

MARCH 2015



MUSICBOOK:55 STEREO & MONO

COUNTRY OF ORIGIN



GERMANY

Reviewer: Srajan Ebaen

Financial interests: click [here](#)

Sources: Retina 5K 27" iMac (4GHz quad-core with Turbo boost, 32GB RAM, 3TB FusionDrive, OSX Yosemite, iTunes 12.2), PureMusic 2.04, Audirvana 2, Qobuz Hifi, Tidal Hifi, COS Engineering D1, Metrum Hex, AURALiC Vega, Aqua Hifi La Scala MkII, SOTM dX-USB HD w. super-clock upgrade & mBPS-d2s, Apple iPod Classic 160GB (AIFF), Astell&Kern AK100 modified by Red Wine Audio, Cambridge Audio iD100, Pro-Ject Dock Box S Digital, Pure i20, *Fore Audio DAISy 1* [on review], *S.A. Lab Lift* [on review], *Metrum Acoustics Pavane* [on review], *Lindemann Audio music:book 15* [on review]

Preamplifier: Nagra Jazz, Esoteric C-03, Bent Audio Tap-X, COS Engineering D1

Power & integrated amplifiers: Pass Labs XA30.8; FirstWatt SIT1, F6; Crayon Audio CFA-1.2; Goldmund Job 225; Gato Audio DIA-250; Aura Note Premier; Wyred4Sound mINT; *AURALiC Merak* [on loan]; *Lindemann Audio music:book 55 x 2* [on review], *Goldmund Telos 360* [on review]

Loudspeakers: Albedo Audio Aptica; EnigmAcoustics Mythology 1; soundkaos Wave 40; Boenicke Audio W5se; Zu Audio Submission; German Physiks HRS-120, Gallo Strada II w. TR-3D subwoofer; *Crystal Cable Minissimo* [on review]; *soundkaos SK16* [on review]

Cables: Complete loom of Zu Event; KingRex uArt, Zu and LightHarmonic LightSpeed double-header USB cables; Tombo Tron S/PDIF; van den Hul AES/EBU; AudioQuest Diamond glass-fibre Toslink; *Arkana Research XLR/RCA and speaker cables* [on loan]; *Sablon Audio Petit Corona power cords* [on loan]

Power delivery: Vibex Granada/Alhambra on all components, 5m cords to amp/s + sub

Equipment rack: Artesania Audio Exoteryc double-wide 3-tier with optional glass shelves, *Exoteryc Krion and glass amp stands* [on loan]

Sundry accessories: Acoustic System resonators

Room: Irregularly shaped 9.5 x 10m open floor plan with additional 2nd-floor loft; wood-paneled sloping ceiling; parquet flooring; lots of non-parallel surfaces (pictorial tour [here](#))

Review component retail in Europe: €2'800



As marketing director Christopher von Delhaes put it, "the Lindemann musicbook:50 power amp is a sonically excellent mate for our network players and USB DACs. But we are aware of its 80wpc power limit which has occasionally caused it to shut down into self protection when used with certain low-impedance loudspeakers. Now we have a solution for such users with our new 'big' musicbook:55. Designed into the same trademark case work of our musicbook range, it now offers 240wpc into 4Ω or 450 watts into 8Ω bridged mono to drive *any* speaker. A switch on the rear configures the amp as either a stereo amp; for mono bi-amping; or for mono bridge mode." The musicbook:55 is based on latest-gen UCD tech which one might assume to mean the Dutch Hypex company and D-class expert Bruno Putzeys whose nCore amps have turned heads over the past year; yet as we'll see, the capital 'C' denotes a difference as the Hypex/Phillips trademark spells UcD. The upgrade in coin over the €1'800 model 50 is an even grand, hence €2'800. That gets you an attractively Scandinavian-style petite stereo/mono power amp which packs an unexpected yet very green punch.



Norbert Lindemann at the Swiss HighEnd 2014 with a prototype musicbook:55 powering Manger speakers.

