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MBL’s Noble Line

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D-lightful!

By Jonathan Valin

Photography by Matt Wrightsteel
MBL's Noble Line electronics sit midway between its ultra-expensive Reference Line offerings and its least costly Corona gear. Though the Noble N11 preamp and N15 monoblock amps aren't stripped down compared to their Reference counterparts, they do differ in price, size, power, and mode of operation. The enormous $106k/pr. Reference Line 9011 monoblocks, for example, one of the world's great amps, generate 840W/50A/100V into a 4-ohm load, have a signal-to-noise ratio of 118dB and distortion of under 0.001%, and run in Class AB. The far lighter, more compact, $35k/pr. Noble Line N15 monoblocks still generate a hefty 560W/36A into a 4-ohm load, also have low noise, but run in Class D.

Now, it's been better than a decade-and-a-half since yours truly reviewed Class D amplifiers in TAS. (Loved them in the bass, not so much in the upper midrange and treble.) Since then Class D has gained a firmer foothold in the high end, particularly in products like self-powered loudspeakers and active subwoofers where Class D's exceptional efficiency, small size, low generation of heat, and relative affordability are obvious plusses.

Often erroneously called “digital” amplifiers, Class D (or “switching”) amplifiers do not work like linear amps, in which the input is sent directly to the amplifier's various gain stages for boosting. In a Class D amp the input is first converted/encoded by a modulator into a pulse train (using pulse width, pulse density, or related modulatory techniques) that represents the amplitude variations of the audio signal. This pulse train is then fed to the amplifying devices (usually MOSFETs), which operate like electronic on-off switches. Working alternately, these transistors switch back and forth between the supply rails, generating positive and negative boosted signals that are subsequently low-pass filtered (to get rid of the very high frequencies used by the modulator to encode the input signal), sometimes high-pass filtered (to reduce residual distortion), and fed as a higher-gain analog (sinusoidal) signal to the loudspeakers. Theoretically, a switching amplifier (which dissipates virtually no power as heat) has an efficiency of 100%, while Class B amps have a theoretical maximum efficiency of 78% and Class A amps 20–50%.

Unlike its predecessors and much of its current competition, the Noble Line N15 monoblocks under review are said to guarantee a linear signal independent of load, level, or frequency. This is a bold claim, considering (as MBL itself points out in its LASA 2.0 white paper) that Class D amplifiers inherently distort the music signal depending on frequency. (Natively they have low THD in the bass and very high THD in the treble.) Moreover, Class D amplifiers are always designed for a particular resistance value (e.g., 4 ohms), but a loudspeaker does not have a constant resistance—it is a “complex load” with impedances varying with frequency. Thus, in addition to their native non-homogeneous distortion profile, Class D amplifiers change their power delivery (and hence their frequency response) with changes in load. On top of this, the louder a typical Class D amp plays, the lower its overall distortion, and (paradoxically) the quieter it plays, the higher its distortion.

MBL claims to have solved these myriad problems with its LASA (Linear Analog Switching Amplifier) 2.0 technology, which, instead of the typical and economical switch-mode power supplies of most Class D amplifiers, uses a massive analog toroidal power supply. The LASA circuitry is also symmetrical in layout for better common mode rejection, employs low-drop fast-recovery rectifiers to create a low-noise supply voltage, and has a “soft-clipping” provision to eliminate aggressiveness and distortion at very high output levels. Whether or not these strategies result in an amp that (as MBL claims) is closer to Class A or Class AB in linearity, noise, and stability than it is to typical Class D, there is no question that the N15 differs sonically from the switching amplifiers I auditioned lo these many years ago.

During most of the review period I used the N15 with its companion Noble Line linestage preamp—the single-gain-stage, high-bandwidth, Class AB N11, often run in “unity gain mode” (about which I will have more to say in a moment)—driving a cone loudspeaker that presents a moderately difficult load (the Magico M3) and sourced by Walker and TW Acustic analog and MSB digital. To be honest I didn't expect the world from this combination, especially since I'm used to listening to the Magicos with much higher priced Class A/AB electronics from Soulution and Constellation. And, to be honest, I didn't get
the world—or all of it. But what I did get was good enough and surprising enough to make me re-think what Class D (or at least MBL’s LASA 2.0 version of it) has to offer.

