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JBL

Synthesis 1400 Array BG

LARRY GREENHILL

LOUDSPEAKER

DESCRIPTION Three-way, reflex-loaded, floorstanding loudspeaker. Drive-units: 1" (25mm) titanium-diaphragm compression tweeter and 3" Aquaplas-coated aluminum-dome compression midrange driver, both mounted in constant-directivity biradial horns; 14" doped pulp-cone woofer. Crossover frequencies: 750Hz, 8kHz. Frequency response: 32Hz–40kHz, –3dB. Sensitivity: 89dB/2.83V/m. Nominal impedance: 8 ohms. Recommended amplification: 10–300W.

DIMENSIONS 46.5" (1181mm) H by 15.5" (394mm) W by 19" (483mm) D. Weight: 115 lbs (52kg) each.

FINISH Black Gloss or wood veneer for woofer enclosure.

SERIAL NUMBERS OF UNITS

REVIEWED C01501-10479, C01501-10480.

PRICE \$11,500/pair. Approximate number of dealers: 5. Warranty: 5 years, parts & labor.

MANUFACTURER JBL Consumer Products, 250 Crossways Park Drive, Woodbury, NY 11797. Tel: (888) 691-4171, (516) 255-4525. Web: www.jbl.com.

JBL was founded 60 years ago, by Jim Lansing. Its history has been amply detailed in the book *The JBL Story: 60 Years of Audio Innovation*, by the late John Eargle (JBL Professional, 2006). Although it is primarily known for its pro-audio loudspeakers, the Californian company has offered a steady stream of high-performance domestic loudspeakers to the home market, including the 1971 Paragon, the L100 bookshelf speaker, and the JBL 250Ti floorstander, all of which remained in JBL's catalog for 20 years. In 1990, JBL produced the Project K2 S9500 flagship speaker for the Japanese high-end market. The K2 Project culminated in the \$60,000/pair DD55000 Everest system, with its cross-firing asymmetric horns—see <http://blog.stereophile.com/ces2007/010907mikeyjbl>—and the subject of this review, the Synthesis 1400 Array BG, was a spin-off from the K2 project. It features horn-loaded midrange and tweeters to attain a flat response out to a claimed 48kHz.

The use of exposed, vertically oriented, constant-directivity horns for greater accuracy of reproduction at high listening levels has long been a staple of JBL installations in concert venues around the world. When JBL's chief systems designer, Greg Timbers—see <http://blog.stereophile.com/ces2007/010907deadhead>—applied vertical horns to the design of speakers for the home, he found that they increased the three-dimensionality of the speakers' soundstaging. However, as Japanese audio critics dislike the appearance of vertical horns, the horns were arrayed horizontally in the flagship K2 models. But, as JBL's Synthesis line was designed for the US market, Timbers was free to stand the midrange horn up again: it stands atop the 1400 Array BG, though the tweeter is still loaded by a horizontal horn. When I first saw the Synthesis 1400 Array BG (\$11,500/pair), I found its vertical horn somewhat disconcerting. It reminded me of a Dr. Seuss character—which made me curious to hear how the speaker sounded.

Unique design

The Synthesis 1400 Array BG is a three-way, 115-lb speaker that stands 46" tall, 15" wide, and 19" deep. Each of its three drivers was developed in-house and is manufactured by JBL. Frequencies from 8 to 40kHz are handled by a horn-loaded 1" titanium-dome tweeter with an edge-wound voice-coil of aluminum wire and a 2" neodymium motor assembly, mounted in the upper lip of a large, prominent, vertically oriented, constant-directivity midrange horn made of JBL's SonoGlass, a mineral-loaded, high-density resin material. This has a claimed dispersion pattern of 60° horizontal by 30° vertical. The midrange driver is a compression type using a 3" aluminum dome treated with JBL's Aquaplas, which is a damping material. This driver also has an edge-wound voice-coil of aluminum wire and a neodymium



JBL Synthesis 1400 Array BG loudspeaker

ERIC SWANSON

motor assembly, and handles frequencies from 8kHz down to 750Hz.

