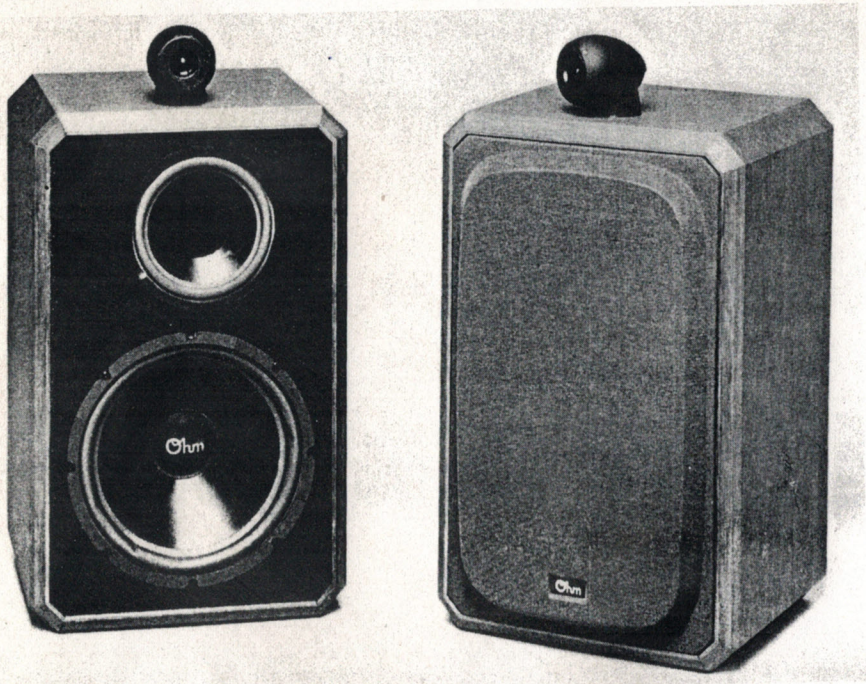

OHM Acoustics CAM 32 SBA Speakers

THE OHM ACOUSTICS CAM 32 SBA speaker is a solid entry in the budget speaker sweepstakes, and particularly so for those listeners who demand bass extension and placement flexibility. This compact two-way design is augmented by a passive radiator that effectively bolsters the low end. Sitting atop the enclosure is a 3/4" dome tweeter that can be rotated a full 360 degrees on its gold-plated, phono-style plug. As described in Ohm Acoustics' literature, this Egg Tweeter or ET—referring to its egg-shell type housing and baffleless design—is largely the reason for the CAM 32's ability to image and resolve detail in a variety of locations. Where space is at a premium, as it so often is for us apartment dwellers, this speaker, it is said, can find a happy home on adjacent and even opposing walls. Simply rotate the ET to match your listening preference and "Voila," the imaging and soundstage return! Well, maybe not quite "Voila!" but read on.

Clearly Ohm Acoustics has spent an appreciable amount of time developing, via its rotating Egg Tweeter, a speaker with versatile imaging and soundstaging. A quagmire many audiophiles find themselves in during get-togethers with audio friends, or better yet, music-lovers, is the paramount question of who gets to sit in the "sweet spot"—that tiny

paradise where the best imaging and resolution reside. Ohm suggests a peaceful alternative to friends fighting over the sweet spot during listening sessions: Simply rotate the ET to the center of the listening area. Listeners outside the center position will find the farther speaker's tweeter aimed straight at them while the nearer tweeter will be angled away. To paraphrase Ohm "...the focus of the far offsets the precedence of the near..." I can see eyebrows elevating but please folks, stay with me! The sweet spot is a bit wider for a second and even third listener (albeit a thin one). Even as a solo listener, I felt more relaxed knowing I didn't have to glue myself to one position to get the most from the speaker system. Overall, instruments stayed pretty much where they belonged. Vocalists did not go wandering about the soundstage. Angling the tweeters "just so" mitigated some beaming effects. Detail remained good but I was left with the impression that clarity in the upper midrange had softened just a hair; rather like a high resolution telescope falling out of fine-focus adjustment. But for real world livability, especially in a room not dedicated to listening, Ohm's pivoting ET has a lot going for it.

"...A peaceful alternative to friends fighting over the sweet spot during listening sessions..."

