Streamer

DAC

Preamp

Under the Lime Trees

Periphery:

– Sources: Audiodata Musikserver MS II,
  Auralic Aries G1, Qobuz
– Ethernet cable: Audioquest Cinnamon
– RCA/ XLR cable: Audioquest MacKenzie
– Amplifier: Cambridge Audio Edge A
– Speaker cable: Audioquest Rocket 44
– Loudspeakers: KLANG+TON „Nada"

Unfortunately, very compact systems are still often considered inferior to their full-size brethren. With its Limetree systems, Lindemann demonstrates impressively that the size of a device has absolutely nothing to do with its sound.

How much of a streamer do you need? At the Lindemann Audiotechnik company in Wörthsee, Germany, it seems to be a little less as none of the equipment produced here would be called "full format". The Musicbook series has a deliberately compact form factor and is best combined with other components of the series due to its distinctive appearance. The Limetree systems are somewhat different. Here, too, there is a clear design line, but thanks to the particularly minimal footprint of the devices and the rather inconspicuously designed housings, existing systems can be easily expanded. In addition to the phono stage and headphone amplifier, this is especially true for the Limetree Network, which enables you to add digital music playback to a previously analog setup in the blink of an eye. With only a few more than ten centimeters of side length and a height of just under four centimeters, the Limetree is one of the smallest products of its kind. To be able to realize this size of the device, the power supply, of course, had to be factored out. But even the external power supply is shaped in such a way that it is not wider than a normal plug, so there is enough space in the power strip for other cables. It's nice that such little things have also been thought about.

As already mentioned, the case itself is rather inconspicuous but very solidly manufactured from a nice and sturdy material. A small lime leaf on the top is enough for decoration. Everything else about the Limetree is purely functional. Of course, no one expects a display on such a compact device, but the Network still communicates some important information to the user. For example, LEDs indicate whether the device is switched on, which sampling rate is being used and whether the DSD mode is active – this topic will be discussed in more detail later. For all other settings and displays, of course, a tablet or smartphone is needed. To do this, the Limetree must first be integrated into the network, for which the small streamer has all the necessary options. Despite its small dimensions, there is an Ethernet socket so that a cable connection is also possible. This is a point that other compact systems are now happy to do away with in favor of WLAN functionalities. Instead, Lindemann gives the user a choice and offers Ethernet and WLAN, whereby thanks to the WPS function, the setup can also be carried out completely wirelessly. At the same time, the antenna on the rear also serves to receive Bluetooth signals that the streamer can pick up from mobile devices. There is also a USB-A interface for reading music from hard disks or USB sticks. First and foremost, however, the Limetree Network is clearly about the name-giving network capabilities, of which the compact system offers a great deal. Music from connected NAS can be played in all popular formats, including FLAC and WAV. DSD support is also a standard feature with the Lindemann system. Only the maximum possible rate of the bitstream signal depends on the selected connection. While the Limetree can play DSD up to 11.2 MHz via cable, the WiFi limit is 5.6 MHz. This is completely acceptable, considering that many comparable streamers generally fail to transmit DSD wirelessly. PCM also focuses on full HiRes compatibility. Sampling rates up to 384 kHz with 24 bits are no problem for the network player.
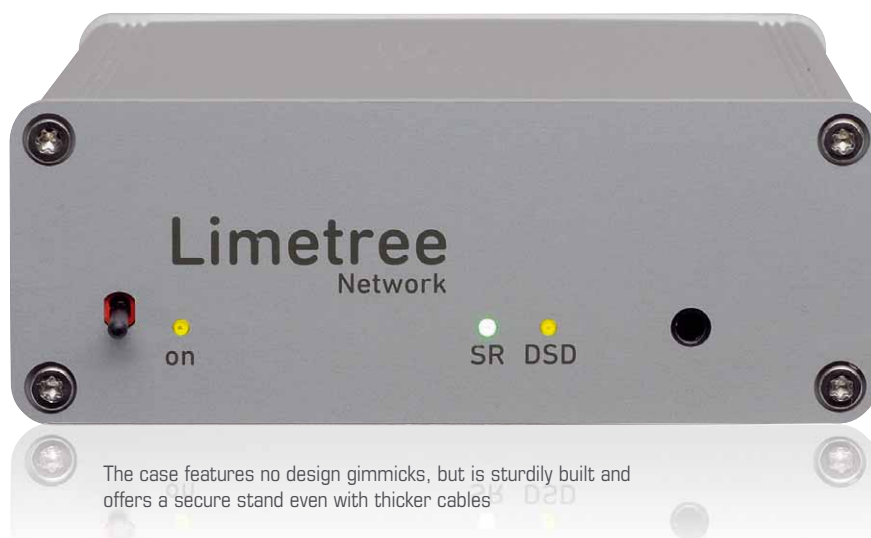
The case features no design gimmicks, but is sturdily built and offers a secure stand even with thicker cables