These two compression drivers and their respective horns are mounted above the woofer, which uses a 14" cone of Aquaplas-treated pulp and is mounted in the speaker's trapezoidal bass enclosure. The woofer has a rubber surround, a 4" edge-wound voice-coil, and a ferrite motor assembly; it handles frequencies from 750 down to 32Hz. It is loaded with a flared 4" port on the cabinet's rear. According to Greg Timbers, the 1400 Array is designed to be heavy, solid, and free of vibrations. The low-frequency enclosure had to be a trapezoid in order to allow the horn module to sit as low as possible, to reduce the distance between the woofer and the drive-units above it. The horn module is attached securely to the top of the woofer enclosure using three

Allen-head bolts, the front two of which are concealed by the JBL nameplate.

The crossover network comprises separate circuit boards for the high- and low-frequency sections, these mounted in different places within the

possible by four sizable, machined, five-way binding posts set below the reflex port, near the bottom of the rear panel. The 1400 Array is shipped with flat metal jumpers placed across each pair of terminals for standard two-stranded speaker

THE BUILD QUALITY AND FIT'N'FINISH OF THE 1400 ARRAY'S BLACK GLOSS CABINETRY, THE HARDWARE, AND THE DRIVE-UNITS LOOK **SUBSTANTIAL ENOUGH TO LAST A LIFETIME.**

low-frequency enclosure to minimize interference between the filter sections. The acoustic crossover slopes are fourth-order (24dB/octave).

Biamping and/or biwiring is made

cable, which is how I connected them to my amplifier. The 1400 Array is available in two finishes: Black Gloss and Wood Grain. The build quality and fit'n'finish of the cabinet, the hardware, and the

MEASUREMENTS

Other than the in-room and nearfield measurements, for which I used an Earthworks QTC-40, the quasi-anechoic measurements of JBL's Synthesis 1400 Array BG were all performed using DRA Labs' MLSSA system and a calibrated DPA 4006 microphone. The JBL's specified sensitivity of 89dB/2.83V/m was confirmed by my measurement. While this is not as high as with some horn-loaded designs, it is still usefully above average. In addition, the 1400 Array is an easy load for the partnering amplifier to drive, with an impedance magnitude that remains between 6 and 8 ohms over almost all the range above 200Hz, with a low electrical phase angle (fig.1). However, a minimum value of 4.8 ohms at 103Hz and a combination of 6 ohms and -52° phase angle at 71Hz will mean that the amplifier needs to be comfortable driving a 4 ohm load.

The traces in fig.1 are mainly free from the wrinkles that would suggest the presence of cabinet resonance modes. However, the woofer enclosure sounded lively when rapped with a knuckle, and performing cumulative

spectral-decay tests on the output of a simple plastic-tape accelerometer fastened to the enclosure's panels revealed that the small impedance wrinkle at 180Hz was associated with a resonant mode (fig.2). However, high-level modes at 250, 313, and 400Hz were also present on all surfaces, and I would have thought these would add some congestion to sounds rich in lower-midrange energy. However, while LG was aware of these resonances—he could feel them when he rested his fingertips on the cabinet while playing the half-step-spaced toneburst track from *Editor's Choice* (CD, Stereophile STPH016-2)—he couldn't hear any coloration that might be laid at their feet.

Listening to pink noise from behind the cabinet with the horn section disconnected, I could hear a slight hollowness coloring the sound. However, this came not from the lively cabinet, but from some low-level peaks in the port's output at 400 and 600Hz (fig.3, red trace). The fact that the port faces to the speaker's rear will reduce their audibility with music. The saddle centered on 29Hz in the impedance-magnitude trace indicates that the

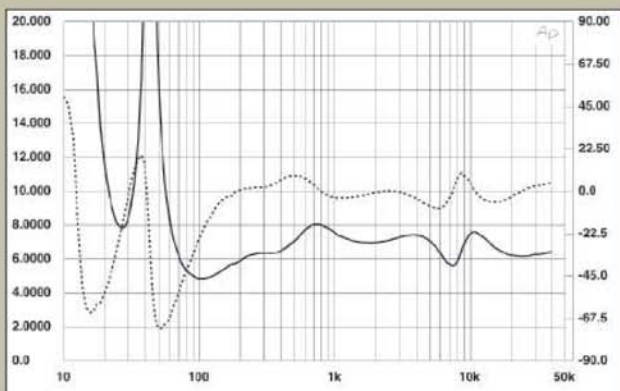


Fig.1 JBL 1400 Array, electrical impedance (solid) and phase (dashed). (2 ohms/vertical div.)

