JIM AUSTIN

Estelon XB Diamond Mk II

LOUDSPEAKER

I remember, at High End Munich 2019, setting eyes on one of the most attractive loudspeakers I'd ever seen, in the color that, as I now know, Estelon calls Ocean Mystery. I remember it as a passive demo, no music playing, seen through glass; whether that memory is strictly accurate I don't know. Memories are funny things.

That speaker was about as tall as an average-sized woman and weighed twice as much (not that I lifted it, or attempted to). Its cabinet seemed to carve out the least possible space while encompassing all its parts—nothing spare, nothing wasted. With black drivers contrasting that blue metallic paint, and those sensuous curves, it reminded me of nothing so much as an elegant sports car. I wanted to climb inside and take it for a spin on the nearby autobahn—or, better, the Pacific Coast Highway. That speaker was the Estelon Forza.

Michael Fremer reviewed the Forza a couple of years later; in fact it was exactly a year ago, in the November 2021 issue.[1] He described the Forza's low bass as "prodigious" and "well-controlled." Its soundstage, he wrote, wasn't the largest he'd ever heard,[2] but it was "ultrastable," populated by precise images. He concluded: "The Estelon Forza is a costly, well-engineered, striking-looking, *exciting*-sounding loudspeaker that, with the right associated equipment, is capable of delivering spectacular sonic performances."

I finally heard the Forza earlier this year, at AXPONA 2022, driven by Krell's KSA i400 amplifier. In a big room, with EDM music (Cristoph?), I felt the Forza's bass pressing against my chest, a musi-

1 See stereophile.com/content/estelon-forza-loudspeaker.

2 He also said it might be larger in a larger room, and I think he might have been right.

SPECIFICATIONS

Description Three-way bass-reflex loudspeaker with marble-base composite cabinet. Drive units: 1" (25mm) Accuton inverted diamond-dome tweeter, 6.25" (158mm) Acuton ceramic-membrane midwoofer, 8.7" (220mm) ceramic-membrane woofer. Crossover frequencies: 80Hz, 2.1kHz. Frequency range: 22Hz–60kHz. Impedance: 6 ohms nominal, 3.1 ohms minimum at 51Hz. Sensitivity: 87dB/2.83V/m. Recommended minimum amplifier power: 30W.
Dimensions 49.5" (1260mm) H × 16.5" (420mm) W × 23" (590mm) D. Weight: 150lb (69kg) each.
Finishes White matte, white gloss, Black Lava Matte, Black Lava Liquid Gloss, Blue Cobalt Liquid Gloss, Red Rocket Liquid Gloss, Silver Pure Alu Liquid Gloss, Silver Pure Alu Matte, Violet Night Liquid Gloss.
Serial numbers of units reviewed 52546A/52546B.
Price $58,000/pair in standard finish; $65,200/pair in Red Rocket (as equipped). Number of US dealers: 17. Warranty: limited 5 years, nontransferable, parts and labor (90 days if not registered within 30 days of purchase) including return shipping and insurance.
Manufacturer
Alfred & Partners
OU Kukermiidi 6
Tallinn, 11216, Estonia.
Web: estelon.com.
US sales agent:
Aldo Filippelli.
Tel: (630) 484-7577.
Email: aldo@estelon.com.

cal massage. Yet, the Forza was delicate with delicate music. Frank Sinatra sounded lovely and pure, if also much larger than life. I was only in that room for a few minutes, but I was as impressed by what I heard as by what I saw.

So, when Aldo Filippelli, Estelon's VP of sales and business development for the Americas, proposed I review an Estelon loudspeaker a bit further down the line—the Forza is second from the top of Estelon's lineup, behind only the Extreme—I accepted the offer eagerly.

The Estelon XB Diamond Mk II

The Estelon XB Diamond Mk II ($58,000/pair in standard finishes, $65,200/pair in Red Rocket, as equipped) is the second speaker in the Classic series, after the X Diamond. The XB and the XC come in standard, non-Diamond versions, but the X is available only in Diamond. The difference between the standard and Diamond versions? You could probably guess: The Diamond models have a diamond tweeter.

Estelon's marketing emphasizes synergy, but a set of specific technologies distinguishes the speakers from the crowd. Most obvious is its heavy, shapely, composite-marble enclosure, presumably bits of marble in an epoxy matrix. Such materials are usually inert, with excellent internal damping due to their complex microstructure: In such materials, vibrations can't travel far without encountering some vibration-damping microbarrier. What's more, it's a material that can be molded to virtually any shape, inside and out. Curved surfaces and irregularly shaped spaces can reduce diffraction and spread the frequency of airspace resonances (respectively).