Let's now consider the larger context of how these speakers sound. The good news is that this system, while not able to exploit the lowest bass limits, is nevertheless possessed of a well defined, tight, un-boxy midbass. This will come as something of a revelation to mini-monitor and small speaker owners who can scarcely get a hiccup out of their systems below 70 cycles. On the down side, there is to my taste a little too much energy in the midbass and it verges on squeezing out vital midrange information. The "energy" I'm referring to is not due to box resonances resulting from a lack of cabinet rigidity, but to a perceptible rise in frequency response in the region between 45 and 80 cycles. On some material—12" dance remixes come to mind (try the 45 rpm Steve Winwood "Higher Love")—this rising midbass is just what's required, but it does become annoying on symphonic and chamber works. Instruments that reach into these depths take on unnatural proportions and begin to dwarf their midrange brethren. This tendency is exacerbated by a slight leanness in the lower midrange. Instruments like tenor sax, cello, and horn lose a bit of their foundation and detail. The midrange as a whole is a touch laid back. Dynamics have a slightly constricted, compressed quality. I believe some of the explanation lies with Ohm's decision to bump up the lower frequencies. Perhaps this was a decision based on the mid-fi market that Ohm figured would most likely gravitate towards this product. My feeling is that flatter bass response would not only breathe greater resolution, detail, and dynamics into this speaker but would also target more audiophiles on a budget.

The highs are bright but not disturbingly so. They are well detailed and have good extension. They roll off gradually and provide a good sense of the "air" of the performance. They are, however, heavily influenced by the orientation of the ET: If pivoted slightly inward so the listener is on-axis, the highs are at their most detailed (and brightest); off-axis and some of the detail is lost along with a bit of the extension. Ohm suggests first aligning the tweeters so their axis crosses slightly in front of the listeners. In my system at least, I preferred being pretty much directly in the ET's line of fire. Highs were never coarse or grainy. Soundstaging and front-to-back depth remain at their best on-axis. Although the Model 32 is in top form when set up according to the formidable Pearson Rule of Thirds—in smallish rooms keep these puppies away from the walls; they need a minimum of reinforcement—the rotating ET certainly allows the listener to compensate for wall or even furnishing interactions to improve imaging and response. Alignment is critical: Small degrees of ET rotation heavily influence this speaker's character. Do not expect the Model 32s to sound their best flanking a corner group or firing from opposite walls; even Ohm recognizes this. But if you get tired of speakers sitting out in your room dominating a restricted living area, that rotating ET seems like a pretty good idea.

All in all, this efficient design has a lot going for it. Its price/performance ratio is high. It's well constructed and pleasing to look at. The ET provides some novel versatility. The accompanying literature and set-up information are also very helpful. The Model 32 is a good, musical speaker worthy of serious consideration. I enjoyed every minute I spent with them.

—Neil A. Gader

Manufacturer: Ohm Acoustics Corp., 241 Taaffe Place, Brooklyn, New York 11205. (718) 783-1111. ***Source:*** Manufacturer Loan. ***Serial Numbers:*** 12924, 12499. ***Price:*** $520 pr. ***Warranty:*** Limited; five years parts, one year labor.

Associated Equipment

Front end: SOTA Star Sapphire Series III with Cosmos armboard. SME IV tonearm and Alchemist IIB vdH cartridge. All sitting on a Lead Balloon stand with Simply Physics adjusters. SOTA Reflex Clamp. SOTA Groove Damper Mat.
Preamp: Quicksilver—recently updated.
Amplifier: Quicksilver KT-88 monoblocks.
Speakers: ProAc Response 2, bi-wired. Sound Anchor stands, modified.
Cables: Kimber 4TC, Siltech NC4-56 interconnects.

Manufacturer's Response:

It is with a great pleasure and even pride that we read the text of your review of the Ohm CAM 32 SBA. We are especially pleased that you found so much to like in a loudspeaker that is very inexpensive and that you understood and appreciated what we were attempting to achieve. In our experience the benefits enjoyed by having the flexibility to widen the "sweet spot" enhances music listening's ability to be, as it should be, a group friendly, social activity. Your reviewer's description of our unique Egg Tweeter (ET) and its incumbent listening benefits was right on the mark. Generally purists will not concede that such an outrageous idea is even possible without totally sacrificing all imaging. Perhaps the validation of the design and performance achievements of this loudspeaker by NAG in his review will encourage their audition.