A platform specially developed by Lindemann is responsible for the computing magic, in which an appropriately powerful ARM processor is used. The fact that Lindemann itself chooses its architecture for a compact device is quite unusual but reflects the high standards. This becomes even clearer when looking at other internal features. The Limetree Network uses a high-precision clock to achieve a better sound result with precise timing. The D/A converter platform used is also based on very high-quality solutions. To be able to connect the Limetree to an amplifier as easily as possible, the player offers an internal DAC. That alone is great, but Lindemann goes one step further than many of its competitors and relies on a design with two DAC chips working in dual-mono mode. Two AK4452 converters from AKM sit in front of the analog output and take care of the precise conversion of digital signals. In addition to features such as low power consumption and high jitter tolerance, the chips are also designed for excellent DSD processing. A point that is exploited particularly in the Limetree. For example, the network offers the user the option of first converting all signals to DSD256 and then having them processed by the DAC. Thus, an upsampling can be carried out, which can enhance especially low-resolution recordings. If you press the power switch on the front panel for about three seconds, the player switches between DSD or BitPerfect mode, indicated by one of the LEDs on the front panel. This is a great feature that is usually only offered with much larger - i.e. more expensive - devices. It would have been even nicer if this feature could also be enabled in the app, which is not yet the case in the current version of the application. Apart from that, the Limetree also makes a very good impression with its software. Clearly structured and neatly arranged, the app offers access to all possible functions needed to use the device. The menu item „Last Played" turned out to be particularly practical, making it pleasantly easy to get back in where you left off after a break. In addition to the local music server, USB and Bluetooth sources, Lindemann also offers a whole range of online functions for the Limetree. With Qobuz, Tidal, Spotify, Deezer, and HighRes-Audio all big and audiophile streaming services are represented. Also, there is Internet radio and Podcasts via Airable.

Apart from some very short loading times for server content or cover images, the app runs very smoothly and the response speed of the Limetree to commands is also reasonable or even remarkably fast for a compact system. Thanks to the division of the app into one screen half for menu navigation and one with playback functions, everything is under control at all times and the volume control remains availa-

The LEDs provide information about the sampling rate used and the DSD mode

The Limetree also performs excellently via WiFi, but the Ethernet connection is the first choice

ble at all times. That's the way it should be. If you still do not like the app or have already set up a suitable environment, you can also control the Limetree Network via Roon. Fully certified, the streamer can be used together with other devices at the same time.