Hard materials, though, due to their very hardness, couple poorly to the air inside, avoiding cabinet resonances but leaving the resonances that exist in the air inside—and there are always airspace resonances—to vibrate with full force. That is why the airspaces in the XB Diamond are lined with "different natural and synthetic dampening materials," which are "strategically and scientifically placed" to "create the best [damping] effects at different frequencies." (This and most other quotes in this review are from a techni-

MEASUREMENTS

I measured the Estelon XB Diamond Mk II in Jim Austin's listening room. I used DRA Labs' MLSSA system and a calibrated DPA 4006 microphone to measure the farfield frequency response and an Earthworks QTC40 microphone for the nearfield and in-room responses. As the Estelon speaker weighs 150lb, I wasn't able to lift it off the floor to raise the measurement axis sufficiently high to move the early reflections back in time. (The tweeter is 36" from the floor.) Instead, I used a small jack that Wilson Audio Specialties had loaned JCA for his December 2021 review of the Alexx V loudspeaker;[1] still, the presence of reflections (see later) meant that the FFT-calculated response had limited resolution in the midrange.

Estelon specifies the XB Diamond's voltage sensitivity as 87dB/2.83V, presumably at 1m. My B-weighted estimate was lower, at 84.4dB(B)/2.83V/m. I used Dayton Audio's DATS V2 system to measure the loudspeaker's impedance. The XB Diamond's impedance is specified as 6 ohms, with a minimum value of 3.5 ohms at 50Hz. The impedance magnitude (fig.1, solid trace) is higher than 6 ohms for almost the entire audioband, with a minimum value of 3.1 ohms at 53Hz. The electrical phase angle (dotted trace) is occasionally high, causing the effective resistance (EPDR[2]), which is calculated from the combination of magnitude and phase angle, to drop below 3 ohms between 18Hz and 36Hz, between 49Hz and 82Hz, and between 2.23kHz and 4.33kHz. The lowest values of the EPDR are 1.24 ohms at 59Hz and 1.93 ohms at 3.07kHz. Owners of the Estelon XB Diamond should match the speakers with amplifiers that won't be fazed by low impedances.

1 See stereophile.com/content/wilson-audio-specialties-alexx-v-loudspeaker.

2 EPDR is the resistive load that gives rise to the same peak dissipation in an amplifier's output devices as the loudspeaker. See "Audio Power Amplifiers for Loudspeaker Loads," *JAES*, Vol.42 No.9, September 1994, and stereophile.com/reference/707heavy/index.html.

Stereophile Estelon XB Diamond Mk2 Impedance (ohms) & Phase (deg) vs Frequency (Hz)

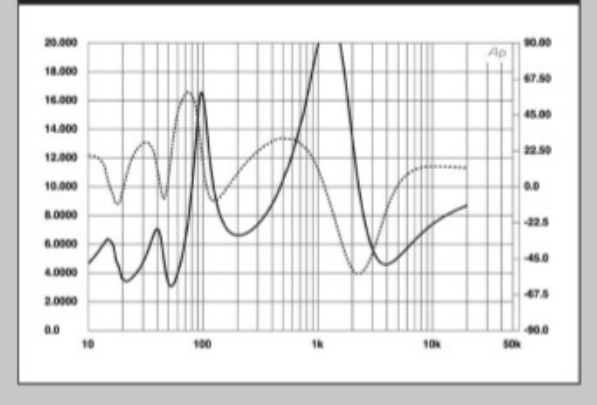

Fig.1 Estelon XB Diamond Mk II, electrical impedance (solid) and phase (dashed) (2 ohms/vertical div.).

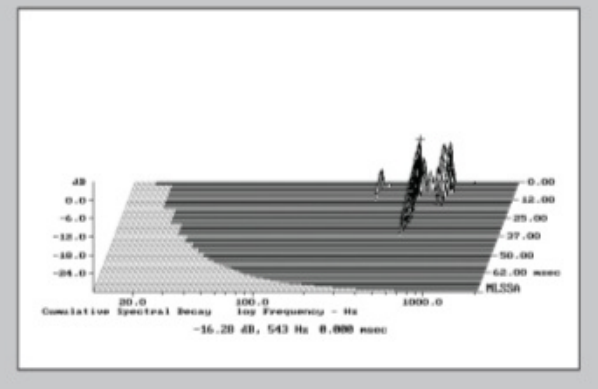

Fig.2 Estelon XB Diamond Mk II, cumulative spectral-decay plot calculated from output of accelerometer fastened to center of front baffle 12" above the woofer (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz).

cal document shared with me by Estelon.)