This review is part II of my coverage on the [musicbook:15](#) USB DAC, CD player, preamp and headfi amp (quite the mouthful for a small component). Since this range of German smartfi is modular of sorts by consisting of identically styled and sized components for targeted mix'n'match, it only made sense to cover how the 15+55 would add up. Needless to say, that wouldn't eliminate solo outings with competing gear. Here the source deck had already made quite an impression. To get started today, let's check out how the 55 handled itself on my desktop where it displaced Goldmund's Job 225 driving my customary Boenicke Audio W5se with an April Music Eximus DP1 front end.

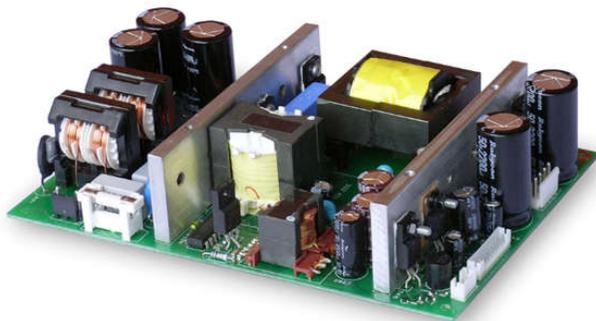


D-Day. If the headlines are anything to go by, class D has come of age. There's Raidho Acoustics' Aavik U-300 integrated. It's a whopping €30'000 with DAC and phono stage. There are the even whoppier input-transformer coupled Jeff Rowland Design Group €38'500 Model 825 stereo and equivalent 925 mono amps based on nCore tech. There's the \$12'000 Theta Digital Prometheus mono, another nCore amplifier; and the up to 8-channel stablemate Dreadnaught IV. More n comes with Bel Canto's Black. Ditto the Veritas, Atsah and Kaluga monos from Merrill Audio, Acoustic Imagery and Mola-Mola. NAD and Tent Labs use the smaller nCore modules. Gato Audio promote Pascal. Mårten Design years ago built a massive pair of show demonstrator monos with linear power supplies based on what then was Abletec. Amphion use the newer Anaview boards for their pro amps. Roksan and AURALiC and MBL do it the UcD way from Hypex. April Music, Wyred4Sound, Bang & Olufsen and many others use ICEpower. Wadia and Boenicke do Italy's PowerSoft. SPEC do Texas Instruments. Audio Research roll their own D. So do Mark Levinson, NuForce, Classé and Anthem and Digital Amplifier Company. Ditto Devialet. Their proprietary paralleling of class D and A for current and voltage gain plays at the very forefront of new legitimacy for the breed. In short, the numbers of believers are rising, particularly so at the upper level. Class D for the high end used to be an oxymoron when it was considered fit only for subwoofer plate amps. Today switching analog output stages have infiltrated the upper end like body-swapping aliens ready to take over the planet. On price and size, Lindemann's big boys are dwarfed by Jeff Rowland and Theta Digital. Hence the musicbook:55 appeals to us of the less aspirated walleys; us of the thinner shelves; and even us of the daft desktoppers who try to get any serious work done whilst tunes come off seriously good kit. As the header promised, we'll power monger by trying both stereo and mono modes. Whilst the latter reads pure overkill for the desktop, my prior experiment with the Goldmund Job 250 monos said rather otherwise. It's not about 3dB more loudness for a doubling of output power; or even a doubling of SPL for 10 x the power. It's about better deeper soundstaging, more bass control, higher resolution and bigger tone.

