

Lindemann Musicbook 25

More than just a network music player, this midi-sized component features a built-in CD transport, DAC, headphone amp and preamplifier with digital *and* analogue inputs
 Review: **John Bamford** Lab: **Paul Miller**

The high-end audio landscape has changed beyond all recognition in recent years. Visit any of the world's major hi-fi exhibitions today and you'll find high-end manufacturers demonstrating their wares using computer audio as a source.

No, this is not simply a 'fashion thing'. Imagine, for instance, Wilson Audio wanting to show off the capabilities of its flagship Alexandria XLF loudspeakers priced not far short of £200k. To demonstrate them at their best the company will play hi-res 'master' recordings stored on a HDD – as will any specialist audio company designing and manufacturing today's state-of-the-art amplifiers, loudspeakers and, of course, digital-to-analogue converters.

A NEW WAY OF LIFE

The migration of music consumption from packaged media to computer files might necessarily have started with compressed files (due to internet bandwidth restrictions), the cost of data storage and consumer desires to play music on portable devices. The convenience of having a music library accessible at one's fingertips, for instant replay anywhere, always was a no-brainer for general consumers. The fact that it can be done today losslessly, without compromise – *ie*, at better than CD quality – has gradually made it a way of life for progressive audiophiles too.

These days pretty much any specialist hi-fi electronics producer possessing the technical and financial wherewithal has some form of computer audio related component in its portfolio alongside its disc players (if it still makes them) and amplifiers. Enter Lindemann audiotechnik, a boutique brand from Germany focused on high-end music replay for the past 20 years [see boxout]. Lindemann was, in fact, one of the world's first high-end brands to offer

a USB-to-S/PDIF converter for conveniently connecting a computer to an existing DAC in a hi-fi system. It was quick off the mark to make a USB-equipped DAC too.

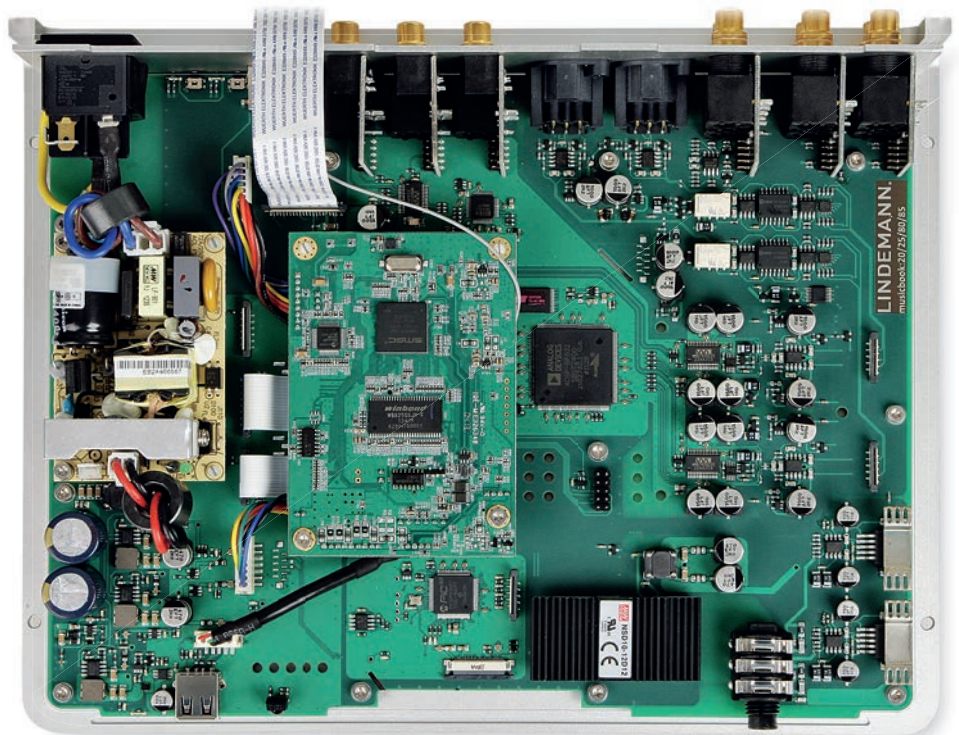
Identifying what the company sees as a new trend for 'downsizing' complicated audio rigs, it has entered what represents new territory for the company in developing a new range of midi-sized products dubbed Musicbook. Extremely handsome they look too, housed in 6.5mm-thick aluminium cases boasting immaculate fit 'n' finish and with added-value OLED displays that lend a serious touch of class.