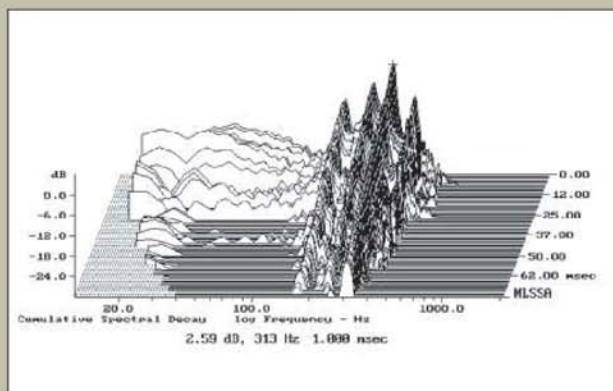


Fig.2 JBL 1400 Array, cumulative spectral-decay plot calculated from output of accelerometer fastened to center of woofer-enclosure side panel (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz).

drive units look substantial enough to last a lifetime.

Setup and use

The review samples, enclosed in cardboard shipping cartons, weighed a total of 250 lbs. With the help of my wife, I walked the cartons upstairs to my listening room, where I unpacked them. That's when I discovered that the Synthesis 1400 Array BG requires some assembly.

The horn module is packed separately from the bass enclosure—JBL is concerned that the bulky horn might be damaged or snapped off in shipping—but the cartons contained everything I needed to put them together: for each speaker, one short and two long Allen-head bolts, an Allen-head screwdriver, a logo plate, a rubber hole plug for the rear horn-mounting bolt, and four metal

coasters to protect wooden floors from the speaker's spiked feet. Following the manual, I cradled the horn module with its horn lying along my forearm, and connected its signal line's plug into the

the front of the horn. The perpendicular part of the L-bracket was secured to the rear of the horn structure with the short bolt inserted just below the midrange driver's ribbed motor housing.

ASSEMBLY REQUIRED TWO PEOPLE: ONE TO HOLD A FLASHLIGHT SO THAT THE MOUNTING HOLES COULD BE ALIGNED, AND THE OTHER TO GUIDE THE HORN MODULE INTO POSITION.

jack atop the bass enclosure. I then lowered the horn onto the rear L-bracket, while lining up the front two mounting holes inside the mouth of the horn with the holes in the enclosure. Then I inserted the two long bolts into those holes in

Assembly required two people: one to hold a flashlight so that the mounting holes could be aligned, and the other to guide the horn module into position. It took some time to balance the horn and find the correct alignment at which

measurements, continued

flared, 4"-diameter port is tuned to this low frequency; its output does indeed peak between 20 and 50Hz, and the minimum-motion notch in the woofer's output (fig.3, blue trace) does lie at 29Hz. (This is the frequency where the back pressure from the port resonance holds the cone stationary.) The woofer rolls off smoothly before its crossover to the horn array at the specified 750Hz. Above the crossover frequency, it rolls off steeply.

The horn array (fig.3, green trace) has an equally steep rollout below 1kHz, and its response on the tweeter axis is basically flat (with subjectively inconsequential ripples) in the region covered by the midrange horn. A sharp but very narrow suckout is evident at the upper crossover frequency of 8kHz, and above that frequency the tweeter appears to be balanced a couple of dB too high in level. Above 300Hz, fig.4 shows the 1400 Array's response on the tweeter axis at 50"; below 300Hz, it shows the complex sum (taking into account both acoustic phase and the different distances of the woofer and port from a nominal farfield microphone position) of the woofer's and

port's nearfield responses. Around half of the apparent boost in the bass region is an artifact of the nearfield measurement technique, but it does appear that the 1400 Array's low frequencies are generously balanced and well extended. As LG noted, the JBL's bass shook the air in his room "and rattled loose radiator panels." A slight depression in the midrange is followed by a flat low treble and, again, a touch too much energy in the region covered by the tweeter.