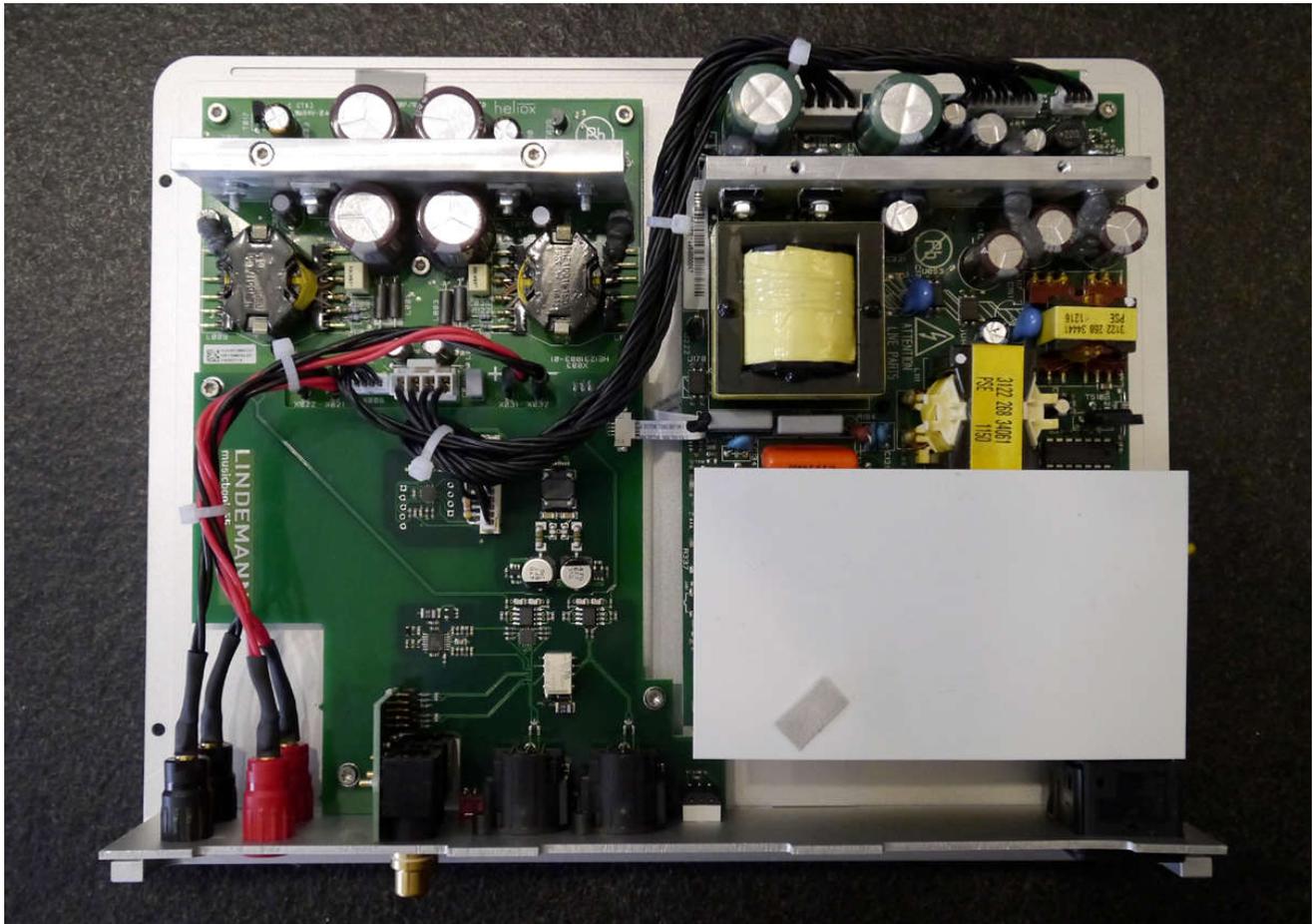
To play the Anton Ego gold card of *Ratatouille*—the aged reviewer with the huge attitude whom nothing pleases—let's handle the nits first; all two of 'em. First, the 'trim pot' to determine mode of operation (stereo, mono biamp, mono bridge) isn't marked. It's just a slotted cross with no indication of where it's been set. Obviously the factory default is 1=stereo upon delivery. But since proper speaker hookup depends on the chosen mode, a visual identifier on whether the amp has been bridged would be useful. Actually, a small 3-pole toggle would be more convenient altogether. Which gets us to #2. There's no silkscreen on how to connect speakers in mono mode. It's explained in the owner's manual of course. And the rear panel does identify the left 10KΩ RCA or 20KΩ XLR as the mono inputs selected by toggle. It simply remains mum on how to use the banana sockets. That's peculiar. As you can see, there's plenty of blank space for the necessary writing. As it turns out, mono uses only the red banana sockets. Now the left becomes plus, the right minus. Hey, I did invoke Anton Ego's crotchety curmudgeonly self for a reason. Anyone else would shrug off these items as being super fussy. The average end user will either leave things in stereo as delivered; or consult the manual for doing the mono-i-mono thing just once and be done.