To the single negative in the review: NAG found that the Ohm CAM 32 SBAs possessed to his taste "a little too much energy in the midbass." Perhaps surprisingly, we agree with that observation. Our rationale for this follows the BBC experience that just such a tonal balance is required to match a fully extended high frequency response in a small speaker system. We feel that, as NAG surmised, this speaker's "high price/performance ratio" makes it very attractive to the massive middle market. For the more demanding audiophile listener, this balance, which is highly room sensitive, can be adjusted with the addition of up to 2.5 oz. of Mortite (available from any hardware store) to each passive radiator. A bit of experimentation is required to find the exact amount for each owner in their listening environment. We suggest starting with .5 oz. each and moving up in .5 oz. increments. We found that 1 oz. did the trick on the pair in our office. The felt dust cap on the passive can easily be peeled off and then, after adding the Mortite, be replaced. The additional mass tunes the system to progressively lower frequencies and flattens out the midbass while extending the already deep bass cut-off even further. This modification should tailor the CAM 32 SBA to the tastes of even demanding "audiophiles on a budget."

We are grateful for your review of the Ohm CAM 32 SBA. We would like to think that NAG's closing sentence sums it up, "I enjoyed every minute I spent with them." We couldn't ask for more. Thank you.

—Ohm Acoustics
John Strohbeen, President
Don Bouchard, Vice President

REG Comments:

NAG is right on the money about the sound of the Ohm CAM 32 SBA, in my view. I did rotate the tweeters quite far toward the center, though, to tone down the highs, which I otherwise found a bit obtrusive. On the other hand, I found the (mid)bass exaggeration somewhat less annoying on orchestral music than NAG indicates he did; the exaggeration is indeed there, but it didn't bother me very much. Of course, you have to remember that I like really warm concert halls, too.

Without taking anything from Ohm's designers, respect for history leads me to point out that the idea of widening the listening area (and stabilizing the image for centered listeners) by crossing the tweeter axes is not a new one. As do so many things in stereo—including, incidentally, the speaker placement rule of thirds—this goes back to the British theoreticians of some decades ago.[1] Indeed, the owner's manual of my Spendor BC-1's of yesteryear explained quite clearly how to cross the speaker axes in front of the listener to enlarge the area wherein stereo imaging would be acceptable. The BC-1's are "beamy" in the highs, but also a bit elevated in the lower treble, so some optimal combination of crossed axes and flat response was approachable.

In spite of its venerable ancestry, this idea has a certain limitation that should be noted. For details, you can look up the theory of directional hearing in my "Directional Hearing," Issue 64. But to give a quick summary: The sense of direction in stereo comes from an interaction between left-right amplitude balance and left-right time of arrival differences, plus left-right phase differences—but the phase part does not apply at high frequencies. The crossed-tweeter view, *à la* the British and now Ohm, uses a trade-off between amplitude and time. As one moves left, say, the left tweeter's sound arrives sooner and this tends to move images to the left. But because you have moved further off-axis for the left tweeter while more nearly on-axis for the right, the right tweeter has become louder compared to the left, which tends to move the image to the right. Compensatory changes, ergo stability of image.

Unfortunately, such a trade-off is not complete. The ear-brain mechanism is fully convinced only when all spatial perception mechanisms are giving the same message about the location of the sound. Quite aside from the difficulty of making the amounts of compensation exactly right, the result won't be quite as convincing as the situation where all stereo information is coherent, e.g., reality. (For this same reason, phase-driven outside-the-speakers images are not as focused and solid as center-fill between-the-speaker images, where amplitude and phase information can be entirely consistent.)

Nonetheless, the increased stability of image obtained by crossing the tweeter beams is well worthwhile; the perfectly centered, motionless listener is not losing anything, and the small head movements we all make give less sense of image movement there. For the non-centered listener, the stereo is not completely coherent, but this incoherence arises with any speaker radiation pattern, and the crossed-tweeter version is better than most possibilities for off-center listeners. But if you want perfect stereo, sit in the middle—for any speakers.

Ohm is to be commended for their willingness to experiment with unconventional designs. (In addition to its adjustable axis, the egg tweeter is shaped, according to Ohm, to optimize the radiation pattern, which it seems to do, strange though the shape may look at first sight.) Stereo imaging theory aside, the CAM 32 SBA is a nice speaker for the money, as long as you point the tweeters the right way. The CAM 32 SBA seems to me definitely recommendable for audition in this price range. □

[1] *Dbx utilized some related ideas in their "soundfield" speaker.*