

The Harbeth HL-P3ES-2 Loudspeaker Another Masterpiece from the House of Harbeth

Stereo Time June 2005

I gave the Harbeth Super HL5 speaker the "Most Wanted Component" award for 2004, having found it a true masterpiece, combining so complete a mastery of the technical and mechanical aspects of speaker design that it transcends engineering and becomes an art itself. The result is a speaker that allows complete immersion into the art of music. I was therefore somewhat cautious when I received the HL-P3 ES-2 mini-monitor. How would it stack up against the exhilarating and completely satisfying musical experiences that the HL5 produced? My concern was unwarranted. Used as intended and within certain limitations, the HL-P3ES-2 gets to the heart of music every bit as well as its larger and much more



expensive stablemate. Alan Shaw is to be commended; the HL-P3ES-2 is another masterpiece of speaker design. This should be expected though; the original meaning of the word 'masterpiece' traces to the piece that a medieval craftsman created to attain the rank of Master. By definition then, once one becomes a Master, every design should be a masterpiece.

The P3ES-2 is the smallest and least expensive of the Harbeth line of domestic speakers, its 12" H by 7.5" W by 8" D dimensions reviving memories of the iconic LS3/5A BBC monitor, that classic speaker that created the mini-monitor class. Designed to serve as a console-top near-field monitor for the BBC's recording and broadcast needs, the LS3/5A speaker quickly found enormous popularity with home listeners, inspiring a cult-like enthusiasm that continues unabated to this day.

My own experience with mini-monitors has been long and intensely musically rewarding. For the first 15 years of my audio life (from 1972 to 1987) I did not have a room big enough to allow large speakers to perform correctly and I quickly sussed out that most of my customers (I was then involved in retail audio) were in the same boat. The LS3/5A was an epiphany and the speakers that I owned and/or sold in its wake: the Jim Rogers JR 149, the Visonik David 50, Braun Output C, KEF 101, Infinity Infinitesimal 0.1, Audio Physic Step, et. al., all confirmed that penetrating insight first grasped when listening to the LS3/5A. To guarantee getting maximum musical communication in the average smaller room, a mini-monitor is the most practical way to go.

Near-field listening allows one to create a small acoustic cocoon within a room that eliminates most of its corrupting and corrosive effects, letting the speaker produce its most linear and coherent response. Freed from the typical high-frequency room roll-off, transient slurring and detail absorption caused by large volumes of air, and from the anomalies caused by reflections off room surfaces and boundaries, the near-field set-up allows one to hear all that the speaker is capable of doing. Achieving this with large speakers in large rooms is so extremely rare, and can be so frustrating and money-intensive that my first recommendation to those pursuing first class music-making is to

first consider placing the system in a smaller room and to listen near-field using a mini-monitor.

There are other significant advantages to small-room, near-field listening. A smaller cabinet is easier to design without cabinet colorations and the close proximity of the drivers in the box leads to the Ideal Point Source emanation pattern. Near-field set-up in a smaller room uses less amplifier power for any given volume level: good-bye the need for Godzilla amplifiers. Even with stands, mini-monitors can be readily moved, allowing ideal placement when listening seriously, and permitting moving them out of the way if room use demands it. When properly set-up, all elements of music-making are completely clear and unambiguous: the speakers disappear and one experiences music framed within a completely coherent sound stage.

There are of course some trade-offs involved, but these prove to be minor when viewed from the standpoint of musical communication. These concern physical limits of ultimate loudness and ultimate bass response. The Harbeth P3ES-2 inherits the grand tradition that resulted in the LS3/5A and thus is designed for, and makes maximum use of near-field listening. Like the LS3/5A, the P3 uses a 110 mm woofer/midrange unit and uses the sealed-box loading principle. Since the Thiele-Small parameters have made designing reflex-loaded woofers an easier technical exercise, reflex-loading has dominated speaker design. With a given size box and the same drivers, reflex-loading will give lower bass response than using a sealed box. The trade-off is that the response roll-off will be far steeper, typically diving like a rock from the speaker's -3dB point. Furthermore, port radiation will be responsible for much of the additional bass extension, and the 'phasi-ness' of that port emanation can create a subjective loss of clarity. LP listeners will also be plagued by the reflex woofer's lack of damping below its in-box resonance, creating those horrifying woofer excursions when tracking warped records.



The sealed-box designer is confronted by a concrete fact: to gain additional bass response from a given cabinet size, sensitivity will have to be sacrificed. The P3 produces 83 dB with 1 watt. This means a good 50 watts of amplifier power will be necessary into the P3's nominal 6-ohm load. The speaker was designed for playback SPL's of 85 to 95 dB. Not only is this loud enough subjectively, it will also guarantee that your hearing will remain intact to continue enjoying the P3 long-term. In-room response of the P3ES-2 at the ear in stereo was very flat: set-up on 24 inch stands along the long wall of a 12 by 18 foot room, bass responded to 63 Hz at the same volume level as a 1 kHz reference tone. Overall response was very flat to 12.5 kHz, beyond which I don't much trust my measuring microphone. Response at 40 Hz (my definition of the necessary bass response to pass as a 'full-range' speaker) showed the typical shallow roll-off of the sealed box woofer, being only 9 dB down from the 63 Hz level. At 31 Hz it was only 11 dB down. Moreover the P3 was able to maintain its transient response, producing clear pulses, though reduced in volume.