Whether this top-octave boost will be heard as such will depend on the speaker's radiation pattern in the same region. The 1400 Array's horizontal dispersion, normalized to the response on the tweeter axis, is shown in fig.5. Other than some discontinuities at the top of the passband of the vertically oriented midrange horn, it is remarkably even and well controlled. It appears as if the large-diameter woofer's fairly narrow dispersion in the midrange is beautifully maintained through the lower treble by the midrange horn's own pattern. And while the speaker becomes more directional in the top octaves, its

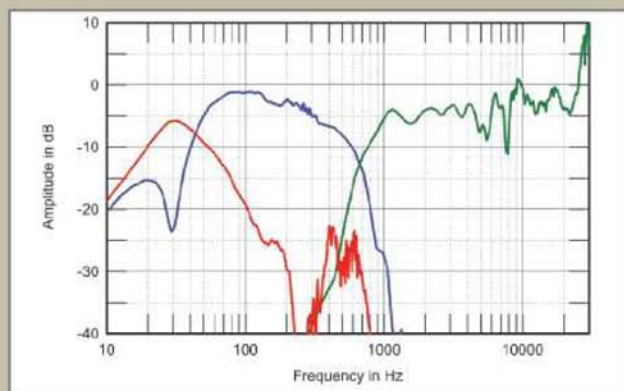


Fig.3 JBL 1400 Array, acoustic crossover on tweeter axis at 50°, corrected for microphone response, with nearfield responses of woofer (blue) and port (red), plotted below 350Hz and 800Hz, respectively.

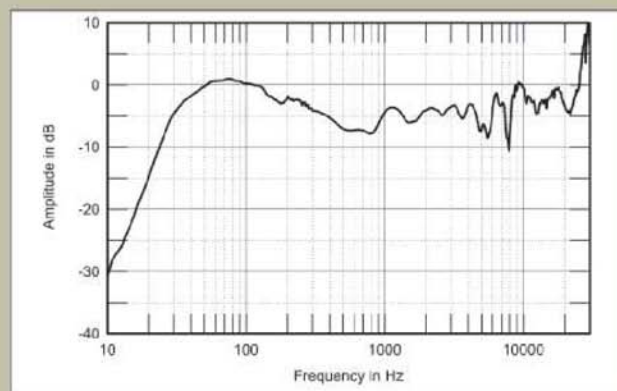


Fig.4 JBL 1400 Array, anechoic response on tweeter axis at 50°, averaged across 30° horizontal window and corrected for microphone response, with complex sum of nearfield responses plotted below 300Hz.

to secure the bolts—aligning holes drilled through two heavy, black structures of different shapes requires a good flashlight. But when we were done, the horn was precisely and rigidly attached to the bass enclosure.

I positioned the 1400 Arrays, without spikes or grilles, 5' from the front wall, 6' apart (measured from the tweeter centers), and toed in 45° toward my listening chair, which was 7' away. PSC double-ribbon speaker cables connected them in turn to several solid-state amplifiers: a Bryston stereo 3B-SST², two Bryston 7B-SST² mono-blocks (640W into 8 ohms), and a Mark Levinson No.334 (125Wpc into 8 ohms). The 1400 Arrays allowed me to hear these amplifiers' sonic qualities: the No.334's three-dimensional transparency, the Bryston 7B-SST²'s lease-busting bass dynamics, and the Bryston 3B-SST²'s sweetness.

Breaking In and Listening

The Synthesis 1400 Array BG proved capable of 110dB peak sound-pressure levels at my listening chair. To assess its low-frequency extension, I measured the levels of the low-frequency warble tones on *Stereophile's Test CD 3* (Stereophile STPH006-2) with an ATM SLI-100 sound-level meter resting on the arm of my listening chair. The low-frequency warble tones were audible and pitch-perfect from 160 down to 35Hz (± 2 dB), the output falling off gradually, by -5 dB, down to 30Hz. I heard no chuffing or wind noise from the rear port.