There's a certain design perfection, a lovely symmetry, about three-way speakers like the XB Diamond, with a tweeter, a midrange, a woofer—one driver for each frequency range—plus a port. (In contrast to the sealed-box Forza—although I hesitate to use the word "box" to describe the Forza—the XB is a bass-reflex design.) Design each driver well and match them optimally, with well-designed, well-suited crossover filters in between, and it's possible to make a loudspeaker of simplicity and elegance. Whether Estelon has achieved that remains to be seen, but the ingredients are there.

Estelon uses Accuton drivers, designed by Accuton engineers to Estelon's specifications: an 8.7" woofer with a ceramic-sandwich diaphragm, a 6.25" ceramic-diaphragm midrange—technically a midwoofer—and the previously mentioned diamond tweeter, which has an inverted (concave) dome onto which diamond dust—Estelon says nearly a carat of the stuff—has been vapor-deposited on an ultrathin, inverted aluminum diaphragm. Estelon claims that, as a result of the dome's high ratio of stiffness to weight, the first breakup is "close to 100kHz,"[3] which should keep any audible consequences of that breakup well above the audible range. The tweeter is mounted inside its own subchamber, absorbing the back wave and isolating it from any midrange interference. Estelon goes on to note that "A similar version of the Accuton diamond tweeter can also be found in the dashboard of the supercar Bugatti Chiron," a claim I may need to verify first-hand.[4]

Crossover points are specified as 80Hz and 2.1kHz. The woofer/midrange crossover is interesting: The woofer utilizes a second-order filter on its top end, said to "complement the natural acoustic roll-off of the mid-woofer performing in an optimized closed box." If I'm reading that right, it means that the midwoofer has no electrical filter on its bottom end. (And of course, only the woofer—not the midwoofer—is reflex-loaded, hence the "optimized closed box.")

All other crossover components are second-order, too, according to that technical document—a change from the first version of the XB Diamond, which mixed second- and third-order crossovers. Second-order crossovers complicate loudspeaker design and require exceptional transducers. So why go to the trouble? "The upside and the results are more dynamic bass, more detailed and resolving of fine micro-dynamics, and allows acoustic instruments to have a more lifelike reproduction. The speaker is much more coherent, sounds faster, and more natural at the same time."

That, though, may be an oversimplification: "We design the least complex filters while still striving for correct timing, phase, and magnitude response, with minimal parts to retain the life-like nature of the music," that technical document said. "The components selection, the placement, the vibration damping, and the wiring and connection techniques will achieve the desired result. Therefore, the filter orders are more of a guideline for our goal which is the best possible sound."

Crossover components are top-notch: Mundorf SilverGold.Oil capacitors and Carbon-Silver and Supreme resistors—"all of which are measured and spec'ed to extremely tight tolerances before using in the crossover production." Internal wire is by Kubala Sosna. Connectors are by Furutech. The crossover is located in a chamber of its own, isolating it from vibrations many other crossovers are subject to.

The positioning of the drive units is unusual in that the woofer is positioned quite near the floor and the midrange driver is above the tweeter. The former feature facilitates coupling to vertical room modes (which are uniform throughout a room) and energizing the room efficiently. The curved front of the cabinet aids dispersion and aims the drivers directly at the listening position. Indeed, Estelon seems to be claiming a time-coincident design: "This means that the sound from each driver reaches the listening

3 A similar tweeter on the Accuton website has a breakup mode just above 70kHz.

4 Because that would involve driving a Bugatti Chiron.

measurements, continued

The impedance traces are free from the small wrinkles that would suggest cabinet resonances. Using a plastic-tape accelerometer, I found some low-level modes between 500Hz and 750Hz on all the enclosure's surfaces (fig.2). However, the low levels and relatively high frequency and Q (Quality Factor) of these modes make it unlikely that they'll have significant sonic consequences.

