JansZen zA2.1 Loudspeakers

Hugh Mandeson

The 2013 Newport Audio show threw a few things in my face which classified as true discoveries. There is usually just too much to see at the huge CES but a smaller regional show like Newport can be wonderfully relaxing and interesting. It was just big enough this time that I was able in the show's 2½ full days to peek into each and every room. Some of the megabuck stuff did impress, but it turned out to be the small owner-operated firms that intrigued me most. I found ESS had been rejuvenated and was presenting some quite interesting products. There were Lowther based systems that caught my ears, great sounding examples of the full-range sound being pushed along further. The PTE Phoenix I reviewed last year had been improved. Some floor-standing Sonus Fabers were used with an impressive new 4K HD Projector to good effect. There was a cool hand-built tube preamp that really turned me on. Analog Tape as a source was prevalent and great sounding.

It seems to me that audio gear overall has made some very important evolutionary advances in the last decade and have absolutely lead to far better sound than ever. Speaker drivers in particular have made great strides; the long excursions of small drivers at low frequencies are truly impressive. Even tweeters on $129 speakers committed no major crimes. High-rez sources are a fantastic development too.

So after hearing many of the very latest speakers such as the beautiful but pricey TADs I got a very pleasant surprise in finding the JansZen room, the least of which was that the firm still existed. The company had been "refounded" by David Janszen in 2005 after some experimentation with his father's original technology. I dare say he has hit one over the fence with these quite amazing and capable speakers.

The sound in the room there was also very natural and unhyped. I asked about the possibility of a review then and there. Fortunately things worked out and I received a pair of the brilliant zA2.1s recently and I would like to tell you about them.

The usual concern about mating dynamic pistonic drivers to electrostatic panels is the difference in impulse

response times. The nearly massless ES panel membranes always leave dynamic cones behind in this test, but the truth is it is the same with all types of multi-driver systems. Tweeters have far less mass and their impulse response always precedes that of the midrange or woofer drivers. The Janszens immediately struck me as speaking with one voice. The integration of the drivers is unquestionably seamless and any discrepancies are quite inaudible.

The zA2.1s are 35.9 inches high x 10.2 inches in width x 8.9 inches tall. They rest on a base which is 2.5 inches tall, 12 inches wide and 14 inches deep. They weigh about 60 pounds each and are easy to move. There are two 7-inch cone aluminum drivers with multiple shorting rings and aluminum baskets. They operate well below their breakup frequencies. They are placed on the top and bottom of the speaker so as to avoid floor-bounce colorations. The two electrostatic panels are housed in their own full enclosure, and this sits in the middle of the sealed main woofer cabinet. There is no back wave or port wave to deal with.

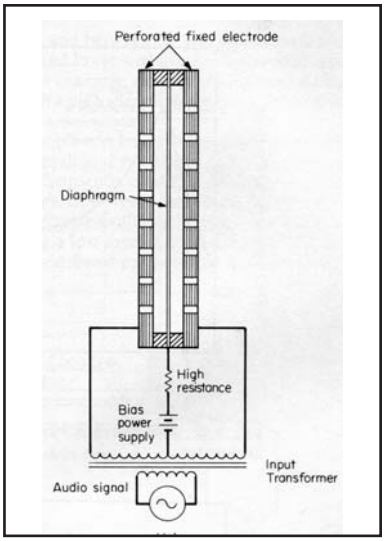
The crossover is a first order at 500 Hz, low compared to most, and this keeps the woofer's contribution out of the most hearing sensitive range. The two 7-inch wide by 8-inch high electrostatic panels are arranged one above the other, hence the model number 2.1, indicating two elements in a single column. The entire ES area handles the midrange. The highs, however, are only emitted from half the width to control dispersion and flatten the overall frequency response, as 'stats ordinarily have a naturally rising top end.

Sensitivity is rated at 87 dB SPL at 1 meter for 1 watt input. The recommended amplifier power range is from 25 to 150 watts. Impedance is 6 ohms nominal, 4 ohms minimum, and 10 ohms maximum. The capacitance seen by the amplifier is relatively small and decoupled by some series resistance without any unusual load reactivity. The in-room frequency response is stated to be 30 Hz to 20 kHz ±3 dB on axis.