I then played the channel phase and pink-noise tracks from *Editor's Choice* (CD, Stereophile STPH016-2), while doing comparative listening in the near-field (7' away) and farfield (16' away). The sound of the pink noise grew duller

when I stood up in the "sit down, stand up" test, even though the 1400 Array's tweeter was 45" off the floor; *ie*, 8" higher than the level of my ears when I'm seated. Once again seated, however, I heard no changes in the pink-noise pattern, even when I shifted from a slouching to an upright position.

Placing my hand on a sidewall of one 1400 Array, I felt a mild buzzing sensation at 260 and 130Hz as I played the chromatic half-step sinewaves on track 19 of *Editor's Choice*—but I heard no ill effects from these resonances when I played Chris Jones's fretless-bass segment in "Blizzard Limbs," from Attention Screen's *Live at Merkin Hall* (CD, Stereophile STPH018-2).

Once I'd finished the initial set-up, I broke in the 1400 Array BGs by playing my favorite rhythmic selections: David

dispersion is very even with frequency, and doesn't show the usual narrowing above 20kHz. In the vertical plane (fig.6), the 1400 Array's response, again normalized to the tweeter-axis response, doesn't change over quite a wide listening window, other than the discontinuities at the top of the midrange unit's bandpass. This is just as well, given that the tweeter is a high 46" from the floor.

Whether or not the JBL will sound as if it has too much high-treble energy will depend on the size of the listener's room and the absorptivity of its furnishings. LG did comment on "terrific treble extension." I performed my usual spatially averaged response in LG's room; the result is shown in fig.7. (To generate this graph, I took and averaged twenty $\frac{1}{6}$ -octave smoothed responses for each speaker individually, in a rectangular grid measuring 36" by 18" and centered on the positions of Larry's ears in his listening chair.) The broad boost in the mid- and upper bass is due both to the residual room effects and to the 1400 Array's own generous output in this region. Note also that the JBLs are generating full output down

to 25Hz. But, good grief! Look at the in-room response above 200Hz: It is extraordinarily flat and even, falling within superb ± 1 dB limits other than a very slight boost

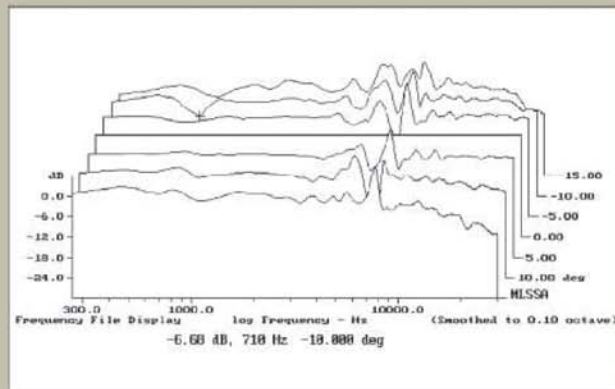


Fig.6 JBL 1400 Array, vertical response family at 50", normalized to response on tweeter axis, from back to front: differences in response 15–5° above axis, reference response, differences in response 5–15° below axis.

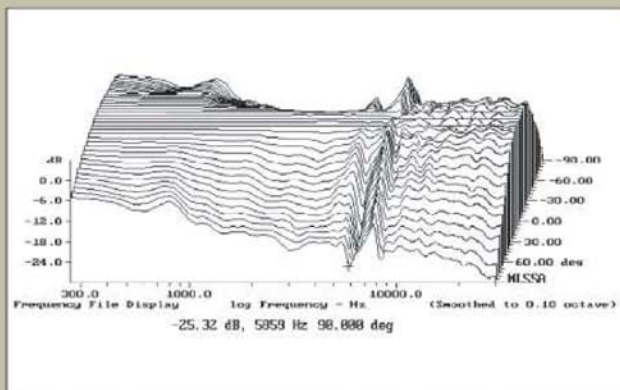


Fig.5 JBL 1400 Array, lateral response family at 50", normalized to response on tweeter axis, from back to front: differences in response 90–5° off axis, reference response, differences in response 5–90° off axis.

