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## Montana EPX Speaker

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**D**ANISH ÉMIGRÉ and engineer Peter B. Noerbaek, founder of PBN/Montana, launched his EPX floor-standing loudspeaker at CES 2003. It's the latest in a series of impressive models he has introduced from his San Diego workshops since 1994. Noerbaek's EPX is the second system to be reviewed by *The Audiophile Voice* since 1999, so what has he been up to these past few years?

Well, aside from expanding his product line to include electronics, Noerbaek's been launching the EPX. A key feature of this seven-driver, three-way unit is that it incorporates a ported isobaric chamber and thus produces true 20-Hz bass from a relatively modest-volume cabinet, one only 46 inches in height. The EPX is a departure in size from the typically imposing Montana towers; Noerbaek's top-line WAS stands 76 inches tall, hits 520 pounds each, and commands a \$54,995 price for the pair. Noerbaek nicknamed the WAS his “*whup-ass speaker*,” and chuckles that it didn't take long to adopt American slang.

This is not to say Noerbaek's EPX is a shrimp; she weighs in at approximately 150 pounds. Her

wooden shipping crates add even more. Hand trucks are a necessity with the biggest Montanas, mules and back braces are optional.

### PBN/Montana History

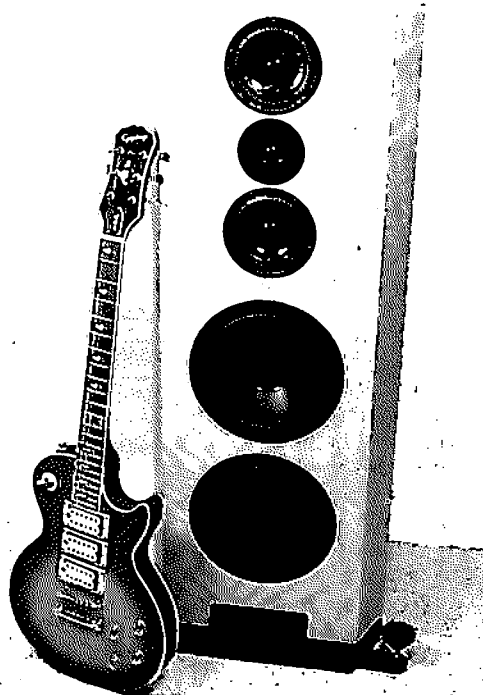
Noerbaek, like many successful designer-entrepreneurs, has been devoted to audio since childhood; he started building loudspeakers at age six and received a degree in electrical engineering in his native Denmark. He left active audio work for a stint in the merchant marine, and then became a commercial concrete-production equipment engineer, returning to audio in the early 1990s. After a stint as National Sales Manager with Cary Audio, he and his spouse headed to California, where they founded PBN/Montana in San Diego and now produce both loudspeakers and solid-state preamps and power amplifiers. The electronics are developed and marketed under the Sierra Audio name and incorporate the design talents of Emo Borbely; the Olympia power amplifier is the latest addition. According to Noerbaek, all of the basic engineering design and manufacturing activities are conducted in-house and most critical parts

(excluding speaker drivers) are sourced in the U.S. Even though a production line exists, most of the basic manufacture and assembly, including the veneering and finishing of cabinets, is performed by hand; much of this is performed by Noerbaek himself. In true craftsman style, Noerbaek signs his own work.

### The EPX is Born

At first glance, the EPX appears to be a relatively conventional loudspeaker, despite a year of development towards Noerbaek's goal of solid low-bass performance from a relatively modest cabinet volume. Yet appearance belies reality as the cabinetry, drivers, crossovers and other innards have each received much attention. As is usual for speaker designers these days, Noerbaek was challenged by the three-pronged difficulty of market acceptability, pricing, and application, considerations which dictate the physical size and appearance of loudspeakers.

The EPX driver layout features a vertical M-T-M (midrange-tweeter-midrange) array, D'Appolito-style, plus two vertically mounted, forward-firing, custom-spec, Peerless



10-inch woofers. However, to achieve the desired low-bass strength, an identical second pair of woofers is mounted very closely behind the front woofer pair in an isobaric or compound-loaded, front-vented chamber of approximately 107 liters or four cubic feet. A three by six inch bass-reflex port is positioned below the woofers at the base of the cabinet. The four woofers in each cabinet operate in unison or in phase and move a lot of air for this cabinet volume; this is easily heard and felt.

Noerbaek states that this woofer configuration and cabinet type allow use of shorter voice coils, which results in lower impedance and higher sensitivity. I can attest that at 91-dB SPL sensitivity with an amp-friendly four-ohm nominal impedance, the EPXs are a pretty easy drive for even low-power tube amps. However, a robust solid-state amp with high damping factor will typically produce the tightest bass and higher SPL with minimum distortion when pushing this cabinet-full of bass drivers.

My listening sessions successfully utilized a variety of solid-state and tube amplifiers (some as low as 20 watts per channel), including some use of Noerbaek's powerful Olympia solid-state amplifiers. On the tube front, the Cary V-12R in 100-watt ultralinear mode had just the right amount of juice to energize the EPX from top to bottom with plenty of volume in my 3120-cubic-foot room.