Electrostatic speakers are not particularly new and date back to Bell Labs in the 1920s. In the early 1940s, Arthur Janszen was on a team developing war ordnance, and in order to test the associated hydrophones, was led by the poor transient response of the available transducers to develop an electrostatic transducer. After the war ended, he refined it into the world's first commercially practical electrostatic tweeter, put into production at JansZen Laboratory in 1955.

Editor's Note: The line drawing in the diagram is of the most-usual type of electrostatic speaker, the push-pull, and is taken from K. Blair Benson's *Audio Engineering Handbook*. The author of Chapter 7, "Sound Reproduction Devices and Systems," Katsuaki Satoh, Chief Engineer of Matsushita's Acoustic Research Labratory, describes the type as having "two fixed electrodes on either side of a diaphragm. Even when this type is vibrated at a large amplitude, operation is stable and distortion significantly low; therefore, the push-pull type is also used as a midrange and low-range speaker."

The zA2.1s arrived nicely boxed and fully wrapped and bagged. The accompanying manual is one of the best I have seen, and offered complete instructions on unpacking, cleaning, and setting up the speakers. There is a great section about loudness and hearing damage everyone should know about. David makes a recommendation I whole-



A push-pull electrostatic speaker from K. Blair Benson's *Audio Engineering Handbook*.

heartedly agree with; to audition these speaker with real (two-microphone) stereo recordings! Three finishes are depicted in the manual; this pair came in cherry, almost exactly what most of my home is finished in.

I positioned them in an equilateral triangle of 9 feet and 4.5 feet from the back wall. The woofer has three settings, -3 dB, 0, and +3 dB

N O T E S

JansZen zA2.1 Loudspeakers, $7495.00 per pair. JansZen Electrostatic Speakers, 480 Trade Rd., Columbus, OH 43204. Website www.janszenloudspeaker.com; Skype Janszen_esl1; ; e-mail info2525@janszenloudspeaker.com; phones: 866/535-8835 in U.S., 614/448-1811 off-shore

Associated Equipment

Krell KAV-300iL integrated amplifier, Monolithic PS-1 phono stage with HS-1 power supply, Sumo Charlie tuner, SOTA Sapphire turntable with Mod Squad custom power supply and tip toes, Benz Ref MC phono cartridge, North Star Designs M192 DAC, Audio Alchemy Digital Drive System, Pioneer Elite D47Ai universal CD player w/IEC adapter, Echo Audio Layla 3G audio interface, Human Solutions Quad-core PC DAW, Dish Network VIP722 satellite receiver, Tara Labs Toslink cable, Stealth Sextet BNC digital cable, Stealth M-21 Signature audio cables, Stealth Indra audio cables, Stealth M7000, M5000, Cloud 9, Cloud 99 a.c. cables, Stealth Ultimate Ribbon speaker cables, Black Diamond Racing and Polycrystal cones, VPI 16.5 record cleaner, Shakti Stones, Chang Lightspeed CLS 6400 power conditioner, PS Audio Power Port a.c. wall outlet, Auralex acoustic foam tiles, and DIY Bass traps.

below 200 Hz, for adjustments depending on your room and wall proximity. I found 0 was perfect in my room. I experimented with toe-in and found that having their face pointing just outside my ears was best. I did not experiment with tilt but it was apparent that the sweet spot was height dependent and it was important to be on axis vertically and horizontally when listening near to mid near-field. Farther back, they made a great illusion of a tangible soundstage filling the room.

Setting the panel levels took a bit of time since, as the JansZen manual states, the adjustments are not immediate because the voltage charges do not respond immediately and require some settling time. Several times I thought I had it, but later on, found the image was lacking depth. I ascribe this to the directivity and dispersion characteristics of the panels. While these panel level adjustments did help take the room out of the equation a little, I could not completely shake the initial shallowness of the soundfield. Finally reducing their level a touch brought the midrange behind the plane of the speakers, and though the image not quite three dimensional, this was excellent overall. The amount of detail is staggering, and the most subtle articulations and tones are clearly expressed.