Lindemann's Musicbook components *are* expensive: the range is aimed at audio enthusiasts who really don't want to compromise sound quality when choosing something bijou and modern looking. Currently the line-up comprises four source components with computer audio very much to the fore, and which also provide preamp functionality. If you want a complete compact system there's an

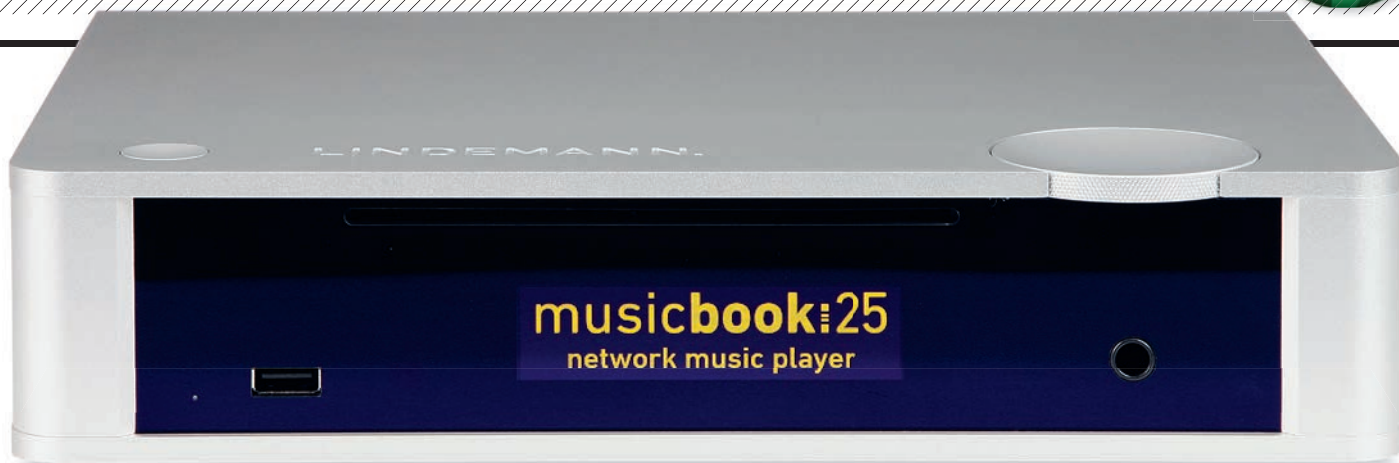
identically-sized and styled power amp to make a two-box stack. Priced at £1590, the Musicbook 50 is a 2x100W/8ohm Class D power amplifier employing 'patented, improved UCD technology'.

DIFFERENT OPTIONS

As for which of the front end/preamps you'll choose depends largely on how you want to manage and play your digital library. Do you want to store music on a NAS drive or a computer remote from the listening room and 'pull' data using a network music player (streaming), or simply push data from a computer to a DAC? In acceding this to be a fundamental choice when setting up a computer audio system, Lindemann has made its Musicbook front-ends either/or. If you want your preamp to be a USB DAC you'll choose the Musicbook 10 (£2650). Add £340 and the Musicbook 15 (£2990) includes CD playback as well. Meanwhile the Musicbook 20 (£3650) omits an asynchronous USB input and



RIGHT: Slot-loading CD drive is hidden under the lid (not shown) while the chassis holds a switchmode PSU, Anagram 'Sonic Scrambling' and digital filter on an Analog Devices DSP with Wolfson WM8742 DACs at the output



features a network music player instead, designed to be operated via a tablet or smartphone. Finally – yes, you’ve guessed it – the £3890 Musicbook 25 under scrutiny here is a Musicbook 20 ‘streaming preamp’ with added CD playback functionality. A near-invisible slot-in CD mechanism sits above the front panel’s display screen.