Quantity is one thing; quality another. The sonic quality of the P3 is simply first-rate. Although lacking the ultimate resolution of the Super HL5's state-of-the-art RADIAL™ mid/bass driver and its super-tweeter, the P3, like its more elaborate stablemate, sounds

all of a piece and speaks coherently and clearly. You don't hear the crossover, don't hear the speaker box or the grill, and don't hear varying quality throughout the frequency band. You quickly stop listening to the speaker and start listening to the *music*. Giving our minds the necessary information to allow us to form the *Gestalt* of music is the hallmark of true engineering art.

The P3's bass response further reveals the point. Given a familiar harmonic pattern, we can *hear* bass notes that a speaker isn't actually producing: our mind produces the *Gestalt* of bass that isn't really there. Mid-bass transient and harmonic quality of a speaker has to be superb to allow the effect to occur. The P3 makes this trick a snap. You can follow all the nuances of bass playing with ease. Playing tunes, setting tempo and rhythm, and laying harmonic foundations are all extremely well done. You might not feel all the physical weight of the instrument but you can clearly tell what it's doing. The tightness of the P3's bass response and the shallow roll-off of its sealed-box loading aids immeasurably here. Personally, I'll trade-off extended bass response that is fat and out-of-control for linear articulation any day. Particularly in small rooms, quality trumps mere quantity every time.

True to its original BBC inspiration, the Harbeth's midrange is neutral, uncolored, and highly resolved, further graced by exceptional levels of subtlety and nuance. The hand-off to the P3's excellent aluminum-dome tweeter is fully integrated. As with the HL5, there was no sonic clue where the crossover occurs: the P3 speaks with one voice. Also like the HL5, the P3 has the wonderful ability to maximize the best from its associated components, never exacerbating their faults or limitations, yet still clearly revealing the differences as one improves components. It is decidedly un-neurotic that way. I got superb musical results from my antique (ca. 1973) Marantz 1060 and with the superb contemporary Lavardin IS Reference integrated amps, the latter's superior resolution and clarity a superb match. I was able to clearly differentiate the difference between tonearms in my Origin Live Conqueror tonearm review, differences that were lost on lesser speakers. Similarly, I was able to use CD as an auditioning source, the P3 extracting the maximum from the medium without spot-lighting its flaws and limitations. No mean achievement that!

Given its low sensitivity, impedance values, and woofer loading principle, solid-state amplification with good current drive and high damping factor is indicated. Any number of excellent and affordable solid-state integrated amps - from budget Cambridge, NAD, Rotel, and Marantz amps, on through more expensive stellar items like the Creek A50i and other items from Rega, Naim, Cyrus and others - should prove willing and able musical partners.

Listening to music on the Harbeth P3ES was an immediate joy. It was extremely easy to turn off the critical apparatus, forget the speaker, and become aesthetically involved with the music. The P3's rendering of the timbre of instruments, both acoustic and electronic, allows immediate instrument identification. Placed ideally - my best results were setting them up on the long wall of a rectangular room, (isolated by Stillpoints Universal Resonance Dampers from the 24" tall metal-pillar stands,) with separation between speakers greater than the listening distance to them - instrument placement is superb, the stereo effect projecting with no hint of its creation by speaker boxes. The P3's grace, speed and resolution allow each instrument's performance to be followed by a mere conscious shift of attention, the overall interplay of instruments making musical sense in a way that puts most cost-no-object designs to shame. Punctuation and emphasis are simply superb. Timing and rhythm are exceptional, connecting physically with both simple Rock rhythms and with the most complex polyrhythmic music. Moreover, the music *flows* within each piece's rhythmic universe, allowing the music's lyric, melodic, harmonic and narrative structure to unfold correctly.

All these strengths led to many illuminating listening experiences with the Harbeth P3:

hearing the bass line on early Kinks' records clearly for the first time; following Ritchie Hayward's unique drumming with Little Feat, slightly behind the beat yet still managing to push the music; sensing the pure joy and delight that Mozart felt in composing; directly understanding the meditative and prayer-like aspects of Sibelius' 3rd Symphony; making connections to a larger world of music from the musical traditions and styles along Central Asia's old Silk Route. Listening to music on the P3s was intellectually stimulating, emotionally direct, and deeply aesthetically satisfying. Perhaps the center-of-the-Earth bass response and physical power of Reggae was somewhat lightened, but its infectious lope and innocent joy was not.

Obviously, the Harbeth HL P3ES-2 earns the highest of marks. The spirit of the BBC LS3/5A is reincarnated into a higher, clearer, and more neutral form and lives on in this true masterpiece for music lovers.

Paul Szabady

Specifications:

Harbeth HL-P3ES-2

Technical specification:

Transducer system: Sealed 2- way loudspeaker

Drive Units LF: custom 110mm polymer cone,

Anti-magnet, screening can

HF: custom 19mm ferro-cooled

aluminum dome, anti-magnet

Frequency response: 75Hz - 20kHz \pm 3dB free space, 1m

smooth off axis response

Sensitivity: 83dB 1W/1m

Amplifier suggestion: 25-120W*

Nominal Impedance 6 ohms nominal

Power handling 50W program

Connector: Four 4mm gold-brass binding posts

(bi-wireable)

Dimensions (h x w x d): 305mm x 188mm x 198mm inc. grille

and binding posts

Finish Veneers: cherry, eucalyptus (standard)

Others: please call

Weight: 5.9kg each, 13.2kg packed in pairs

Special Features AV ready with controlled magnetic field

and suitable for close proximity to TV

and computer screens.

Recommended listening: On stands at approx. tweeter height

Technology: SuperTunedStructureTM,

SuperGrilleTM

Manufacturer: Harbeth Audio Ltd

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