And even this writer is done now to move from nits to nuts. The mb55 wouldn't be a Lindemann without invisible smarts. Here that's intelligent power management. Powering up immediately triggers 1-watt readiness mode. That's kicked into 800W-peak action (25-50W average) with a signal-sensing circuit. 30 minutes of inactivity revert back to 1-watt readiness. 30 minutes of that without signal invoke standby. Now power draw is down to a measly but Brussels-approved 0.5 watts. About the UCD module, the manual cites "fully discrete circuitry" for which "careful fine-tuning released the full potential of this technology". Its 24.5 x amplification factor nets 27.8dB of voltage gain with a claimed <math><0.05\%</math> THD+N. More smarts from the switch-mode power supply give us happy-happy AC smiles between 90 and 264V @ 50/60Hz. That means great tolerance for significant over/under voltages, no smoke or shut-down involved. Finally operational temps will be about 20°C under normal conditions.

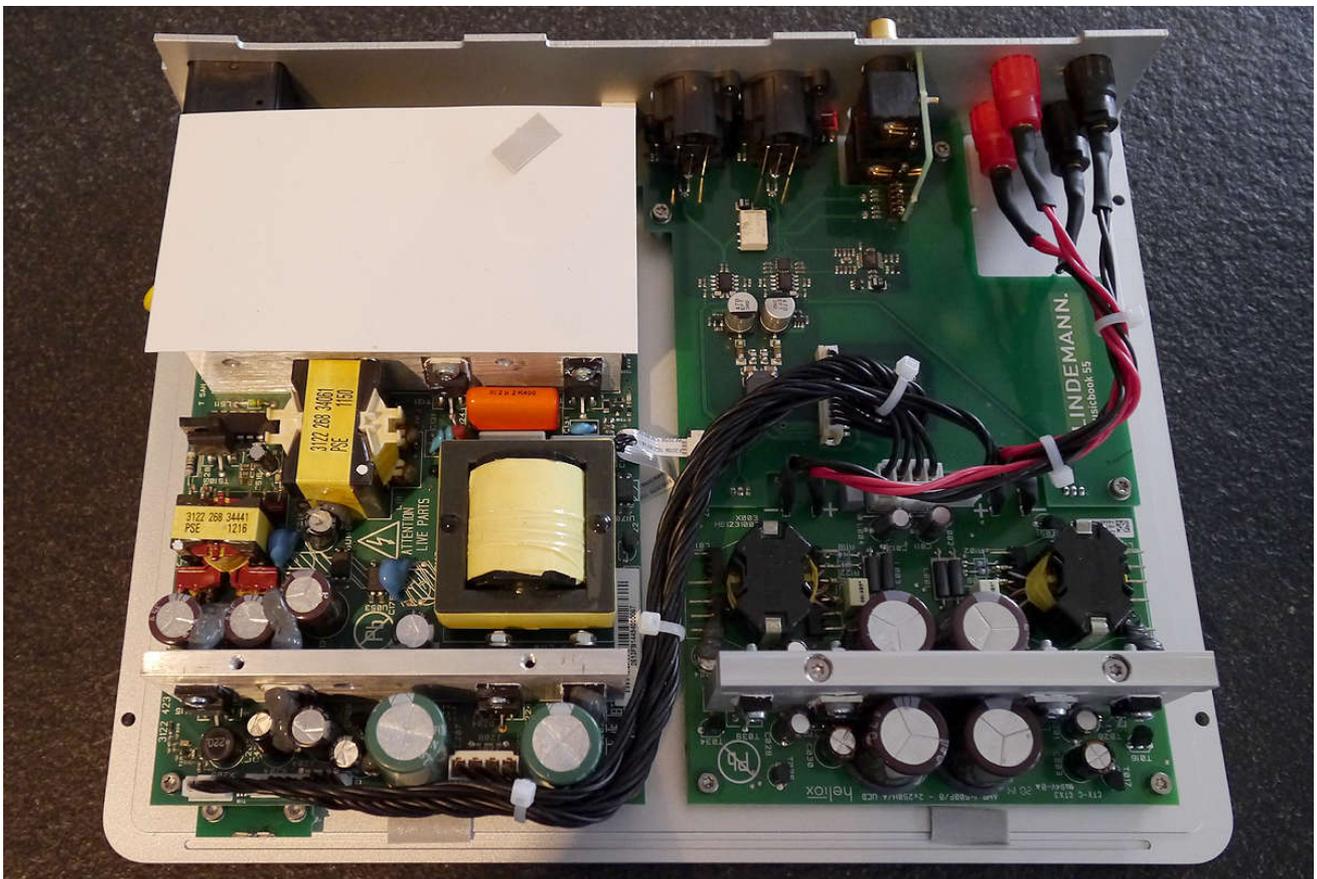


[Heliox 2x250w](#) half-bridge class D power module and matching [PSU HD200](#) switch-mode power supply.



