range, since middle class devices have a flabby bass reproduction. I use the Linear headphone amplifier and this unit is phenomenal! It opens up an entirely new dimension of headphone work for me, because with an adequate quality headphone set it means listening with almost no fatigue. Another application is to judge stereo enhancement or stereo base stretching effects. Due to the extreme channel separation over headphones, the stereo image is excessively bloated. This makes it easier to assess very subtle effects which are barely audible over loudspeakers. Sound restaura-

tion and all sensitive editing works can be performed outstandingly well using headphones, as long as they offer a good and comfortable fit. Just watch out here, since a rather diligent sound engineer might as well get bogged down in details because you hear much more than is actually needed for many applications. Here we must stretch a point then.



### The end of the 'Loudness War':

The DR Meter developed by Friedemann Tischneyer is a PC plugin indicating the dynamics of the audio material. With it you can easily determine the degree of compression of the music you are listening to. As a general rule: the higher the DR value, the better.

More information: [www.pleasurizemusic.com](http://www.pleasurizemusic.com)

**LA** Lehmannaudio®

**LA** Lehmannaudio

## Analogue? Digital? Both!

Clarity, power and class:  
The **Linear D** Headphone Amplifier



[www.lehmannaudio.com/linear-d](http://www.lehmannaudio.com/linear-d)





  
**HEADPHONE GALLERY**  
by Lehmannaudio



## PRESENTING YOUR HEADPHONES IN STYLE

Like precious works of art in galleries, Headphone Gallery presents your high-class headphone. Manufactured from noble acrylic glass in a timelessly minimalist design and fitted with functional features, Headphone Gallery is a piece of art in your media environment. Headphone Gallery stores the cable away safely, thereby directing the eye to the essential: your headphone.

Headphone Gallery is a customisable accessory. Floating on the wall, it can be easily hung at some other desired place in the twinkling of an eye, and owing to the optional accessories such as the exchangeable front and the pedestal, it offers further creative options.

Enjoy your headphone with Headphone Gallery even when you're not wearing it.



## HEADPHONE GALLERY FEATURES AT A GLANCE:

- Clear view and perfect headphone presentation
- Integrated compartment for a safe and discreet cable storage
- Base plate made of high-quality acrylic glass
- Well-dimensioned headphone rest with air vents
- Floating wall attachment due to hidden rail mount
- individual design possibilities and pedestal (see accessories)



Find more information at  
**[www.headphone-gallery.com](http://www.headphone-gallery.com)**



Interview

# The Art of Mastering

Mastering has long been recognized as belonging to the art of audio business where the highest sonic expertise meets the best technical equipment. Done right, mastering can lead to musical and sonic results not thought to be possible during the production process. However, it takes more than just 'good' sounding equipment and a freaky sound engineer to reach long term success. Maarten de Boer must be doing it right. He is the owner of the Netherland based mastering suite 'The Masters', successfully on this market for more than twenty years.

*Norbert Lehmann: When did you start your mastering studio and how did things develop after that?*

Maarten de Boer: I started out in 1982 with a disccutting room. I was sound engineer and owner of a 24-track recording studio but mastering was practically non-existing in The Netherlands and I wanted to change that. At that time I felt that there were already too many studios in Holland and so I decided to start a dedicated mastering studio. This made me the first independent mastering room in The Netherlands. I suppose you can say that every disccutting engineer in the Eighties became a CD mastering engineer as well. They all came with the same kind of experience. Now the expertise is still there but you have to look for it and it doesn't come free anymore.

*Do you discuss your experiences with colleagues from other mastering studios? Is there a kind of scene?*

Yes of course I talk to colleagues. There is also a Web forum where engineers talk and discuss matters. Internet has made it possible to talk to colleagues all over the world instantly. What used to be a small scene has become a world scene. It provides you with valuable information and you can exchange thoughts on various items and problems. We are all using the same equipment and therefore encounter the same problems.