The saddle centered at 24Hz in the impedance magnitude trace suggests that the flared port on the rear panel is tuned to that frequency, which implies deep low-frequency extension. The port's output, measured in the nearfield (fig.2, red trace), peaked in that region but had a second peak at the same frequency where the woofer's nearfield output (fig.3, blue trace) was at its maximum. The port's output rolled off rapidly above 50Hz. The woofer's nearfield response had the expected minimum-motion notch at the port tuning frequency and featured a very narrow passband, crossing over acoustically to the midrange unit (fig.3, green trace) at 65Hz. The crossover frequencies are not specified on Estelon's website, but the impedance peak at 95Hz suggests that the electrical woofer/midrange crossover is close to this frequency.

The black trace in fig.3 below 300Hz shows the complex sum of the XB Diamond's nearfield port, woofer, and midrange responses, taking into account their radiating areas, acoustic phase angles, and the fact that the port is on the rear panel. The midbass peak is due in part to the nearfield measurement technique, but the Estelon's low frequencies don't quite extend to the port-tuning frequency at full

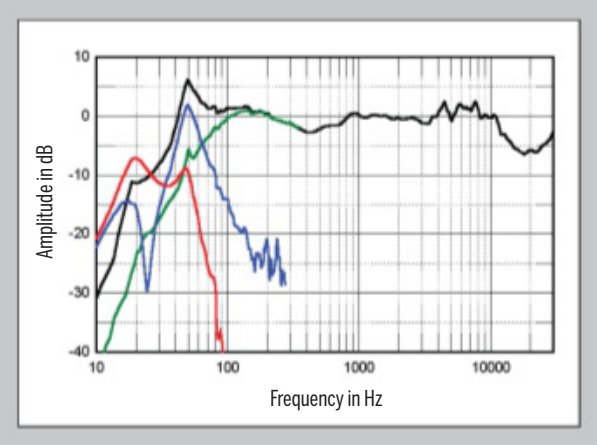

Fig.3 Estelon XB Diamond Mk II, anechoic response on tweeter axis at 50", averaged across 30° horizontal window and corrected for microphone response, with the nearfield midrange (green), woofer (blue), and port (red) responses and their complex sum respectively plotted below 300Hz, 280Hz, 90Hz, and 300Hz.

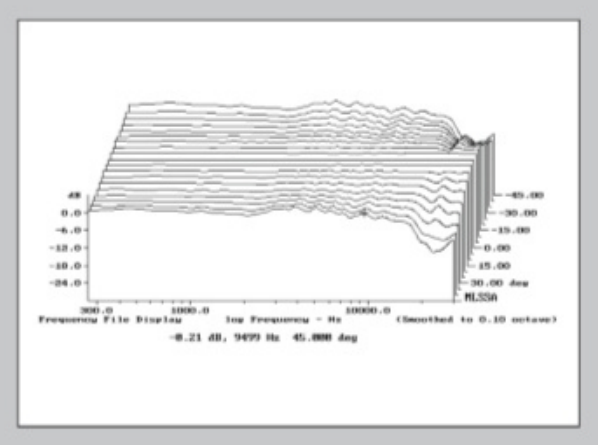

Fig.4 Estelon XB Diamond Mk II, lateral response family at 50", normalized to response on tweeter axis, from back to front: differences in response 45°–5° off axis, reference response, differences in response 5°–45° off axis.

position at the same time, resulting in a fast and precise sound signal with incredible dynamics, tonal balance, and realistic imaging and staging." I'll be interested to see what JA's measurements show.

No gimmicks here; all these details are directly related to performance. It adds up to a sophisticated loudspeaker with details carefully considered, conceived and apparently built to high standards. It's pretty, too. A lot of money for a lot of speaker.

Speaker in the house

Each Estelon XB Diamond Mk II loudspeaker arrived in its own, very nice flight case, with wheels on one edge and several handles (spring-loaded metal plus fabric-strap loops), making them exceedingly easy to maneuver. The speakers themselves are thoughtfully packed inside those cases, also on wheels—substantial ones—which made it easy for one person to unpack, despite their substantial weight (150lb each), although an extra set of hands is recommended. If you follow the instructions, you'll end up rolling each speaker slowly down a short ramp, out of the flight case and onto your listening room floor. I managed it just fine, but get a helper if you can. Opening the upright crate containing almost $30,000 worth of speaker and making sure it descends the ramp in a controlled manner—doesn't come crashing down—is unnerving the first time you do it.

Another advantage when it comes to unpacking, setup, and repacking: All the drivers are covered by rigid cages, so there are no exposed cones or domes.