For one (perhaps most important) thing, the N11/N15 combo did not have all of the treble-range eccentricities that I remembered from earlier-gen Class D. Where Class D’s top octaves used to sound as if they were roughened in the low-to-mid treble and abruptly rolled off above that, the MBLs’ high frequencies did not. (They were just a bit on the soft, sweet, dark side with a relatively insignificant reduction of “air.”) For another, the N11/N15 did not have the almost-digital flatness of aspect in the midrange that I also remembered from early Class D. No, the MBL gear had three-dimensional imaging in the mids (and in the treble and bass, too). And in the area where Class D was always at its best, the bottom octaves, the N11/N15 did not lose a step, sounding just as powerful, tightly controlled, and deeply extended as earlier Class D, with (as noted) the added bonus of three-dimensional bloom.

Though the big, robust bass range of Class D was always its strong suit, it was also a weakness in that in combination with the perceived roll in the top octaves it tended to make older-gen switching amps sound quite dark or “bottom-up” in balance. While the MBL N15 was not as strongly colored in this way as Class D amps of yore, it was still a bit on the dark side with the somewhat-tricky-to-drive Magico M3s, though, oddly, I didn’t hear any of this same darkness with the near purely resistive load of the Maggie 30.7s. Indeed, with the Magico MBL electronics sounded quite neutral, if not a little lean and bright (which, to be fair, is precisely the way the Magico sound when their ribbon tweeters aren’t damped down via resistors, as they were not when I originally auditioned the MBL/Maggie combo). You could argue that this difference in presentation reflects the difference in the sonic balance of the two speakers, supporting MBL’s claim of load insensitivity. But given that the Magico M3 does not sound darkish with the Constellation amp, you could also argue that the difference reflects a slight tendency (far sligtier than in the past, as it is not accompanied by treble-range roughness and roll-off) to change sound with changes in load. (The N15’s darker palette is undoubtedly also a reflection of MBL’s “house voicing,” which has always been bottom-up and is accentuated when the N11 preamp is not used in its unity gain mode.)

This said, what the N11/N15 did have with both the Magicos and the Maggies—and Class D, as I remember it, never had before with any speaker—was surprisingly high-resolution top to bottom, lifelike three-dimensional presence, and superb transient response, particularly in the midband and lower treble. On a recording like the fine Analogue Productions 200-gram LP reissue of Son House: Father of Folk Blues, you’d simply have to hear the “in-the-room-with-you” realism with which MBL gear (in combination with the Maggie 30.7s) reproduced the sting and snap of Son House’s hard-plucked National steel guitar and his weathered voice on “Death Letter” to appreciate how realistic MBL’s Noble Line electronics (in combination with a first-rate analog front end and a congenial load) are capable of sounding. This is nothing like Class D of old, as I remember it.

With the Magicos I tried an experiment, comparing the sound of the M3s driven directly by the MSB Reference DAC’s excellent analog volume control (i.e., with no outboard preamp) into Constellation’s superb Hercules II Stereo amplifier to the sound of the M3s also driven directly by the MSB DAC into the Noble Line N15 amps, and then with the signal sent from the DAC through MBL’s N11 preamp into the N15s. To minimize the difference that I knew the MBL preamplifier was going to make, I used it in what MBL calls
“unity gain” mode, which is said to lower the noise floor, increase transparency, and improve dynamic range.

How unity gain does these things involves an interesting bit of thinking. In a typical playback system, the power amplifier expects the preamplifier to relay a signal at a maximum of 2V RMS (which happens to be the standardized fixed output of a DAC). However, today’s preamps typically amplify the input signal by 12dB (a gain factor of 4) before delivering it to the amplifier input. With a source device that has a voltage of 0.75 volts (such as certain analog phono-stages), the preamplified voltage would be 3V, which means the volume level would have to be reduced by at least 33% in order not to exceed the maximum level that the amplifier is looking for. With a 2V digital source, the preamplified voltage would be 8V, which means the volume level would have to be reduced by at least 75% not to exceed the maximum level the amplifier is expecting.

If drastically reducing volume levels via your preamp’s volume pot were a harmless procedure, there would be no problems. But it is MBL’s contention (proven by measurements—for which see the LASA 2.0 white paper) that such massive reductions in volume are not made without a cost. In fact, such changes dramatically constrict dynamic range, reduce resolution, and raise distortion.

When used in user-selectable unity gain mode, one of the two volume-control strategies available in the preamp, the other being a conventional “high-gain” mode, the N11 adds considerably less boost to and subtracts considerably less boost from the signal it is being fed than a typical linestage preamp. Though what MBL is calling unity gain isn’t, technically, a true pass-through (in which nothing at all is added to or subtracted from the source signal), the circuit does reduce the preamp’s maximum gain factor to something on the order of 1.8, making the price you pay in dynamic range, distortion, and resolution for reducing levels less deleterious, audibly and measurably.