All four Musicbook front ends are identically equipped with four (two RCA, two Toslink) digital inputs for other sources and, being fully-fledged analogue preamplifiers, two single-ended (RCA) analogue inputs – enough for a phono amplifier and an FM tuner or old tape deck, say.

They also feature discrete Class A headphone amplifiers whose volume can be controlled remotely and separately from the preamp’s analogue outputs. And they all have two outputs (XLR and RCA) should you wish to feed two playback systems simultaneously, plus RCA and Toslink S/PDIF outputs – making it perfectly feasible to feed a third system. The Musicbooks’ variable analogue outputs, governed by a resistor network to control volume in 1dB

steps, can be ‘fixed’ to line level should you wish to connect them to an existing integrated amplifier. And in endeavouring for sonic purity, the digital outputs are disabled until activated via the setup menu. Also in the menu are settings for channel balance and display brightness.

You can control almost everything from the minimalist front panel whose multifunction dial adjusts volume (turn), selects an input (press and turn), mutes the output (short press) and stops/ejects a CD (press once and once again to eject). But to navigate tracks on a CD you’ll need to use the accompanying remote controller – or

Lindemann’s Musicbook control app. The RCU is very nice, formed of aluminium and gloss black acrylic with an ultra-slim profile [see bottom of p31]. It’s a shame it doesn’t illuminate, as it’s actually a *rechargeable* handset (via a mini USB socket). A charging cable is supplied.

Lindemann’s free control apps for iOS and Android are of course essential for navigating and playing music files over the network. Operation proved seamless via

‘Chris Layton’s cymbals rang and sizzled with authenticity’


ABOVE: Multifunction wheel controls many functions but you’ll drive it via its control app. USB port allows playback from FAT 16/32 formatted HDD and memory sticks, etc

my iPhone; album art display is included, and the app furthermore provides access to additional settings such as re-naming the Musicbook’s ‘Digital 1-4’ and ‘Analog 1-2’ inputs to match your partnering ancillaries. Gapless playback is supported with WAV, AIFF, FLAC, ALAC and MP3 files. Streaming 192kHz/24-bit files requires a wired Ethernet connection; via WLAN the limit is 96kHz/24-bit. Naturally the UPnP/DLNA network player functionality includes access to internet radio stations, the unit employing the ubiquitous vTuner platform.

INVITING BALANCE

I found myself marginally preferring the sound of the Musicbook 25’s CD playback to streaming music via my home network. Heck, there really wasn’t much in it: only back-to-back A/B comparisons revealed a slight muting of dynamic contrasts and softening of transients. And my preference was easily turned on its head when listening to worthwhile hi-res audio files. For example, ‘Oh Daddy’ and ‘The Chain’ from Fleetwood Mac’s *Rumours* [Warner 7599-27313-2] appeared a smidgen more vivid and vital via compact disc than playing the WAV files (ripped using dBpoweramp) pulled from my ‘digital library’ via LAN and rendered by the Musicbook’s network player.

But this marginal subjective difference was made irrelevant when streaming the laughably superior 96kHz/24-bit version stored in my computer HDD, ripped from my copy of the 2001 DVD-Audio release of this famous album [Warner 9362-48083-9].