After I rolled the speakers down their ramps, I rolled them to the spots the Wilson Alexx Vs previously occupied. I kept them close to that spot for a couple of weeks, moving them forward and back and side to side in smallish steps, tweaking toe-in. I wasn't happy.

Then the XB Diamonds started talking to me. Speakers do that sometimes; it's mysterious. They don't speak in actual words, but as I listen, they tell me where to move them. It's a tangible sonic/aural force, felt by the body rather than heard. It's strong.

As soon as I started paying attention, the XB Diamonds said, "move us farther apart." I did, and the pressure lessened.[5] I kept going. When I was done, the speakers were about 10' apart tweeter to tweeter—a little more—roughly a foot farther apart than the Wilsons (which were set up in my space by Wilson's Peter McGrath and Chris Forman of Innovative Audio) had been, and a little bit farther out into the room. I moved my listening chair back a little, to about 10'6" from each speaker.

Everything was better now. All of us—me and the two speakers—breathed easier.

Estelon recommends a slight toe-in—not quite straight ahead but also not straight at the listener's ears. I played around with toe-in until it seemed right; more than slight but well short of aiming at my ears. This was all very easy, because the speakers were still on wheels.

There's an audiophile trope that says that when you've found the best position for a pair of speakers, you know it because everything snaps into place: No other position will do, even if it's just a half-inch away. That has never been my experience, and it wasn't here. To me, it's as though loudspeakers in a room occupy a potential well, like a marble on a hilly surface that rolls around until it settles in a low point—the low point being, in the analogy, the spot where the sound is locally optimal. Typically, that optimal position is approached in steps, and the closer you get, the smaller the changes become with each adjustment. What's more, in a particular room, there can be more than one position that's optimal locally, which is to say, where you end up may depend on where you start. Often, then, it makes sense during setup to make big changes as well as small changes. You don't want to get stuck, as scientists say, in a local minimum.

Once I had the XB Diamonds positioned in spots that felt and sounded right—once the speakers were no longer complaining—I removed the wheels and spiked the speakers to the floor. In addi-

5 Some readers will be skeptical of the notion that the speakers tell me where to move them; others will know exactly what I mean.

measurements, continued

level. Higher in frequency in fig.3, the black trace shows the Estelon's farfield response averaged across a 30° horizontal window centered on the tweeter axis at 50". The trend is even up to 10kHz, though with a small lack of energy in the midrange and a slight excess in the octave above 4kHz. The response gently slopes down in the top audio octave. As with the Estelon Forza, which MF reviewed in October 2021,[3] the XB Diamond's use of a pistonic tweeter with a high-Q ultrasonic dome resonance results in a lack of energy at frequencies just below that resonance.

To examine the loudspeaker's horizontal dispersion, I moved the microphone by 5° intervals up to 45° to the side of the tweeter axis. The Estelon XB Diamond maintains its spectral balance below 10kHz to the sides of the tweeter axis (fig.4), with the smooth, evenly spaced contour lines in this graph implying accurate, stable stereo imaging. (Reflections from the room's sidewalls will have the same spectral balance as the direct sound.) The dispersion plot in the vertical plane (fig.5) indicates that the tweeter-axis response is maintained over a wide ±10° window.

To examine the Estelon XB Diamond's spatially averaged in-room response (fig.6, red trace), I averaged 20 1/10-octave–smoothed spectra, taken with MLSSA for the left and right speakers individually, in a rectangular grid 36" wide × 18" high and centered on the approximate positions of JCA's ears. For reference, the blue trace in fig.6 shows the in-room response taken under identical conditions with the Wilson Alexx V. The two speakers excite low-frequency room resonances to a similar de-

3 See stereophile.com/content/estelon-forza-loudspeaker-measurements.

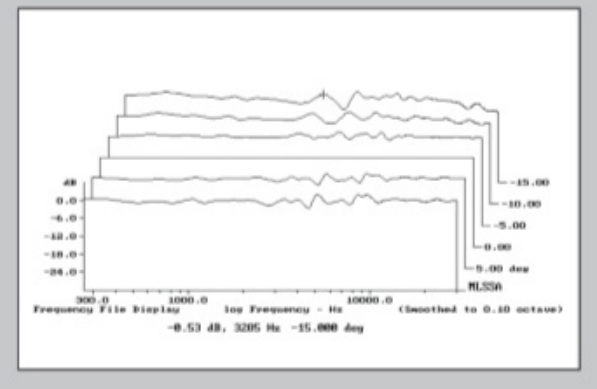

Fig.5 Estelon XB Diamond Mk II, vertical response family at 50", normalized to response on tweeter axis, from back to front: differences in response 15°–5° above axis, reference response, differences in response 5°–10° below axis.