*How many recordings have you mastered so far?*

I'm in this business for almost 25 years and this means that literally thousands of recordings have passed through my studio. Now in the Eighties and Nineties I did a lot of factory work apart from the true mastering. Nowadays this is a lot less and the work is orientated towards projects. The consequence is less titles but longer hours which is fine by me.

*Could you name some prominent customers/recordings from the last time?*

Dutch artists and labels are not well known abroad but I work for all the major labels. Candy Dulfer for BMG might ring a bell. The late Herman Brood for Sony. Polydor and Virgin are amongst my clients as well. The internationally well-known Jazz label Criss Cross Jazz is doing its digital mastering and editing at The Masters already for more than fifteen years.

*How did the percentage of analog mastering for vinyl develop within the last years?*

In the beginning of the Nineties there was a drop of almost 60 % for vinyl mastering and of course that was expected. To my surprise it didn't go down after that but stayed at the same level, mainly because of Dance music. DJ's were heavily devoted to Vinyl and this kept it going. Now in 2005 it is decreasing slightly but I'm cutting more and more audiophile material for release on vinyl. Anyway very often with CD mastering I have to go analogue as well. Believe me it helps.

*Are there more artist contacting you directly or more major labels?*

Originally the majority of work came from the record companies. The past years there is a definite shift towards independent production companies owned by producers and artists. Internet has provided artists with the possibility to sell their albums directly to the public. That makes them the record company. Because of this I receive more and more work through the net. Unexpectedly it means a higher quality. They used to record their CD-Rs in a rather unprofessional way and in some cases this is mildly put. With downloading I receive the material as data straight from their servers. This gives you a true clone because its data not sound. A whole lot better than the CD-R's.

*What does your current loudspeaker monitoring consist of?*

B&W 808 loudspeakers are driven by Bryston Amps in a two-way configuration, with 800 watts per side for the low end and 600 watts per side for the mid/top. All amps are bridged mono and are receiving a full bandwidth signal, which is split on the internal passive crossovers in the 808's. The speakers are flush mounted for optimal reproduction. The Master Room itself was designed by S. W. Davies Ltd. in London. Sean Davies, the designer, is a specialist in designing Mastering Studios. He designed the room for analysis and accuracy and succeeded in both. His company is also responsible for quite a few other studio's in London and abroad, amongst them Sony Mastering in London and in the Netherlands and EMI in Hayes. Going for character and musicality is nice but doesn't tell you much about what really is going on. There should be at least one place that lets you hear how it really sounds. As the mastering is the last place to make decisions, this is where that should be.

*Having a look at your sophisticated room acoustics and your loudspeakers, how important is headphone monitoring for you?*

Although headphone monitoring is not a primary issue in my work I regularly need it for detailed checks on clicks and ticks and also for critical editing in classical music. But the major thing is I use your Black Cube Linear as the main pre-amp for the monitoring system. A major audiophile label in the Netherlands called STS-digital recommended it to me. It is stunning and it absolutely gives me 'what you hear is what you get' and that's all I want.

### **The Masters equipment list:**

|                                                   |                                          |
|---------------------------------------------------|------------------------------------------|
| B&W 808 loudspeakers                              | Neumann VMS special                      |
| Bryston 4B and 3B amps                            | Cedar DC1 declicker                      |
| Lehmann audio Linear headphone/monitoring pre-amp | Z-sys 8-8 distribution system            |
| Weiss BW102 Mastering console                     | Marantz CD10 cd-player                   |
| Weiss ADC1 MkII 96 Khz AD converter               | Sony PCM 7010 DAT recorder               |
| Weiss DAC1 96 Khz DA converter                    | Tascam DA30 DAT recorders                |
| Weiss SFC2 double sample frq. Converter           | Studer RC80 ¼" master recorder           |
| Weiss POW-R noise shaper                          | Studer A80 ½" master recorder            |
| Sadie 4 24-96 DAW                                 | Various Noise Reduction systems          |
| Ortofon CPS disc-cutting pre-amp and Equalizer    | •Dolby B/A/SR, DBX, Telcom               |
| ETEC DBTL dynamic bass and treble limiter         | Sony PCM 1630                            |
| Ortofon GO 741 cutting amps (600 watts)           | Sony DMR4000 U-matic                     |
| Ortofon 742 and 821 cutter heads                  | Sony DTA1000 verifier                    |
|                                                   | Keith Monks Record Cleaning machine      |
|                                                   | Technics SP10 MkII turntable with:       |
|                                                   | •SME 3009 MkII                           |
|                                                   | •Ortofon Jubilee Moving Coil cartridge   |
|                                                   | •Lehmann audio Black Cube SE phono stage |