So the small streamer is not unfamiliar with the features known from large systems, and Lindemann's little tree seems to be oriented towards the top when it comes to sound, too. Very balanced and incredibly dynamic, the Limetree is a really serious system. The bass reaches far down, with deep, room-filling rumble fills the listening space when playing the „King of the Monsters" soundtrack. At no time does the streamer play sluggishly, but always with a crisp and fresh sound, while the two AKM DACs extract a lot of detail from the signal. This is great fun with all genres and makes the Limetree suitable for everyday use. If you use the DSD mode of the device, the
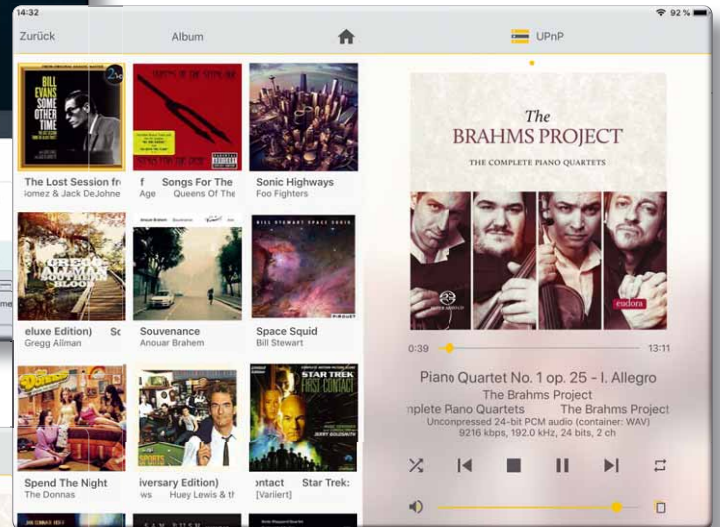
A lot of equipment in a small space, but Lindemann still dispenses with third-party solutions for the Limetree
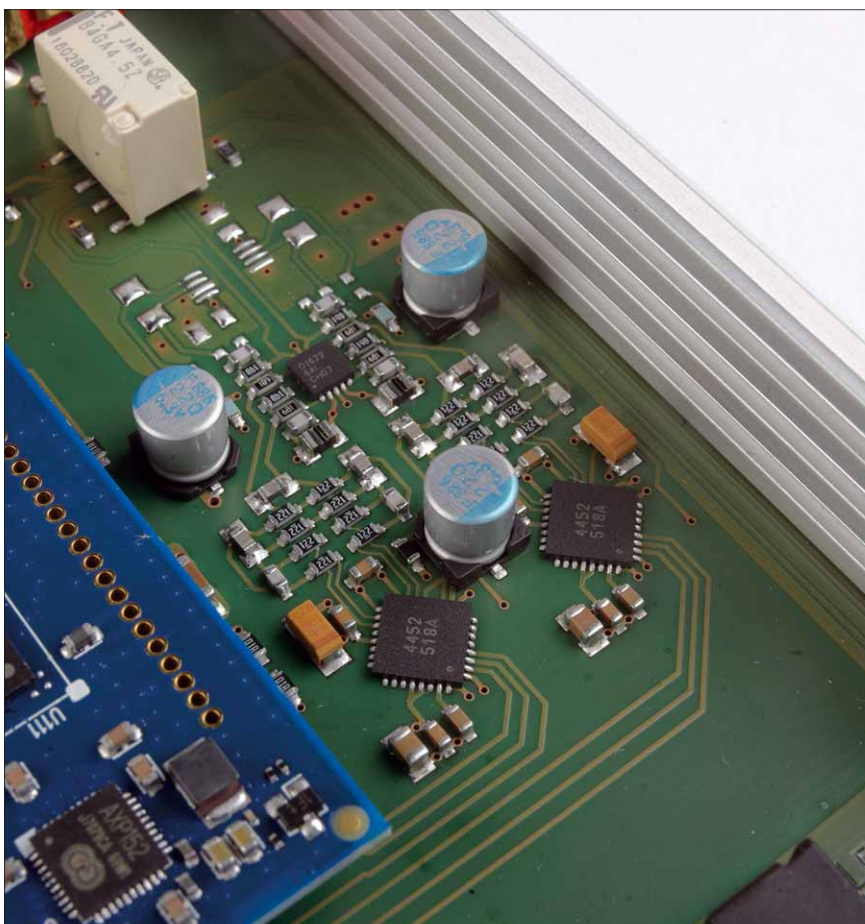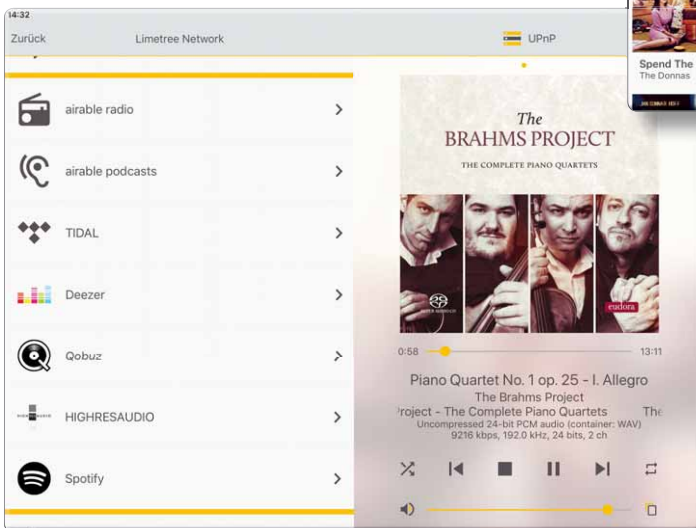
The two AKM-DAC chips give the small streamer an extremely mature sound
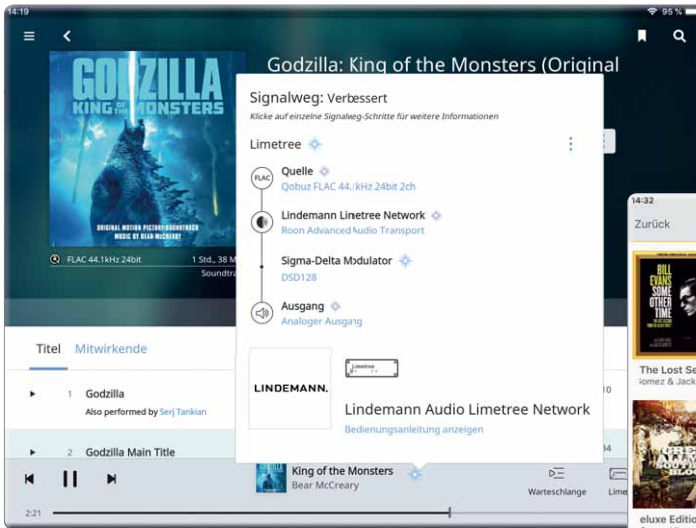
Also Roon can be used to control the player