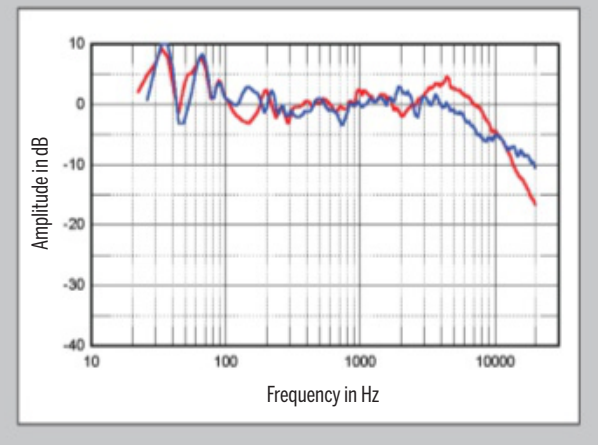

Fig.6 Estelon XB Diamond Mk II, spatially averaged, 1/10-octave response (red), and of Wilson Alexx V (blue), in JCA's listening room.

tion to anchoring the Estelons firmly in place, this allowed me to tilt them slightly forward so that the drivers were aimed directly at my ears as I sat in my lower-than-average listening chair.

From the start of the setup process to the finish, the sound of the Estelon XB Diamonds was transformed, from night to day. When positioned where the Wilsons had been, they sounded clotted, claustrophobic, a little bright. Now the sound was relaxed and expansive with even, articulate bass.

Listening

The Estelons' sonic transformation didn't end when I spiked them to the floor. They continued to change, or my perception of them did, throughout the period of the audition, right up till the end. Maybe it was both things at once: the speakers' various parts relaxing into synergy with all the other parts and my ear/brain relaxing into synergy with the new speakers.

Not to wax too philosophical, but I think this is a key point. When you change out speakers—it's true of other components, too, though usually not as much as for speakers—the sonic effects of the change can be overwhelming. Over time, though, much of what you hear at first ceases to be important: You forget it, or, if you don't forget it completely, it ceases to matter. Some differences, though, persist and continue to be consequential to your experience of music through the system. Those are the differences that matter.[6]

The first difference I noticed upon introducing the XBs into the system and getting their positions right was that the presentation was balanced more toward the treble than other speakers of my recent experience, including their immediate predecessors, the Wilson Alexx Vs. They didn't sound bright—not in their final positions—except with music that was recorded that way, but there was a clear, if subtle, upward tilt compared to the Wilsons. One consequence that persisted was on solo piano, on the top third or so of the keyboard, more metal string sound in the note and less woolly wood hammer, which made single notes on a Steinway D sound a touch more harpsichord-like than it does in real life.

On one unfamiliar track I listened to, courtesy of Roon Radio, I thought, "This piano sounds a lot like a harpsichord." When I looked at the details, I learned it was not a piano at all but a fortepiano (*Haydn: Late Piano Works*, by Gary Cooper, 24/192 FLAC, Channel Classics/Qobuz), which, in case you're not familiar, sounds like a hybrid of piano and a harpsichord. The coloration I heard, if it was a coloration, was much more subtle than that.

As a check, I put on a very familiar recording: John Atkinson's recording of Robert Silverman playing Liszt (*Sonata: Piano Works by Franz Liszt*, FLAC CD rip from Stereophile STPH008-2). I listen to this recording during every review (whether or not I mention it) because it presents a reliably natural portrayal of a Steinway D grand piano. I followed the Liszt with Silverman's Chopin album (Four Scherzi and Polonaise-Fantaisie, 24/96 FLAC, Qobuz/

6 This is, to me, the strongest possible argument in favor of the long-term reviewing methodology *Stereophile* employs.

measurements, continued

gree and behave similarly between 200Hz and 3kHz. Above that frequency, the Estelons have significantly more mid-treble energy than the Wilsons, which I could hear with the pseudo-random MLSSA noise signal as a touch of brightness. The responses of both speakers gently slope down above 5kHz due to their tweeters becoming more directional as the frequency increases and to the increased absorption by the room furnishings in the treble. (What you don't want to see with a spatially averaged in-room response is a flat treble output, which will sound excessively bright/shrill.)