I’d have to say from listening tests that what unity gain is doing is largely, though not entirely, salubrious. While the MSB/MBL/Magico system (with or without the preamp in unity gain) did not have quite the astonishing neutrality and sensationally realistic “thereness” that the MSB/Constellation/Magico one did on, say, Harry Connick, Jr.’s, rendition of “A Nightingale Sang in Berkeley Square,” it came close, with slightly less treble detail and that darker palette I mentioned holding it back from unalloyed goosebump territory. On the other hand, the MBL preamp in so-called unity gain
mode did have a wee bit more dimensionality on Connick’s voice (and Branford Marsalis’ sax) and about the same amount of dynamic energy (albeit with less detail) as the MSB volume control by itself. For a preamp priced a hair under $15k and a pair of monoblock amps about a third the price of the Constellation stereo amp, this was highly competitive performance.

The last speaker I tried with the Noble Line electronics was one of the Radialstrahlers it was designed with and for—the MBL 101 E Mk.II omnidirectional. Since the 101 Es are themselves dark in balance, the Noble Line’s tendency toward a bottom-up presentation was definitely more marked with them than it was with the Magicos and Maggies. However, this darker tonal balance isn’t what struck me first or foremost. No, it was the sheer joy I experienced listening to the system. Driven by the Noble Line electronics the 101 E Mk.IIs were and are nothing if not continual goosebump-raising fun.

Now I know that “fun” is not a usual critical superlative in our hobby. Indeed, a speaker or set of electronics that is a visceral joy to hear (at any level on any music) is almost automatically suspected of lacking accuracy or of compromising the absolute sound. Such suspicions may, in fact, have a bit of truth to them, but they are also an almost unbelievably narrow way of looking at what a hi-fi does (or should do). If we rule out deriving close to non-stop pleasure from our stereo systems—if we rule out the ways in which a great component is capable of turning off our critical faculties, rather than persistently turning them on (or off and on repeatedly)—then why in hell are we even bothering to purchase expensive toys that are bound to frustrate? Indeed, while they may not have quite the timbral linearity, accuracy, and realism of the standard-setting Magic0 M3s, the 101 E Mk.IIs are scarcely inaccurate or short on sonic lifelikeness when it comes to tone color, and are very close to the Magicos’ equal in dynamics, and their superior in dimensionality. Plus the Radialstrahlers do something else as well as, if not better than, the best cones in a box: Let’s face it—when we go to a concert in a recital hall we don’t ask ourselves whether the instruments we are hearing, a string quartet for example, sound like “real instruments in a real space.” They are real instruments in a real space—and they sound the way those particular instruments, the performance of the artists, the acoustics of the room, our seating position in that room, and a host of other factors permit them to sound. This does not mean that the “absolute standard” is invalid when it is applied to a recording of that same string quartet. What it does mean is that we never merely lis-
Situated near Eberswalde about an hour’s drive northeast of Berlin is Lichterfelde—the small town that has been home to MBL’s manufacturing facility since 1992. (The company was founded in 1979 by Herren Meletzky, Bienecke, and Lehnhardt, hence the MBL initialism.) The area is also known for shipbuilding and other kinds of metalwork industries—a favorable situation for hiring and retaining skilled employees with specialized expertise for the production of the company’s loudspeakers and electronics. Every MBL product—including all the parts, which are made on-site—is built by hand in Germany.

The company currently employs 43 people at the factory; 10 others work in MBL’s office in Abersvald, in the Brandenburg area of Berlin (formerly in East Germany), where processing and customer service and support functions are handled. MBL loudspeakers and electronics are distributed in over 50 countries, with more than 60% of the company’s business in Asia.

After helming a bottling company that was the German partner for Coca-Cola, MBL’s CEO Christian Hermeling acquired MBL in 2008 from Wolfgang Meletzky (the “M” in MBL, and the last of the three founding fathers still involved in the firm). Although Christian hadn’t owned any MBL products before taking over the company, he was familiar with and attracted to quality control for quality products—a common thread between his two seemingly disparate businesses. More importantly, Christian says he’s always had a love for music and for production, especially metalwork. Initially, he’d held some shares in MBL and other companies, then came to realize he wanted to work in a “cleaner” industry than soft-drink bottling—and to improve peoples’ lives through music. Another key reason he decided to “go all-in” and acquire MBL was his appreciation of the work of the company’s acclaimed longtime designer, Chief Engineer Juergen Reis. Reis’ talents and expertise have led to the development of a new generation of products, such as the Corona and Noble Lines of electronics that feature his innovative “linear analog switching amplifier” or LASA technologies. (For more, see the Noble Line reviews.)