The longer I listened to the Musicbook 25 the more I grew to admire its voicing, its invitingly warm balance and delicate treble: not *too* smooth or over-sweetened. This meant that the sharp attack of the late Stevie Ray Vaughan’s evergreen ‘Tin Pan 

LINDEMANN’S LEGACY

The German hi-fi manufacturing landscape is as vibrant as the British hi-fi scene once was. Among the country’s many high-end audio companies is Lindemann audiotechnik GmbH, founded by Norbert Lindemann in 1992 and situated in Krailling, a 20-minute drive west of Munich. Having studied electronics in the ’70s, Lindemann worked as an engineer for a PA company before making his passion for high fidelity replay his profession, by setting up his own company. The first Lindemann component was the AMP1 current mode integrated amplifier, soon followed by partnering BOX1 loudspeakers. The company boasts many innovations having introduced one of the world’s first upsampling CD players and, in 2001, Lindemann’s 820 disc spinner laid claim to being the first SACD player made in Germany. It’s no longer in production, the £7k 825 CD player/DAC being Lindemann’s flagship source in its heavyweight 800 separates series. Lindemann still makes loudspeakers: its Birdland speaker range features bespoke ceramic-coned drivers by Accuton, housed in multi-layer composite enclosures formed of birch plywood, cork and furniture-grade linoleum.

NETWORK AUDIO PLAYER



ABOVE: Four S/PDIF and two RCA analogue inputs should be adequate for most requirements. Power amp connection can be balanced (XLR) or single-ended (RCA)

Alley (aka Roughest Place In Town) from *Couldn't Stand The Weather* [Epic Legacy EPC 494130 2] had plenty of energy and dynamism, the leading-edge bite of the guitar sharply etched and suitably angry.

Similarly, Vaughan's bombastic interpretation of Jimi Hendrix's 'Voodoo Chile (Slight Return)' fizzled with power and passion, with the driving bass and drums of the accompanying Double Trouble combo appearing faithfully vital, with real speed and attack, while the sound of Tommy Shannon's bass guitar was deep and well-formed, and the cymbals of Chris Layton's drum kit rang and sizzled with convincing authenticity.

RELAXED DEMEANOUR

Moreover, with what you might term 'run of the mill' pop and rock recordings the network player's subtle 'softening' could often be judged advantageous, as it obviated excessive brightness and listening fatigue. You wouldn't – or at least you shouldn't – judge the capability of a hi-fi component listening to shoddy recordings and low bitrate internet radio stations, but the fact that the Musicbook 25 doesn't throw a spotlight on sonic deficiencies might be considered a boon for many music collectors.

Playing Nora Jones's *Feels Like Home* [192kHz/24-bit download from HDtracks] the Musicbook 25 sounded all of a piece, Jones' close-miked breathy vocals appearing to hover seductively in the soundstage in 'Sunrise' and remaining intimate and vivid in 'What Am I To You', with its thicker production quality.

Thanks to the player's smooth and relaxed demeanour female vocals fared particularly well throughout the listening tests.

The title track from 2011's *Paper Airplane* by Alison Krauss & Union Station [Rounder 11661 06652] was a fine exemplar of the Lindemann's ability to serve up a three-dimensional image, with Alison Krauss's voice depicted exquisitely in the deep soundstage.

Skimming through a selection of audiophile hi-res recordings from AIX, Channel Classics, 2L and Reference Recordings confirmed the Musicbook's compatibility with all sampling rates up to 192kHz. It also substantiated the '25's extremely satisfying sound quality, showing that it was more than capable of corroborating the benefits of increased recording resolutions.

Only if you crave *uber*-accurate instrumental separation and forensic detail might you feel slightly short-changed. Then you'll need to dig wa-ay deeper into your savings. Lindemann's Musicbook 25 is, after all, considerably cheaper than many audiophiles' compact disc players – never mind that it constitutes a 24-bit/192kHz-capable network music player, DAC, headphone amp and analogue preamplifier all housed as one compact component. It certainly makes a convincing argument for 'downsizing'. ☺

HI-FI NEWS VERDICT

Used both as a network player and when playing CDs, the Musicbook 25 sounds highly civilised, with a rich midband and pleasing treble devoid of digital 'grain'. It is expensive for sure, but considering the unit's luxurious build quality and comprehensive functionality, not to mention its pleasingly compact form factor, it crafts a pretty esoteric hi-fi experience and thus it can be warmly recommended.