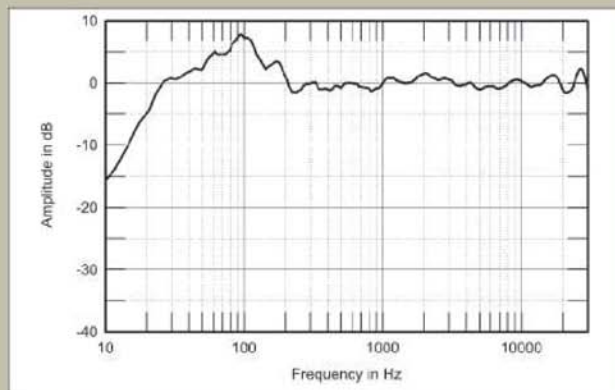


Fig.7 JBL 1400 Array, spatially averaged, $\frac{1}{6}$ -octave response in LG's listening room.

Bowie singing "Putting Out Fire," from the *Cat People* soundtrack (CD, MCA MCAD-1498); didgeridoo music from David Hudson's *Didgeridoo Spirit* (CD, Indigenous Australia, IA2003D); and Fleetwood Mac's *The Dance* (CD, Reprise 46702-2).

As the bass warble tests indicated, the 1400 Array BG had good bass extension. Its 14" woofer produced full room lock with sustained organ pedal, as heard during the *Introduction* of Strauss's *Also sprach Zarathustra*, performed by Erick Kunzel and the Cincinnati Pops, on *Time Warp* (CD, Telarc CD-80106), and played the pipe organ's sustained low C (32Hz) that ends James Busby's performance of Herbert Howells' *Master Tallis's Testament*, from *Pipes Rhode Island* (CD, Riago 101). Both selections shook the air in my room and rattled loose radiator panels.

The JBLs revealed the senses of suspense and dread created by the synthesizer in "Assault on Ryan's House," from James Horner's *Patriot Games* soundtrack (CD, RCA 66051-2). Moreover, the speakers developed strong pace and rhythm, as heard in Tony Mangurian's and Victor

sive accuracy of midrange timbre. It allowed me to hear subtle differences among individual members of choirs, as well as differentiate the characteristic reediness of different orchestral wind instruments. It was easy to appreciate the vocal registers of different singers in the

THE 1400 ARRAY FEATURED AN IMPRESSIVE ACCURACY OF MIDRANGE TIMBRE.

Indizzo's drum work in "Darkness on the Face of the Earth," from Willie Nelson's *Teatro* (CD, Island 314-524-548-2), as well as the steam-pressured kick-drum drive that turns the seemingly light "Everywhere I Go," from the same album, into a sizzling, churning performance.

The 1400 Array featured an impres-

all-male Turtle Creek Chorale in John Rutter's *Lord, Make Me an Instrument of Thy Peace*, from *Requiem* (CD, Reference RR-57CD). José Carreras's clear tenor in the *Kyrie* from Ariel Ramirez's *Misa Criolla*, in the recording led by José Luis Ocejó (CD, Philips, 420 955-2), sounded effortless, immediate, and natural,

measurements, continued

at 2kHz. The fact that the in-room balance remains flat above 5kHz, despite the increasing absorptivity of the room furnishings, does mean that the JBL's highs will sound "airy," if not exactly "hot." Compare this graph, for example, with fig.8 in the measurements, taken in the same room, accompanying LG's review of the Revel Ultima Salon2 (see www.stereophile.com/floorloudspeakers/608revel/index5.html). The Revel is close to being perfectly neutrally balanced above 5kHz, and sounds that way. But the JBL's overall achievement is still remarkable.

In the time domain, the 1400 Array's step response on the tweeter axis (fig.8) indicates that all three drive-units are connected with positive acoustic polarity, and that the tweeter output arrives at the microphone half a millisecond before that of the midrange, which in turn arrives half a millisecond before that of the woofer. This is definitely *not* a time-coincident design, though the fact that the ear/brain does integrate arrivals over a longer period than 1ms should mean that this won't matter much. LG was impressed by the stability and accuracy of the JBLs' imaging, which you'd think might be adversely affected by the

lack of time coincidence. But as far as the lower-frequency units are concerned, the 1400 Array's step response is at least *time-coherent*, in that the overshoot of the midrange unit's step smoothly leads into the woofer's step. This suggests an optimal crossover implementation.

Finally, the JBL 1400 Array's cumulative spectral-decay plot (fig.9) is not as clean as I would have liked to see, presumably due to reflections of the driver outputs from the edges of the horns. Nevertheless, LG found the JBL's treble to sound smooth and grain-free.