Reis joined the company in 1983 after hearing MBL Radialstrahler speakers at a hi-fi show in Berlin. He was hired after he submitted to Herr Lehnhardt a preamplifier he’d designed with much less distortion than MBL’s own electronics at the time; working for MBL was his first job after completing his university degree. Reis is also a musician (hard rock and choral) and respected recording engineer, who has captured performances from the likes of the Concerto Köln (Cologne) for MBL. Christian is a fan of classical music, and piano in particular, and these recordings offer an extension of his desire to improve peoples’ lives through music.

Christian has also implemented ISO regulations at the factory, which he says are indispensable. In addition to a...
central area for administrative offices, the facility has a “clean side” and a “dirty side”—the former consists of roughly 8000 square feet where assembly, testing, and finishing take place; the latter is the factory floor area where CNC machines mill parts—often to tolerances of 1/100th of a millimeter—and workers perform early-stage refinements, such as smoothing aluminum feet, copper binding posts, and brass control knobs by hand using a sharp tool that resembles a dental instrument. MBL’s unique driver designs also require painstakingly precise assembly by skilled hands. On the woofer “melons,” whose omnidirectional radiating surface area serves as the equivalent of a 21-inch woofer, the lengths of copper that provide structure and rigidity must be glued by hand to avoid air bubbles. Each tweeter is made of 24 little segments of carbon fiber with tiny voice coil wire wound around them at the base. If anything is found to be less than perfect on a part or product, the process starts over from scratch. It probably goes without saying but all areas of the factory are extremely well organized and thought through. As with anything hand-built and held to such high production standards, it’s quality over quantity. You can’t rush perfection.

Throughout the factory bilingual signs (in German and English) identify various functional areas—the Polishing Room and Foiling Room, for instances. There’s also an 8000-square-foot warehouse where some 4000 SKUs of parts, including machined materials in different stages, are stored. Even the shipping area is carefully considered under Christian’s thoughtful leadership: All of the packaging materials are made locally, and the shipping crates are assembled by disabled workers. Even the loading dock was remarkably spick-and-span, and Otis Redding’s “Sittin’ on the Dock of the Bay” was playing as we entered, giving the space a good vibe.
Julie Mullins on the Noble Line N51 Integrated and N21 Stereo Amps

I first reported on the Noble Line electronics—the N11 preamp and N15 monoblocks that JV reviews here—at CES 2017, prior to their full production. At the time, I took the opportunity to speak with the brilliant man behind MBL’s loudspeakers and electronics for the last couple of decades, Chief Engineer Juergen Reis, who was kind enough to explain some of the basic ideas that went into the Noble line’s “atypical” Class D design. According to Juergen, MBL’s LASA technology retains Class D’s power efficiency but with load-independent frequency response and very low (frequency-independent) distortion, allowing the amps to measure more like those biased in Class A—and sound better than “typical” Class D. (For more on this, see JV’s review.)

It’s not just MBL speakers that can benefit from Noble Line electronics and their LASA technology. In my listening room I’ve had the good fortune to have enjoyed the Magnepan 30.7s as my references for the last several months (see Issue 279 for TAS’ glowing reviews). As spellbinding as these superb planar-magnetic speakers can be, they are known, to paraphrase Henry Kissinger, to find power the ultimate aphrodisiac. Not just any ol’ watts and current will do, either. Planar designs trade mass for greater surface area, so extra headroom is needed to drive them well. Transparency to source material is another of the Magnepans’ virtues, and I tried myriad amplifiers ahead of them—across different manufacturers, price-points, and types—and not everything made the Magnes sing. Some known-quantity high-caliber amps just didn’t cut the sonic mustard here: too thin, too clinical, or too wanting in body. Happily I found a solid match in the Noble N51 integrated (containing the same amp section as the N21 stereo amplifier). Generally speaking, MBL’s sonic signature tends toward the warmer, even at times slightly darker side of the timbral spectrum—not overly rich or heavy, but substantial and dimensional. Here, as a counterpoint to the Magnes’ more transparent and reveal-
ing character, pairing these planars with the N51 integrated’s more robust sound balanced the sonic scales beautifully.