In the time domain, the step response on the tweeter axis at 50" (fig.7) reveals that the tweeter and midrange unit are connected in positive acoustic polarity, the woofer in negative polarity. (I confirmed this by looking at the individual step responses of each unit.) The decay of the tweeter's step smoothly blends with the positive-going start of the midrange unit's step; the decay of the midrange unit's step blends smoothly with the negative-going start of the woofer's step. The early reflections of the upper-frequency drivers' outputs that I mentioned earlier can be seen just after the 7ms mark in this graph.

Finally, the cumulative spectral-decay or waterfall plot at 50" on the tweeter axis (fig.8) shows a clean initial decay, but there is then some low-level hash present in the mid-treble region. Again, the XB Diamond behaves similarly in this respect to the Estelon Forza.

The Estelon XB Diamond Mk II's measured performance is very good overall, though that excess of mid-treble energy may complicate setup and system optimization.—**John Atkinson**

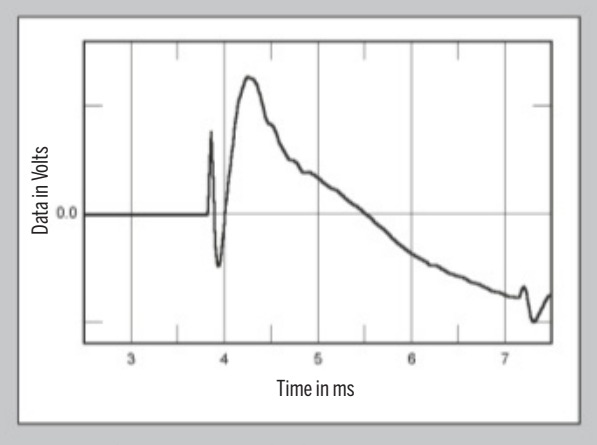

Fig.7 Estelon XB Diamond Mk II, step response on tweeter axis at 50" (5ms time window, 30kHz bandwidth).

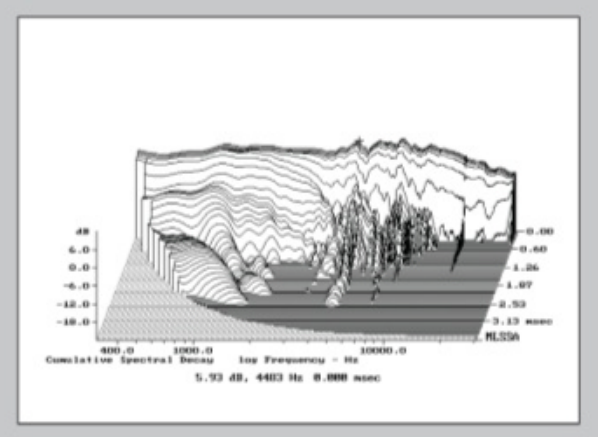

Fig.8 Estelon XB Diamond Mk II, cumulative spectral-decay plot on tweeter axis at 50" (0.15ms risetime).

Marquis), engineered by Don Harder, which I'm less familiar with and which sounds rather different: To my ear, the piano tone is vaguer, more generalized, than on the Liszt album, but it's still a very enjoyable listen, musically and sonically strong.

If I tried, I could hear that trebly character, and I could (maybe, marginally) hear that enhancement of that metallic character on some individual notes, but overall, Silverman's Steinways (I'm assuming, though I don't know, that he was playing different instruments on the two albums—hence the plural) did not sound metallic. In direct comparison with other speakers, I heard a subtly different tonal balance, a different balance of lows, mids, and highs in runs and especially chords. But I often hear such differences even at live performances, listening to different Steinway Ds, in different venues, or to the same Steinway D in the same venue from different seats. This is, in other words, a legitimate difference of musical perspective.

In any case, we don't listen to music comparatively, not if the objective is to enjoy music. What matters is how the music sounds to us now, in the moment, through the system we're listening to.