I have been a fan of the 1400 Array's designer, Greg Timbers, ever since I met him and listened to prototypes of his JBL 250 on a visit to the company's Northridge, CA, factory in 1981. (Sadly, as I wrote these words, it was announced that while research and design will remain in Southern California, the manufacture of JBL and other Harman Group loudspeakers will move to the company's maquiladora factory in Mexico.) So while I'm suspicious of horn-loaded designs, I'm not surprised that the Synthesis 1400 Array BG offers both superb speaker engineering and superb measured performance. I keep returning to that remarkably flat and even in-room response: Good grief!

—John Atkinson

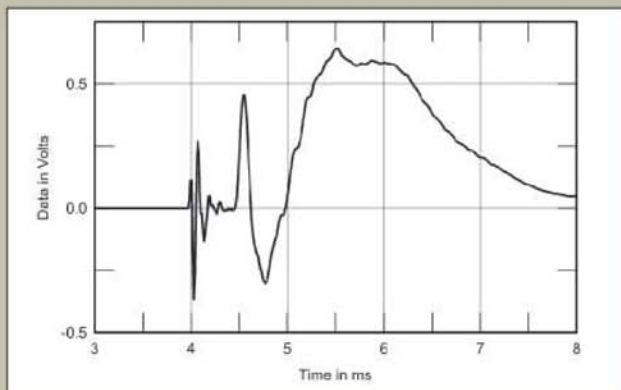


Fig.8 JBL 1400 Array, step response on tweeter axis at 50" (5ms time window, 30kHz bandwidth).

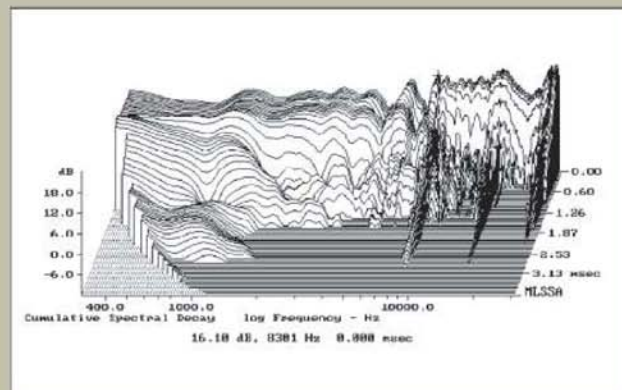


Fig.9 JBL 1400 Array, cumulative spectral-decay plot on tweeter axis at 50" (0.15ms risetime).

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and distinctly different from the chorus behind Carreras, which seemed to float from wall to wall. The solo bassoon that opens Stravinsky's *Le Sacre du Printemps*, in the recording of Esa-Pekka Salonen conducting the Los Angeles Philharmonic (SACD/CD, Deutsche Grammophon 00289 477 6198), was unusually rich, sweet, and captivating. In "Don't Get Around Much Anymore," from the *When Harry Met Sally...* soundtrack (CD, Columbia CK 45319), Harry Connick Jr.'s voice floated three-dimensionally between the two speakers, sounding more realistic and natural than I'd ever heard it before, even through more expensive speakers. There was no sign of nasality or throatiness. The vibes accompaniment to "The Mooche," from the Jerome Harris Quintet's *Rendezvous* (CD, Stereophile STPH013-2), had unusual translucence and extension.

The 1400 Array BG also had terrific treble extension, with no sign of dryness, grain, or dulling, when I listened to Dave Samuel's vibraphone introduction to "Unspoken Words," from Joe Beck's *The Journey* (CD, DMP DMP-211); or the utterly natural, transparent, metallic sizzle of the ride cymbal that begins "The Mooche," from the Jerome Harris CD; or the shimmering, translucent chimes that open H. Owen Reed's *La Fiesta Mexicana*, from Howard Dunn and the Dallas Wind Symphony's *Fiesta* (CD, Reference RR-38CD).

The 1400 Arrays' imaging and retrieval of ambience were equally good. I could make out the many layers of voices of the Turtle Creek Chorale in the Rutter piece. And when I played the L.A. Four's *Going Home* (Japanese CD, Ai Music 3



21st-Century horns!