More recently I’ve been able to up the ante by bi-amping the 30.7s with the addition of a $16,500 N21 stereo amplifier that delivers 380 watts into 4 ohms. Turns out this setup became the sonic equivalent of finding an additional gear to shift into. More energy seemed to be unleashed, and music came through with a greater sense of unimpeded flow—an open and pleasing seamlessness that enhanced its verisimilitude and its ability to draw you in. I also sensed more presence and immediacy in playback. A listen to “The Spider’s Stratagem” from Dead Can Dance’s Into the Labyrinth LP [Mobile Fidelity reissue] on the MoFi UltraDeck turntable (with Stein Music’s amazing Pi paper record mat) revealed this cut’s myriad instruments with plenty of air and space between them within the soundstage. The clean, rapid-fire percussion attacks compelled me to sit up and listen even more closely. You could almost “see” the snapping tablas and shimmering metallic chimes—so mesmerizing were their images and textures.

Playback felt more effortless, yet didn’t lack substance. On the Pixies’ Doolittle LP and CD reissues [Mobile Fidelity], for instance, “Gouge Away” and “Silver” feature hard-hitting attacks on snares and kickdrums and guitar strings—whether Fender or acoustic slide guitar—that, when reproduced by the Maggies and the MBL electronics, were sustained within each instrument’s body before giving way to drawn-out decays. A substantial sense of the three-dimensionality and of the specific placement of both the instruments and the vocalists was clearly present within the soundstage.

Like other Maggies, the 30.7s benefit from higher volume levels, and so MBL’s “unity gain” feature (which comes as a default setting on the N51 integrated) eased switching of sources between my turntables (MoFi UltraDeck and Acoustic Signature Challenger Mk. III) and the MBL Noble N31 CD player/DAC (review forthcoming), as I didn’t have to worry about making volume adjustments when I alternated between analog and digital listening. And I seldom found myself moving the setting back to regular gain. In general, with the unity gain option on, I also noticed a seemingly lower noise floor and heightened resolution, advantages that MBL states are associated with this technology. (For more on unity gain, see JV’s review comments.)

Overall I’d describe the MBL Noble N21/N51 and Magnepan 30.7 pairing as generally neutral in tonal balance—or essentially revealing of the source recording—but this combo delivers a little more meat on the bones. There’s a welcome touch of heft tempered by a kiss of warm sweetness, making for an invariably musical presentation.

feature that, I assume, makes it sound even less rough and bright at very high levels, though this feature may also be partly responsible for the amp’s slight reduction in treble-range brilliance).

Another thing that the Noble electronics do not short-shift is three dimensionality. Of course, an omnidirectional loudspeaker like the 101 E Mk.II, with 360-degree dispersion (and no enclosure), is a paragon of 3-D sound—to the extent that it is the one transducer I’m familiar with capable of making digital seem as if it’s got nearly as much bloom as analog. Already notably three-dimensional with the other speakers I used, the Noble amp and preamp made the Radialstrahlers sound, as I once said about their big brothers, the X-Tremes, like the sonic equivalent of going to a stage play rather than watching a movie. Indeed, the 101 omnis’ inherent ability to project musical energy in all directions rather than merely forward (or forward and back) is highly realistic—and a large part of the reason the Radialstrahlers sound so thrilling and real with the right sources and electronics. The Noble Line gear did them proud in this regard.

I could go on about the 101 E Mk.IIs—about their incredibly lifelike power-range weight and impact, about their bottommost octaves (which are said to extend to 22Hz), about their uncannily natural reproduction of voices, brasses, and strings, about their boxless openness and vast soundstage—and even though some of these things would also be to the credit of the Noble Line electronics driving them, the Radialstrahlers are not the subject of this review. It is the N11 and N15 that I’m focusing on, and the bottom line here is plain. Neither the amp nor the preamp is the last word in high-end electronics (even in the MBL lines), but then they don’t cost anything close to what that last word costs. What they are, like the MBL Radialstrahlers they pair up with so beautifully, is thrilling to listen to—a little dark, a little soft and sweet on top, a little lower in top-end extension and resolution than their $100k+ competition, but always enjoyable, powerful, and musical, and, given the right source and pairing, fully capable of a realism that raises goosebumps and of a soundfield of head-slapping breadth, width, and depth. In sum, these are components I can recommend to every kind of listener, and particularly to those with Magneplanar or MBL loudspeakers.