Numerous Internet services are integrated into the Lindemann App

Tidy and intuitive, the Limetree can be easily controlled with the manufacturer's app

sound changes a little. Especially with original 16-bit recordings, everything seems to tighten a bit, the Limetree plays a bit more precisely and to the point. As a result, the background also seems to become somewhat darker, so that the musical components can present themselves more vividly. The already good three-dimensionality is further improved in this way. Although the impression is less pronounced with HiRes recordings, the DSD conversion can also bring some additional details to the surface here and there even with high-resolution material.

With the Limetree Network, Lindemann offers one of the best compact streamers out there. Easy to integrate and with many functions, it is especially recommended for beginners, but even streaming experienced users will have a lot of fun with this machine.

Philipp Schneckenburger

Lindemann Limtree Network

- Price: approx. EUR 900,-
- Manufacturer: Lindemann Audiotechnik, Wörthsee, Germany
- Phone: +49 (0) 8153 9533390
- Internet: www.lindemann-audio.de
- W x H x D: 107 x 40 x 107 mm
- Inputs: 1 x Ethernet WLAN, Bluetooth 1 x USB-A
- Supported formats: MP3, AAC, WMA, OGG, FLAC, ALAC, AIFF, WAV, DSD
- Supported sampling rates: PCM up to 384 kHz, 24 Bit and DSD up to DSD256, 11.2 MHz, 1 Bit
- Outputs: 1 x RCA Stereo, 1 x 3.5 mm headphone jack (front)

HiFi

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„The Limetree Network is simply an excellent small streamer. The technology is at a high level, the functionality is great and the sound of the smart network player leaves nothing to be desired. Lindemann conquers the compact class."

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