2JD-10043), the JBLs laid out the group as follows: Shelly Manne's drum kit at rear center, Ray Brown's bowed bass at front center, Bud Shank's alto sax and flute to extreme right, and Laurindo Almeida's guitar to the left. Willie Nelson's cover of Bob Dylan's "What Was It You Wanted," from Nelson's *Across the*

ASSOCIATED EQUIPMENT

ANALOG SOURCES Linn Sondek turntable with Lingo power supply, Linn Ittok tonearm, Spectral cartridge; Day-Sequerra Reference Signature FM tuner.
DIGITAL SOURCES Bryston BCD-1 CD player & BDA-1 DAC, Sony SCD-C555ES SACD/CD player, Bel Canto USB Link 24/96 USB-to-S/PDIF converter, Thinkpad X-61 laptop computer.

PREAMPLIFIER Bryston BP26.

POWER AMPLIFIERS Mark Levinson No.334, Bryston 3B-SST² & 7B-SST².

LOUDSPEAKERS Quad ESL-989, Revel Ultima Salon2.

CABLES Digital: Wireworld Starlight Coaxial. Interconnect: Mark Levinson Silver, Red Rose Silver One, Totem Acoustic Sinew single-ended, Pure Silver, Bryston balanced. Speaker: QED X-Tube 400, Pure Silver R50 biwire double ribbon, Ultralink Excelsior 6N OFHC, Coincident Speaker Technology CST 1. AC: manufacturer's own.

ACCESSORIES Torus RM-20 Power Isolation Unit, ATI SLM-100 analog sound-level meter. Listening room: 26' L by 13' W by 12' H with semi-cathedral ceiling, sound-absorbing rugs and furniture. Left wall has large bay window covered by Hunter Douglas Duette Honeycomb fabric shades. Rear of room opens through 8' by 4' doorway into 25' L by 15' W kitchen.

—Larry Greenhill

Borderline (CD, Columbia CK 52752), benefited from the recording's deep, wide soundstage: Debra Dobkin's voice was off to the right rear, and Jim Keltner's drums and percussion at rear center.

Hearing Suzanne Vega sing "Tom's Diner" a cappella on her *Solitude Standing* (CD, A&M CD5136) was a revelation—the speakers disappeared to reveal a floating, three-dimensional, strikingly realistic and natural-sounding voice. With other recordings, the 1400 Array's resolution let me hear and understand all the words sung by female singers, even through loud instrumental accompaniment. I could easily discern the lyrics faintly sung by Sinéad O'Connor in "Don't Give Up," with Willie Nelson, on *Across the Borderline*. And Emmylou Harris's birdlike voice pierced the throbbing, churning bass synth and kick drum in the opening of the apocalyptic "Deeper Well," from her album *Spyboy* (CD, Eminent 25001-2).

Conclusions

JBL's Synthesis 1400 Array BG impressed me with its three-dimensional imaging, impressive transparency, ambience retrieval, capacity to "disappear," and fine timbral detail. It gave my similarly priced reference speakers, the electrostatic Quad ESL-989s, a run for their money for its excellent balance across the audioband, its good timbral retrieval, and its three-dimensional imaging—and it exceeded the bass-shy Quad in its reproduction of pipe organ and percussion and its ability to play much louder. On the other hand, the Quads excelled in soundstage depth and resolution of musical detail. I was also impressed with the JBL's naturalness and lack of distortion, qualities I'd heretofore thought were the exclusive province, in this price bracket, of Quads. I even grew to like the 1400 Array's unusual appearance.

Because of these excellent qualities, the Synthesis 1400 Array BG deserves a top-rank recommendation in *Stereophile's* "Recommended Components." The JBL has the smooth frequency response, the bass extension, the wide soundstaging, and the unique ability to render voices that I've heard only from far more expensive loudspeakers. Even with a retail price of \$11,500/pair, the 1400 Arrays' width of soundstage, wide dynamic range, and accuracy in reproducing realistic male voices—all as good as I've heard in my listening room from other more expensive floorstanders—makes them an audiophile bargain. No wonder Greg Timbers is so proud of them. ■

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