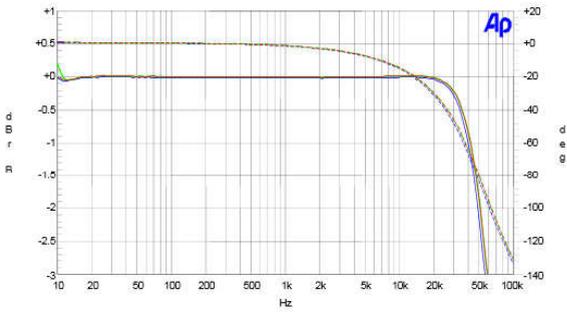
Should the amp's comprehensive protection circuitry be triggered, a second pin-prick LED in red will light up next to the yellow power indicator which is the sole detail on the plexi faceplate.

Bridging the pair of mb55 right off to run some break-in on my desktop proved perfectly uneventful. As soon as first 1411mbps Qobuz Hifi then 320mbps Spotify+ streamed some tunes, the circuitry kicked into gear and made sound. The only thing unexpected were the slowly blinking power LEDs. I'd expected them to stay solid. Since this behaviour wasn't accompanied by volume cycling up and down, I quickly forgot about it.



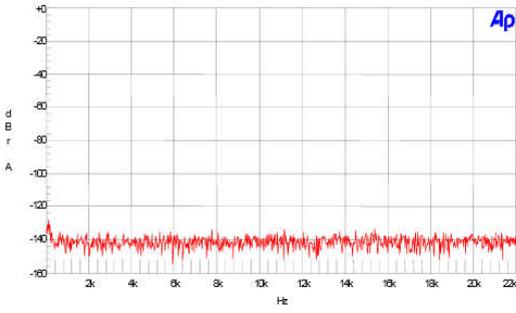
The obligatory kitchen-counter photos show two solid aluminium bars to which mount various transistors. Part of the Heliox PSU board is concealed beneath a thin plastic sheet. The smaller PCB next to it is the output power board. In front of that sits Lindemann's input board.

Frequency response



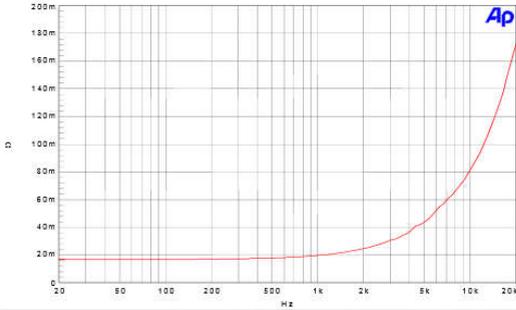
Frequency response in open load (red), 8Ω (green) and 4Ω (blue)

