

Comments to the IBSnet concerning the BBC's loudspeaker selection process.

"Here is my two-pennyworth:

First of all, the BBC stated in the Tender invitation "Changes in the design of acoustic spaces, both aural and spatial means that while BBC R&M seeks replacements for the LS5/8, LS5/9 and LS3/5a, proposed solutions do not need to conform to the original designs in terms of acoustic properties or size."

This was interpreted by the industry as meaning 'feel free to propose new creative solutions however wacky because we are open to ideas as long as they pass a carefully considered listening process underpinned by the use of such well established science based techniques such as instantaneous A-B testing as you could reasonably expect from a technology based organisation and not a hifi magazine'. It is clear now from the published paper that extensive A-B testing was not used to its full and brutally revealing potential.

My colleague Derek Hughes (son of the late Spencer Hughes) and I have between us something around 50 man years of loudspeaker design experience. We are both cautious by nature, and are respected for our pragmatism. May I immodestly say that between us we probably know every trick and technique there is for making speakers subjectively stand out in a group test, blind curtain or no blind curtain. We do not apply any of these techniques in Harbeth (or in Derek's case, formerly Spendor) because that would take us off the path we are reputed for and treasure: the development of natural sounding speakers.

Despite our combined experience, neither of us completely trust our hearing, or to be more accurate, our audio memory. I can no more recall the precise flavour of the new guest beer I had for lunch today than I can describe the characteristics of a loudspeaker that appeared as if by magic behind a black curtain for the first time. However, if I could sup my favourite ale and alternately the guest beer, I would, by comparison, be able to form a lasting impression which would be of real merit. For precisely these reasons instantaneous A-B testing was conceived decades ago: Reference speaker A (the 'control') and test speaker B are set up behind the curtain, ideally equalised for level/sensitivity differences (an art in itself) and the listener able to operate a foot or push button switch to effect a silent relay change-over. I've used this ruthlessly cruel ego-levelling device since the off.

Asked if Derek was familiar with A-B testing he commented that he and his late father '100% always, no exceptions, no excuses' used A-B testing to evaluate speakers and like me, could not conceive of any alternative method that could give as or more reliable results. Even better would be a real person behind the screen, who had been pre-recorded, the so called live-v-reproduced (LVR) test.

I'm really sorry to report that the evaluation of loudspeakers without A-B testing will, inevitably, lead to curious results that may or may not be repeatable under more rigorous A-B testing. Extra precautions would have to be considered to level the playing field. For example, it would surely be mandatory that the listening panel undertake an audiometric (hearing) test - a painless process which recently took me no more than 30 minutes. Of course, with an A-B testing regime, the hearing acuity of

the panel is of far lesser importance, as is his/her general health, how tired or run down he is, what alcohol or medication he consumed, whether he is starting a cold etc. etc. let alone his/her internal audio memory or preconceptions of what constitutes 'good sound'.

Considering the ramification of a miss-directed jury, both in terms of the employment of individuals in the British audio industry and indeed the viability of (what is left of) the industry itself, had I been conducting speaker tests I would have gone the extra mile to be sure - absolutely and demonstrably certain beyond a shadow of doubt - that I have covered every conceivable angle. But as the IOA report stated "Inevitably the final outcome was not entirely clear-cut" (p104).

Loudspeakers that have a more relaxed "(former?) BBC sound" - and I include all the British speakers in this general category - would be expected to perform poorly under solely subjective tests, especially when there is a black screen. Unseen, the ear hunts for cues from the speaker to attribute size and proximity (a predator evaluation process: what our ears were invented for) and the more attention-grabbing the sound, the more attractive it is - within reason of course. I would expect that the Harbeth speakers - because of our soft, easy-to-live with sound - would probably be rated the lowest (yes, I really did say that) under *unsighted* tests. They have the same diffuse non-loudspeaker like characteristic of a human voice would some feet away. (Close your eyes and listen to your wife or children some 10 feet away - it's completely un-loudspeaker like). Conversely, introduce a real live person (LVR test) or an instantaneous A-B against a 'reference' speaker considered to be natural-sounding, and I would expect the Harbeth to win as they would expose the colourations in other more 'exciting' speakers.

So, the presence of a black screen can actually give you completely the opposite result to the one you are guarding against -whilst it obscures the physical differences between models it actually enhances the acoustic differences in favour of more florid characteristics. So, a 'blind listening test' in the absence of a behind the screen A-B switchover is, in our opinion, at least as fraught with pitfalls as a sighted test and really shouldn't be promoted as if it is the universal arbiter of quality - because it isn't. It's only part of the precaution you must take in the interests of fairness, but not all.

I've OCR'd the IOA paper describing the BBC's listening trials. A keyword search has revealed the following word count ... accurate 0, natural 0, life-like 0, neutral 0, repeatable 0, colouration 0, scientific 0, and fatigue 0, which implies that as a group, the British speaker industry makes loudspeakers of a type which do not seem to resonate with the BBC R&M's apparent needs.

I have a sneaky feeling that of those words I've listed, it's the last one which is where the real issues will, in time, be shown to lurk."

Alan Shaw
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Note: this initially exceeded the maximum permitted word count of the IBSnet and was automatically rejected by their server. It was edited down and resubmitted. Surprisingly both versions appeared on the site!