

Lehmannaudio Black Cube Linear USB Headphone Amplifier

Price: \$1849

The most strangely-named product of the month is this Black Cube, from talented German engineer Norbett Lehmann. It is neither black, nor remotely cubic. Nor does its description as a USB headphone amplifier begin to describe its greater purpose. Yes, it connects to a USB socket. Yes, it has an excellent pair of headphone outputs (something the Slim Devices Transporter notably lacks).

But for our purposes here, the Black Cube extracts the digital audio from your computer, applies a high-end DAC, and offers the output as a high-end preamplifier (there is one additional external input) into your hi-fi system.

It works rather differently to the Transporter. Instead of installing server software and giving you a remote control to call up the song of your choice, the Lehmannaudio simply relays all the system audio from whatever you're doing on the computer. So music, DVDs, beeped system alerts — it'll all come out of the Lehmann if you let it. But that could involve your computer mixing files prior to output. So you'd do well to divert system alerts to the internal computer speakers (using Audio/Sound preferences).

So a key difference here is that the Lehmann box will be sitting close to your computer, since the audio it receives is controlled by the computer user. It's well designed for this, taking up little shelf space with its narrow fascia and deep body (which runs pretty hot during operation). It is very obviously built by an engineer — witness the large Alps volume knob protruding with fine tolerance, the chassis of 2mm steel and front panel from 4mm-thick anodised aluminium. More 'Engineer At Work' signs underneath include two pairs of DIP switches (used to adjust the gain individually for each channel between 0dB, 10dB and 20dB), and operating instructions (as well as the rear panel labelling) that are neatly printed on aluminium 'stick-on' patches.

Inside, the left and right channels share one PCB and the same power supply, but everything from there on is completely dual mono. All amplification is via pre Class-A, with no global feedback applied.



As a headphone amplifier it utterly outperforms anything you'll get on a computer tower. Even leaving impedance matching issues aside, the headphone circuit is always first on the chopping block when cost cutting is required, and cheap 'off-the-shelf' circuits are common, further compromised by the digital 'hash' generated by the circuitry inside the computer. By dealing with conversion and amplification externally in the Black Cube (the DAC is a Burr-Brown PCM2702E), you can hope for optimal results. It drove our reference Sennheiser headphones beautifully, while it allowed a pair of \$1500 Denons we had under review to reach astounding volumes without a hint of distortion.

The twin headphone outputs (which use Neutrik's top-line gold-plated phone jacks) can operate simultaneously. Plug into the first socket and the feed to your speakers your speakers is cut; the second socket doesn't affect the preamp output.

The rear panel has four gold-plated RCA terminals (one input pair, one output pair), the USB connector and a 3.5mm stereo minijack socket for an iPod (paralleled with the RCA inputs, so you can't use both at the same time). If you have both USB and analogue inputs connected, the Lehmann will auto-switch to the active input or, if both are active, prioritise USB.

Listening through the speakers (so using the Lehmann as a USB DAC and preamp), the sound quality was again the equal of a good CD player with uncompressed source music, and again a revelation in allowing compressed files the opportunity to perform to their full ability. With the bonus of allowing hi-fi output of DVD soundtracks (and any other computer audio), plus the handy headphone option, this is an unassuming product capable of massively upgrading the sound from your computer music collection.

Conclusion

Once you're convinced of the audio quality available from computer files, there are massive benefits to be reaped from the instant accessibility, playlisting, easy multiroom music and the rest.

Both these products hit the highs required for hi-fi replay. And they are easily differentiated. The Lehmannaudio Black Box USB will be ideal for hi-fi systems that are close by the computer, since the USB connection is required. In contrast the Transporter can sit in a remote hi-fi system anywhere in the home either wirelessly, or preferably with an Ethernet connection, especially if you're playing full-quality files.

Both products fill a market niche which can surely only explode in size as iPod owners become hi-fi fans, and hi-fi fans adopt computer storage. Kudos to these products for leading the way. Jez Ford

VERDICT

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- Top-of-the-line design
- Excellent sound from all computer audio
- Great headphone stage
- Runs hot
- Only one input as preamp

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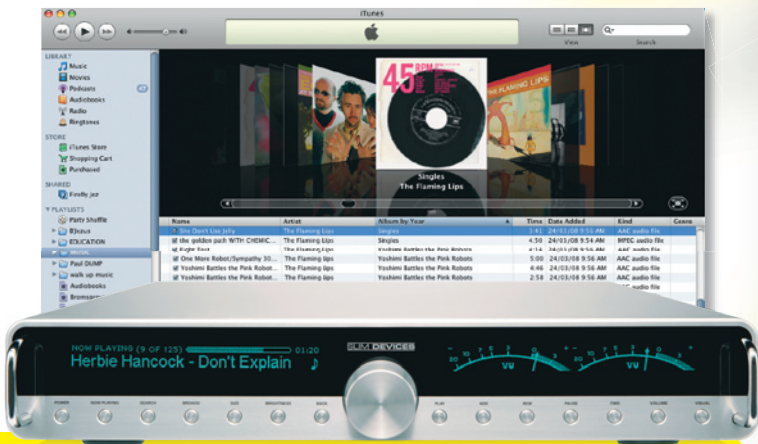
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