However, any design has its advantages and disadvantages, and in this case a second pair of woofers is required to achieve truly solid 20-Hz bass with this particular cabinet volume. But a significant advantage of the isobaric configuration is half the distortion from half the normal volume chamber. Overall cabinet dimensions including the adjustable spike base are 46 by 17 by 19 inches. The box features non-parallel side walls on the heavily braced cabinet with 1 1/4-inch front and 1-inch MDF side and top panels. The M-T-M layout features a pair of 5 1/4-inch ScanSpeak midrange drivers flanking a custom specification 1-

inch Montana/ScanSpeak Revelator tweeter, which are all housed in their own triangular sub-chamber. Using a 24-dB per octave Linkwitz-Riley design, the EPX crossover is said to minimize modulation distortion. There are also some 12-dB and 18-dB trap filters on the woofers to smooth out the impedance bumps. Such steep fourth-order crossovers do not have the best reputation, yet Noerbaek has paid careful attention to the parts integration and circuit analysis to be certain the drivers integrate well with the network. Carefully selected drivers and crossover parts (such as film and foil poly capacitors) are connected with Monster Cable M1.2S wiring. Crossover points are 300 and 3000 Hz respectively for the system which has a specified overall frequency response of 20 Hz to 20 kHz. Even though the M-T-M module is mounted on a wide front baffle, diffraction does not appear to be any problem; there is a bit of absorbent material surrounding the tweeter.

A recessed pair of high-quality, five-way terminals is designed to accommodate larger cable or bi-wiring, which is how I operated the system using Kimber Select CU. During my audition, the tweeter was approximately 37 inches above the floor, proper for the average seated listener. The four long, threaded spikes fit neatly into heavy steel support bars and have large knobs to facilitate leveling. The EPX features likely the "quietest," most vibration-free cabinet that I have ever encountered in this size; it is simply dead as a hammer. The review units were supplied in natural (no stain) flat finished light hand-rubbed American cherry,

## The Listening

I unequivocally say that the EPX was an excellent performer right out of the heavy and robust wood shipping crates. I needed the help of a friend to move the EPXs but actual set-up as easy as any I've encountered. Leveling with the big knob spikes only required a few minutes, which anchored them to the concrete floor. Weighing in at around

150 pounds each, the EPXs are not going anywhere. After a break-in period of 50 to 100 hours (the manufacturer recommends up to 150 hours), the EPXs began to reveal their true character, which was overall neutrality with a tilt toward the bass response with plenty of definition in the mid and upper registers, without beaming, and excellent off-axis listening.

The best imaging was achieved while I sitting on an average couch or chair. Lateral sound staging is the EPX's forte, as the presentation soundstage was well out to each side of the speakers with the best recordings. Excellent presentation of overall image height is the EPX's second best attribute. The EPX's very effectively convey the spaciousness and grandeur of great orchestral recordings and venues.

All the techno-speak aside, does the Montana EPX produce effective bass from real-world recordings in a real world listening room? Yes, indeed, and I'll say "in spades" to boot. These loudspeakers go deeper into the bass than most others in this price and size class. Bass is there when naturally present in the program, but you just don't notice any excessive bass unless it's on some overblown recording. What we have here is a full-range loudspeaker with more than just robust bass. Not lean or bright, the EPX will tell it like it is, without masking or cover-up.

When the serious listening begins I typically go straight for the champagne. Here, it is the recent Classic Records Quixi SV-P reissue LP of Nikolai Rimsky-Korsakov's *Scheherazade* (Classic/RCA LSC-2446). Strings and flutes simply sparkled and Sidney Harth's violin came alive with a vitality and delicacy that wonderfully conveyed this sensuous and mysterious masterpiece. This perhaps "over-engaged" reviewer exclaimed, "It's goose-bump time, boys and girls!" After regaining my composure, I grabbed another Rimsky-Korsakov recording, this time a Decca LP reissue (SXL-2020) *Espana*, featuring Ataulfo Argenta's spacious and passionate reading of "*Capriccio Espagnol*" from the late 1950s. Another favorite goose-bumper LP is Jascha Heifetz's masterful performance of Max Bruch's "Violin Concerto," here rendered beautifully on another Classic reissue (Classic/RCA LSC-

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2652) with the Chicago. The texture of Heifetz's violin and unmatched playing was mesmerizing, while depth and detail abounded. The stirring openings of these recordings dominated my listening room and my attention as few others have. The extraordinary character of Heifetz's marvelous instrument was conveyed in one aggressive passage, while in the very next section, one listener sighed, "Oh, so tender a bowing!" The EPXs just stepped aside, adding little (if any) character of their own, letting the music emerge unfettered.