Idle noise

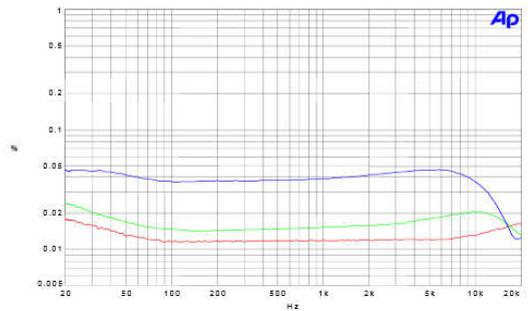


Idle noise, 0dB = 100W in 8Ω, residual = 90μV_{RMS}

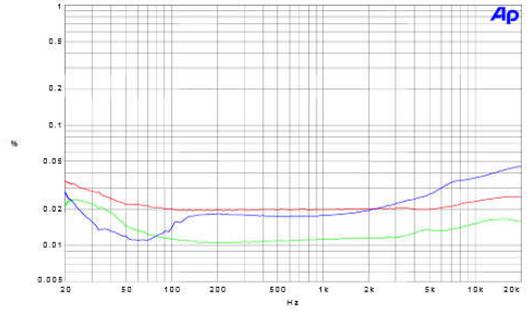
Output impedance



THD+N vs. frequency

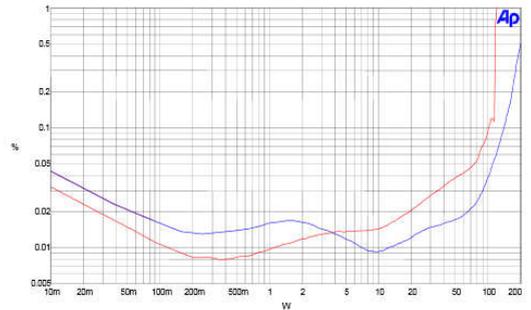


THD+N vs. frequency in 8Ω, 1W (red), 10W (green) and 50W (blue)



THD+N vs. frequency in 4Ω, 1W (red), 10W (green) and 50W (blue)

THD+N vs. output power



THD+N vs. P_{OUT} @ 1kHz, 8Ω (red) and 4Ω (blue)



Once the amps had clocked the obligatory 100 hours on my desktop, circumstance delivered a pair of Kaiser Acoustics Kawero! Classic speakers for review. Their fully grown dimensions and 4-driver 3-way array of top transducers made for a perfect high-power op. The mb55 thus migrated straight into the big system before concluding this tale on the desktop as shown.



AUDIO REVIEWS



On the super-damped Crystal Cable Minissimo at right which were simultaneously in for review, their petite dimensions and small mid/woofer had rendered them somewhat bass-shy in our >100m² downstairs space. With the mb55 in the driver's seat, this combo conspired to textural dryness, tonal compaction and an ultra-modern just-the-facts reading which had very little sex appeal. Those Dutch metal-loaded polymer boxes really begged for a higher protein diet. They wanted more meat à la pure class A Pass Labs XA30.8. In his *The Audio Beat* review, Roy Gregory most enjoyed them with a three-box Border Patrol parallel 300B amp to speak to the same observation.

With our resident EnigmAcoustics Mythology M1 with electrostatic Sopranino super tweeters below representing the same super monitor class, I still wanted the tube-buffered Fore Audio DAISy 1 DAC and/or our usual valve Nagra Jazz in the loop to create fully fleshed-out colours. That's coming from the XA30.8 precedent as my yard stick on these. With the cunningly voiced Teutonic Classics however, XLR direct drive off the COS Engineering D1 DAC/pre netted just the right combination of tight control with agreeable warmth in a very high-resolution context most ably led by that terrific Serbian Raal tweeter preceded by a gold/silver/Palladium-wired custom amorphous-core transformer.



I'd opted to replace these speakers' stock Stillpoints risers with Artesania Audio Exoteryc floor couplers. Due to the former's far smaller contact patches and severe speaker weight, I was worried about making dents in our soft parquet flooring. With the Spaniards' profile lower, the gap height of the Classics which defines their downfiring port's tuning had lowered too. So had bass extension. Whilst designer Rainer Weber predicted lower tautness in trade, with the Teutonic mini bricks I heard no ill effects at all. This spoke to the well-publicized benefits of low amplifier output impedance. It's an area where tube amps traditionally are weak(er) particularly when operated without any negative feedback.