# About us

Normally it's nothing special if you compare two amplifiers with identical technical specifications while you're graduating to become a sound engineer. But for Norbert Lehmann this turned out to be a key event in his life.

More than all others he's fascinated by the insight that good sound depends on way more factors than technical values. Since his decisive experience he devoted himself to the development of technology which is committed to the original sound of the recording and allows at any time a unique, literally perceptible connection between the music and the listener. A seemingly trivial comparison of two devices: the birth of Lehmannaudio.

In the meantime we've become firmly established in the market segment for high-quality audio devices made in Germany: with the production of high-end products which strive just as much for perfection as the artists whose music we enjoy. International specialist media, professional users and music lovers rave about the natural sound and the noticeable musical liveliness, which come into their own with Black Cube & Co.

The Rhineland metropolis of Cologne is the seat and heart of the company. Here we develop with love for detail what is appreciated all over the world: our preamps and amplifiers. The production in low quantities enables us to exercise special care with every device. Our motto 'High-end from the Sound Engineer' says it all, ultimate quality and striving for perfection are our ambition at all times. In a nutshell: we do everything we can to give you a unique and consummate musical experience.

# The history of Lehmannaudio

- 1988 – Company foundation in Cologne under the name Entec
- 1995 – First **Black Cube** prototype
- 2002 – Presentation of the **Silver Cube**
- 2004 – Market introduction of the **Linear** and its debut in the mastering studio
- 2005 – Market introduction of the **Decade**  
Sennheiser uses **Linear** at the IFA
- 2006 – Market introduction of the **Black Cube Statement**
- 2007 – Relocation to Bergisch Gladbach
- 2008 – 20<sup>th</sup> company anniversary  
Start of the **Rhineland** production
- 2010 – Status change from a sole proprietorship to the Lehmannaudio Vertriebs GmbH  
Market introduction of the **StudioCube**
- 2011 – Presentation of the **Linear SE**  
With Podcasts and apps at the pulse of the time
- 2014 – Part of the mobile revolution: Market introduction of the **Traveller**
- 2015 – Presentation of the **Linear D**  
**Headphone Gallery** by Lehmannaudio: Presenting your headphones in style
- 2016 – Market introduction of the **Drachenfels**
- 2018 – 30 Jahre Lehmannaudio!



*Norbert Lehmann, handing over one of ten Linear headphone amplifiers to Dagmar Birwe, professor of artistic music production at the Institute for Music and Media of the Robert Schumann Academy Düsseldorf.*

2018 – Relocation to Cologne

Presentation of the **Linear USB II**

2019 – Bauer Studios use the Linear to mix their studio concerts as special binaural mixes exclusively for headphones

2020 – Presentation of the **Black Cube II**

Presentation of the **Drachenfels D**

Presentation of the **Drachenfels USB**

2021 – Expansion of the range of accessories: **3S Device Feet, Stage 1 Turntable Mat**



*Studio Concert at Bauer Studios: The Studio Concerts are available as exclusive vinyl editions and as binaural mixes especially for music enjoyment via headphones.*



## Listening to music in a new way: At the Analogue Days 2022

### **See the performance of our phono stages for yourself:**

Bring your favourite records to your Lehmannaudio dealer or experience the unique Concert Recordings of Bauer Studios on site. You will be surprised what your records can do! Let yourself be whisked away to worlds of sound that you have never heard before and enjoy a musical holiday trip.



[www.bauerstudios.de](http://www.bauerstudios.de)  
[www.lehmannaudio.com](http://www.lehmannaudio.com)



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