Listening over the first few days, I thought they were a little hard sounding, but this soon fell away. I still felt the dimensionality was lacking and especially height cues. It was about two weeks later, while listening to the great CD *Appalachian Journey* on Sony Classical with James Taylor, Edgar Meyer, and Yo-Yo Ma, that I finally found my Great Soundfield, one with the very most impressive sensation of height and width. The speakers had become literally invisible and were as true to the source I as I have heard from any speaker system.

The air-layer option on these speakers is a pair of dome tweeters on the outboard sides whose level is set by a control dial marked "0 to infinity," corresponding to the degree of attenuation of the tweeter output. I was skeptical of their effect as my room is "T" shaped, much wider where the speakers are as compared to my listening position. With the tweeters at the suggested setting, I could hear them from the listening location and felt they degraded the treble. However, when they were turned off, the soundstage lost some width. I finally settled on "9.5" on the dial and found they were well named as it was "air" that was added.

On very lush or expansive recordings, such as those by Andreas Vollenweider, this feature was wonderful because a hint of golden glow and space was added around the instruments. I found listening to Gary Burton's vibes particularly sweet, especially when Gary was accompanied by Pat Metheny and his huge swath of colors. On drum kits, the swish of cymbals seemed most lifelike. This is a neat feature and worth dialing in perfectly to suit your taste.

Once placed, levels set, and speakers broken-in for a couple of weeks, the JansZen zA2.1s are nearly perfect reproducers with stunningly low distortion, impressive quick dynamics, and broad frequency response.

My listening room is 42-feet long, and my desk at the opposite end from the stereo. The sensation of the musicians actually being in the room on MA Lab's *Opening* was hard to shake. Piano on these speakers is exceptional. On recording after recording, I was impressed at the absence of any coloration or artifacts.

The low end, in particular, is extremely clean and tight, with zero overhang or resonance so that the bottom octave lived and breathed very, very well. They had no problem bringing Victor Wooten into my living room or the timpani from the most recent concert I had recorded. The obvious and subtle variation in kick drums across many recordings was striking. The "whooom" from a hard whack of a deep tuned floor tom had impressive transient, bloom, and decay to the point where I had doubts I had ever heard them so well reproduced.

Properly set up, the JansZen 2.1s are near-perfect reproducers with stunningly low distortion, quick dynamics, and broad frequency response.

Closely miked vocals had all their breath and intimacy laid bare, and were literally floating in a crisp and clear space. Norah Jones' "Come Away with Me" on SACD was like butter and I was toast. Joni Mitchell's *Court and Spark* (at 192 k, 24 bit from HDTracks) was a revelation and blew away my original Asylum LP version by a mile. I was most impressed with the channel separation, which made for a stunning soundstage, and the total lack of any noise, of course.

I indulged in some Prog and also obtained *Relayer* by Yes at 192 k and blasted it loud enough to send my cats into hiding. The growl and punch of Chris Squire's bass was fantastic, and the clear chiming sounds of Steve Howe's superlative guitar shimmered in space behind Jon Anderson's elated vocals. Behind them, the drums pounded as if they were in the room.

On really good classical recordings, massed strings, whether reproducing soft legatos or rip sawed crescendos, sounded perfect, without stridency or spot lighting. Bass instruments stood strong and tall, articulated notes bursting and ebbing into space effortlessly. It was like a giant picture window into the venue through which I might gaze intently or just relax and let the music wash over me.

Big band tracks really shone, reeds were edgy and breathy, brass positively hair-raising and the drummers' dynamics sensational. Two new groups I've discovered, Bozo Allegro and The Wrong Object, take the jazz ensemble into the present so very adroitly and tunefully, it was hard not to move with the music. Sparse and ambient ECM recordings in particular were striking inhabiting large spaces rendering every instrument in bold relief to the black space that surrounded them.

I can only judge these speakers to be a complete success. I encourage you most to audition them if you are in the market for speakers. Their extreme lack of distortion, generous dynamics and excellent bandwidth are impressive. In their price range, they seem like a deal if you are passionate about music and sound.