Meanwhile most current class D amps propagandize loudly about extreme damping figures (4-digit numbers routinely neglect to account for speaker cable resistance and voice-coil inductance which easily takes off a zero or more). But, particularly ported alignments with ambitiously low tuning can benefit tremendously from optimized amplifier control. Without it, they often suffer boominess. This can sound exactly like triggered room modes until an amp with far superior damping eliminates the effect to show it for what it really was: under-damped port ringing, not room modes at all. My former AudioSolutions 4-driver 3-way Rhapsody 200 towers had been such a type. I only ever heard those at their best with nCore-1200 based Atsah monos. With me a more omnivorous sort who hates *having* to use a specific amp on a specific speaker, those thus made onward tracks to happy new owners.

One glance at the next photo explains how the Classic derives its deliberate warmth. The 7" Audio Technology midrange with its custom voice-coil former is loaded by an 8-inch rear-facing auxiliary bass radiator aka passive. Then the 10" Audio Technology woofer aims back as well. This blend of direct, bipole and omni radiation patterns administers direct and reflective/diffusive sonic elements. Their carefully tailored mix eliminates the type of lower-mid/upper-bass leanness so many modern speakers suffer. With those attributes covered, the mb55s' lack of extra in that range prevented coagulation or undue double teaming. The obvious implication? Speakers diverging from Kaiser's supremely effective recipe might prefer more pro-active electronics to compensate. The Lindemänner won't. If the speaker you leash them to is a skinny runway model, you'll want to ladle on some sauce upstream, perhaps with a tubed preamp and/or a valve-buffered source.



For some D-class duelling, AURALiC's Merak picked up the glove. These are transformer-coupled Hypex units which favour linear power supplies over switchers and apply very strategic module mods. AURALiC's modifications lower the stock UcD 400 board's 4th through 10th higher distortion harmonics whilst slightly increasing the 2nd and 3rd THD. Without calling out those choices as specific enablers—assigning such cause and effect requires parts swaps on the bench for a proper whodunnit—listening clearly determined that the Merak twins played it less dry and texturally more generous. As most things hifi, this wasn't about better or worse per se. It's always a function of interaction, completion and subtraction. More salt, less sugar? Some vinegar instead? That's where each audiophile becomes his or her own chef.



On my personal class D map based on many years of sampling various specimens, Pascal as implemented by Gato Audio plays it warmest and densest. Anaview by Amphion does it leanest and fastest. D.A.C.'s Maraschino is closer to the latter. ICEpower by Aura and Wyred4Sound are nearer the former. nCore and Lindemann's Helios sit somewhere in the middle. AURALiC hunkers down between them and the toastier pole. Class D sound actually stretches quite the gamut. Norbert Lindemann's take seems about as neutral as subjective auditions can sort out. After all, what exactly *is* neutral? None of us know! The best we can do is triangulate and approximate. The more systems and components we've heard, the more such notions get defined. But it still doesn't account for biological differences between listeners; and our inability to eliminate our own biases and preferences completely or at all. What's beyond dispute and personal likes and dislikes? The music:book 55 must operate with a very low noise floor given the easy audibility of ambient data and concomitant soundstage mapping; exerts obviously firm driver control over even more challenging loads; plays it taut, dry and crystalline regardless; and responds quite overtly to upstream changes to suggest very low self colouration.

Meanwhile back on the desktop. Tidal's 44.1kHz streaming had turned on in Switzerland to compete directly with my 1-year old Qobuz Hifi subscription. But that's not all which had turned on. A friend of mine gifted me most generously with a factory-sealed 5K Retina 27" iMac fully loaded with 32GB RAM and 3TB FusionDrive. This replaced the older iMac in our main music system. As it turns out, that super-slim generation which also shed the built-in DVD drive no longer has an IR eye. My little Apple remote no longer worked. This meant TwistedMelon's USB-connected IR receiver and Mira software workaround which now could assign specific actions to the wand's seven controls well beyond iTunes. Alas, Lindemann's remote for the mb:15 still did the business. Using its play/pause and forward/back controls, I could navigate inside iTunes without the Magic Mouse. Presumably this is executed via the USB connection. It even worked for Qobuz Hifi and Tidal - on both the iMac and my Win 7/64 work machine. Smart and very useful!