Sound Quality: 78%

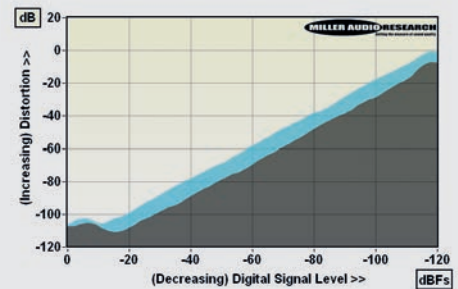


LINDEMANN MUSICBOOK 25

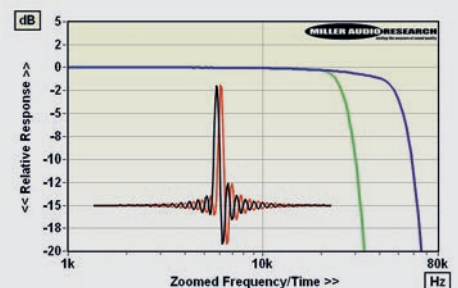
Lindemann's literature says the MB25 is utilising the 'latest generation sonic scrambling DAC (Anagram), minimum phase apodizing filter and balanced conversion in dual-differential mode'. In practice the MB25 appears to be employing an Anagram digital filter running on a separate DSP (as adopted by Cambridge Audio in its digital products) with the company's low-bit scrambling (a technique to randomise fixed quantisation errors at low bits) but output to a pair of Wolfson WM8742 24-bit/192kHz DACs. Somewhere along the chain there's a sample period offset between left and right channels [see Graph 2, below], the right lagging the left by 0.023msec at 44.1kHz, for example, leading to a progressive interchannel phase shift that necessarily increases with frequency.

Tested at volume '78' for a maximum undistorted output of 3.95V (THD is as low as 0.0005-0.0009 through mid and high frequencies but increases to 0.004% at 20Hz), the MB25's 107.5dB A-wtd S/N ratio is a little lower than possible (CD and digital inputs) but still perfectly acceptable. Lindemann's digital path is otherwise very clean and jitter held to exceptionally low levels – 130psec for CD and just 10-20psec for all 24-bit digital input sample rates. Distortion is also very low indeed through the crucial –10dBfs to –30dBfs levels at ~0.0004% [see Graph 1, below]. Responses with CD and 48kHz media are perfectly 'standard' (–0.6dB/20kHz and –0.3dB/20kHz, respectively) but are more obviously 'shaped' by the digital filter [see Graph 2] with 96kHz/192kHz media (–3dB/26kHz and –3dB/49kHz).

Readers are invited to view comprehensive QC Suite test reports for the Lindemann Musicbook 25's CD player and digital inputs by navigating to www.hifinews.co.uk and clicking on the red 'download' button. PM



ABOVE: Distortion vs. 24-bit/48kHz digital level over a 120dB dynamic range (1kHz, black; 20kHz, blue)



ABOVE: Zoomed freq. resps (96kHz, green; 192kHz, blue) and impulse responses (left, black; red, right)

HI-FI NEWS SPECIFICATIONS

Maximum output level (Balanced)	3.95Vrms at 97ohm
A-wtd S/N ratio	107.8dB
Distortion (1kHz, 0dBfs/-30dBfs)	0.0009% / 0.0004%
Dist. & Noise (20kHz, 0dBfs/-30dBfs)	0.00045% / 0.0005%
Frequency response (20Hz-20kHz)	+0.0dB to –0.3dB
Digital jitter (48kHz/96kHz/192kHz)	12psec / 15psec / 18psec
Resolution @ –100dB	±0.1dB
Power consumption	12W (1W standby)
Dimensions (WHD) / Weight	280x65x220mm / 3.5kg