A moment came, as I was listening to jazz, when the character of the XB Diamonds revealed itself distinctly. I put on *WomanChild* by Cécile McLorin Salvant (24/96 WAV download, Mack Avenue). First up, the first track, "St. Louis Gal." On any good system, Salvant's vocals on this album are remarkably present. Now, though, they were more so—off the charts, spooky real. Note the word "present." Is this, then, a presence-region lift? Could be, and yet there was no trace of exaggerated sibilance. The sibilance region overlaps with the top part of the presence region, suggesting that if so, only the lower part of the presence region is elevated. Which seems right to me. I feel like I'm hearing a slight rise in the low-to-mid treble, in the range of high-note fundamentals, perhaps through the top of the piano keyboard (around 4kHz).

Often, colorations, even those that sound good, have a downside, a way in which, in different music, they sound worse instead of better. Yet, careful tailoring is a big part of the art of musical production/engineering and perhaps also of loudspeaker engineering. In any case, here, I could hear no downside. Nothing about Cécile's vocals was worse; this was pure enhancement, extraordinarily vivid, captivating sound.

What's more, the accompanying acoustic guitar on the first track (played by James Chirillo)—metal strings—also sounded natural, very present, with no trace of added metallic flavor. This is among my most listened-to albums. I know its sound very well, and this was special.

Well-recorded jazz albums old and new sounded pristine. *Songs for My Father* by Horace Silver (24/192 FLAC, Blue Note/Qobuz). *12 Stars* by Melissa Aldana (16/44.1 WAV, Blue Note). Crisp. A natural-sized soundstage, the size of the stage at, say, the Village Vanguard from good seats, say, 20' back. That slight, trebly character I've described was still present, somehow carving a coherent, pristine soundstage out of the surrounding space, lit up and yet lending stillness to the space between sonic images, increasing spatial contrast. Good depth. Faultless presentation.

But it wasn't only in jazz. On a new recording, *Recuerdos*, with Augustin Hadelich and the WDR Sinfonieorchester Köln (24/96 FLAC, Warner Classics/Qobuz), imaging was precise, with good depth, even as I listened at low volume late at night. I heard only a slight shrinkage in the size of soundstage at lower volume. At all volumes, the soundstage was liberated from the speakers.

The XB Diamond Mk IIs were talking to me again, explaining their character, but now I'm struggling to express in words what the speakers told me. I was hearing a presentation of great purity—suggesting, I think, the absence of distortion—with cleaner, blacker space between the individual, spot-lit sounds on a stage carved out from the surrounding space, as I have said, by that subtle lift.

More observations about imaging: Reviews of various components often mention how far back or far forward the soundstage starts, but with the XB Diamond Mk IIs, it varied with the recording, starting (with the most forward recordings) just behind the speaker-baffle plane. With some recordings, the stage started several feet farther back. This is not an uncommon thing, but it speaks to the precision with which specific recordings are rendered.

Assuming it's legitimate to generalize about a "house sound" across different speakers from the same brand, I can confirm Michael Fremer's conjecture, in his Forza review, that Estelons are capable of a big soundstage in rooms larger than his. On recordings that contain such information, a big soundstage was what I heard, with considerable depth. (Limited soundstage depth is, I think, a weakness of my listening space. Except for some speakers I've heard here with rear-mounted drivers—Alta Audio Titanium Hestias; Audiovector R 8s—which do interesting, unusual things with space, the XBs mapped out as much soundstage depth as any speaker I've heard in my home. I suspect that more depth is possible with some adjustments to room acoustics.)

How's the maximum volume? More than ample for my needs—I never came close to running out of power—though I'm not sure I'd choose speakers with ceramic membranes as party speakers. These are too good for that anyway.

And the bass? Ample quantity, approaching full-range depth while perhaps not quite plumbing the lowest reaches. Certainly, the bass was present at full volume down to the bottom note on acoustic or electric bass (41.2Hz), and it comes very close to full volume down to the lowest notes on a standard grand piano (27.5Hz). Acoustic (double) bass was lively and articulate. On tracks with lots of bass—I'm thinking of EDM tracks like Cristoph's "Reachin'," from *Consequence of Society Vol.1* (16/44.1 FLAC, Noir Music/Tidal), the bass is fun, although the XB Diamond Mk IIs don't quite provide the bass massage of the big-sister Forzas. In a room smaller than mine, perhaps they would.

Summing up

The Estelon XB Diamond Mk IIs possess a voice that's distinctive while remaining in that desirable middle space in terms of the key sonic virtues—realism, tonal balance, timbre, etc.—occupied by all speakers that reproduce music naturally, including acoustic music. Plus, subjectively, they sound low-distortion. A pristine instrument capable of (re)producing compelling music in any genre. Highly recommended. ■