Back on the solid-wood Boenicke monitors, the complementary partnership of mb:55+Classic aired again with a rerun. With their built-in warmth, tonefulness, very wide-dispersion miniature widebander and those long-throw sidefiring low mid/woofers, these compacts really cottoned to the slightly cool high-resolution reading of the Lindemann in a big way. As expected, going from one stereo amp to two monos benefited general grip, LF weight and overall tone density. Admittedly shameless overkill in this context, I still enjoyed every minute of it. And with killing it softly—or not so softly—with their song, I reached for major seconds by setting up Gabi Rijnveld's Crystal Cable Minissimo. Because their integral stands were a bit too short (I got custom extensions for the Boenicks too to clear my Ikea glass table), I moved them away a bit, then leaned them back as far as the bolt lengths of the frontal furniture glides would allow without falling out. The only minor penalty for this stunt? A still somewhat lower soundstage than strictly perfect. Two 4-inch tall wood blocks of Minissimo footprint would easily address that if one lived with this long-term. But who'd assign €15'000/pr speakers to desktop duty?



Cueing up Yıldırım Güz's very pretty third album *Aşkın* on Qobuz, the easy answer was, anyone with the requisite scratch who'd heard what I did. In this type nearfield setup, the blue metal-loaded polymer 'boxes' with their rakish tails had plump tone like ripe peaches. Whilst their low bass did attenuate a bit earlier than the Boenickes, the mb:55 kept surprisingly adroit track of it and rather lower than box size for both amps and speakers would suggest as reasonable. This LF was exceptionally well articulated and intelligible down into the mid 30s, simply reduced in output below about 60Hz due to Crystal's chosen tuning. But the most astonishing thing really was the quality of timbral juiciness. At this distance, it eclipsed even the €3'500/pr W5se. The upper-bass/lower-mid bandwidth was gorgeously saturated, voluptuous even. Anyone expecting this from valve gear exclusively—and by extension, decidedly *not* from class D—would have eaten canned crow. Being curious about the exact origins of this, I reverted to an RCA connection between mb:15 and mb:55. Lo and behold, that diluted it some. Anyone going after this threesome better arrive with proper stamina by way of an XLR cable. But regardless, this quality of sound on a desktop ought to be illegal if one has to get any real work done.

At €5'600/pr for the pair, Lindemann's music:book 55 is an attractively compact 450-watt muscle amp proposition that's just as impressive on small inefficient monitors as it is on €45'000/pr multi-way towers with ambitious 26Hz port tuning. Whilst grammar bullies should cringe at the city of copasetic—copaceticity—and cynics do distrust any such thing built into particular component combinations from the same maker, it's an undeniable happy fact: the mb15/55 team went to school together from birth. They have that act down pat. As a bit of front-end swapping proved, the very fetching color intensity I encountered with the desktop Minissimo was down to the matching USB DAC/CDP. Its XLR connection to the amps is the final completer. I'd already confirmed in its standalone review that analog volume control and analog inputs make it the perfect excuse to finally chuck that separate legacy preamp. That its form factor duplicates the amp's to invite tidy stacking is an extra bonus.



My intro documented the body-snatching invasion of class D into the high end. Lindemann's implementation adds itself as proof. Today experienced analog circuit designers have learnt how to harness switching tech in ways that please even those who initially wrote it all off as unfit for serious purposes should one be trained by class A amps of the transistor or tube variety. It used to be a sign of superior good taste to diss class D. Today it's become a surefire tell of sad ignorance. The musicbook:55 speaks loudly to that. One of these amps is good. Two of them bridged to mono are even better; and not for the mere purposes of increasing power. The number three with the musicbook:15 becomes downright special. I see absolutely no legitimate or otherwise good reason why an mb:55 user wouldn't right away or eventually end up with one of the four available musicbook sources which differ only in featurization (i.e. disc drive and/or streamer). Such team work is most *compadre* indeed. It takes all the guess work out of the equation and also romances the eyes with full cosmetic integration. Leave the cynics to chew on that wild word 'copaceticity'. It shouldn't be you. Just enjoy what it signifies: built-in synergy for guaranteed results.