Much of this "high reality" character is due, I feel, to the superb blending of the M-T-M ScanSpeak midrange drivers with the Montana/ScanSpeak Revelator tweeter. This ensemble of superb drivers, together with a superb crossover, simply extracts the heart and soul of the music in the mid-to-upper registers where the music lives. These drivers are housed in their own stiff triangular-section sub-enclosure, which minimizes interactions with drivers in the main cabinet. The EPX cabinets are especially quiet "mechanically," which goes a very long way toward minimizing coloration of the music. I also happen to own a Mike Hobson/Classic records test pressing LP of Dave Brubeck's *Take Five* (originally Columbia CS 8192) that via the EPX's transported me to the 1959 studio. Truly remarkable!

Of course, this is what it's all about, the ultimate goal, whether for audiophiles or ordinary music lovers. And, of course, we cannot leave LP-listening without airing Natanya Davrath's lovely *Songs of the Auvergne*. Originally on Vanguard, this has been recently reissued by Analogue Productions (APC 002), but Natanya's youthful soprano still floats in space above the high meadows of the Auvergne, creating an ethereal atmosphere.

I next dove into some favorite CDs including the recent reissue of *Art Pepper Meets The Rhythm Section* on Analogue Productions SACD (CAPJ 7532 SA). Rocking and frolicking along on the EPXs, Pepper and his January 1957 gang of four were reincarnated in full flower. The late Mr. Pepper was quite convincing in this soulful replay, while drummer Philly Joe Jones' rapid-fire licks and airy cymbals kept the pace moving and toes tapping, especially

on the opening cut, "You'd Be So Nice To Come Home To." In the best examples, SACD appears to me to provide greater depth of sound-field than do standard CDs; the EPX had no trouble conveying this attribute here.

Vocals were quite good via the EPXs. An excellent reference on conventional CD is Analogue Productions (APFCD 005) reissue of *The Weavers - Reunion at Carnegie Hall 1963*, another timeless favorite of mine and a real test of imaging and depth of field of a concert hall stage. The performers are arrayed in a realistic perspective with a "you are there" presentation, while the unique vocal qualities of each performer are preserved.

I especially appreciate Kathleen Battle and her recordings with Wynton Marsalis such as her *Baroque Duets* on Sony Classical (CD SK 46672) with the Orchestra of St. Luke's. Her lilting soprano and extreme range were reproduced with crystal clarity and simply no coloration, while Marsalis' trumpet flourishes were realistically conveyed. All quite engaging and just plain musical. Their joint effort with Handel's "Eternal Source of Light Divine" made a quiet Sunday afternoon about perfect. In contrast, the profound bass drums in the "Adagio" from Vaclav Nelhybel's *Trittico* (Reference Recording 52CD, Fred Fennell cond.) completely filled up my listening room with tummy-flexing pleasure.

## Attributes Aplenty

Among the more important attributes of the PBN/Montana EPX is its refined blending of drivers to produce extraordinary bass response, which last obviates any need for a subwoofer. Secondly, placed up against the numerous loudspeakers in the over-\$10,000 range, I think the EPX beats 'em all in low bass given their price point. Way too many loudspeakers, at way higher prices, are simply outclassed by this loudspeaker. All the while, the EPX presents midrange and treble faithful to the music without distracting discontinuities.

The EPXs just let the music emerge. They are an easier drive than most loudspeakers; specs are 91-dB SPL output for one watt input and a nominal impedance of 4 ohms, with no odd hard-to-drive bumps. Most any respectable tube or solid-state amplifier should get the EPXs up to realistic levels. I verified this with various amps with as little as 20 watts, including an ART Audio Jota, a PASS X-150 solid-state unit, and a Cary V12'R' tube unit.

The new PBN/Montana EPX loudspeaker offered up a lot of engaging music over many weeks, never tiring or boring and revealing something special within the music that I had not heard before. To this fine group of attributes, I tip my hat in sincere respect.

Congratulations, Mr. Noerback. Indeed, you've another winning speaker on your hands.

## N O T E S

**PBN/Montana Model EPX, Loudspeaker, \$9,999.00 per pair in several standard finishes. Special order finishes additional. PBN Audio, 1015 La Mesa Ave., Spring Valley, CA 91977; phone 619/465-6450, Fax 619/465-6479. E-Mail: pbnaudio@aol.com; websites www.montanaloudspeakers.com, www.pbnaudio.com.**

### Associated equipment

Audio Research Ref 2, Mk-II line stage, Audio Research PH-3 SE Phono, Art Audio Jota 300B-XLS, Cary V 12 'R', Pass Labs X-150, McCormack DNA-1/ SMC revision, Pioneer Elite DV-47A CD/SACD/DVD-A universal player/transport, Theta Pro Basic IIIa D/A converter, VPI HW-19 Mk-IV w/TNT upgrade. JMW 10.5 arm, Benz-Micro 0.9 moving-coil. Interconnects: Kimber Select CU, Luminous Audio Technology Synchestra Signature, AudioQuest Amazon (phono). Loudspeaker cables: Kimber Select CU. Power cords: Kimber PK-10 & 12 Palladian, and Harmonic Technology, TIFF power conditioner/filter and Audioprism Quietline filters.