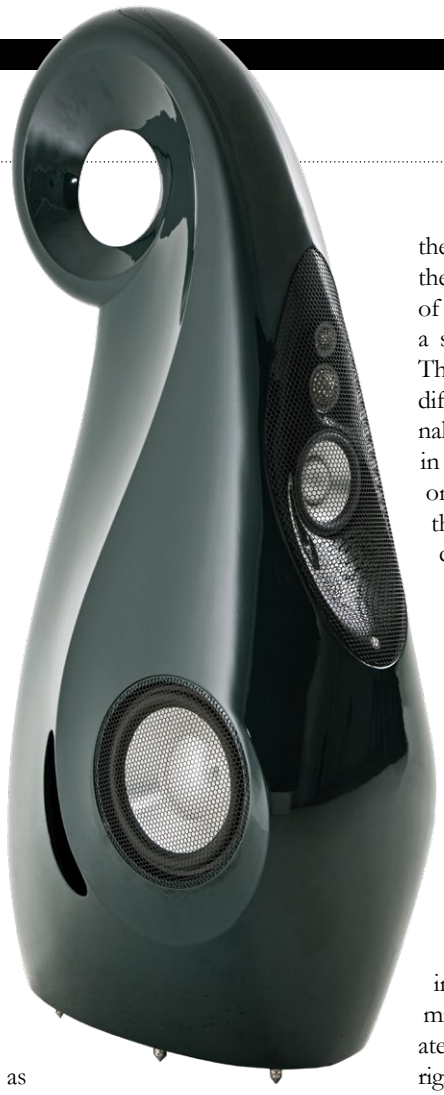
Vivid Audio Giya G1 Spirit Loudspeaker

Accomplished Upstart

Greg Weaver



The original Vivid Giya G1 debuted at CES 2008 with a launch party at the Mirage held by Philip O'Hanlon of On a Higher Note, then the U.S. importer, and I was fortunate enough to attend. With design and business offices in the UK, and manufacturing facilities in South Africa, Vivid Audio represents the latest conceptual realizations of designer Laurence Dickie. You may recognize the name, as Dickie is the designer of one of the most iconic loudspeakers ever created, the Bowers & Wilkins Nautilus. Once you've made that connection, the style and aesthetic of the entire Vivid lineup should start to make a lot more sense, as they are all the logical development of that unique concept.

Born in England in 1960, from an early age Dickie expressed strong interests in natural sciences, often taking things apart to see how they worked. Throughout his youth, he found himself continually distracted by the intrinsic beauty of the graphical results of mathematical operations, and was as comfortable with arts and crafts as he was with more academic subjects.

Shortly after graduation from Southampton University with a degree in electronics in 1981, he moved to Nottingham. But it was his joining B&W in 1984 to help develop active speakers that heralds the beginnings of what would become Vivid Audio. In 1986, while working on cabinet materials for B&W, Dickie hit upon the notion of filling the enclosure with a network of perforated partitions which would rigidly support opposing walls. Shortly thereafter, in 1987, B&W patented the Matrix system.

John Bowers was impressed enough that Dickie was permitted considerable license developing new approaches, one of which eventually led to the 1991 prototype Nautilus speaker system, shown for B&W's 25th anniversary. Its form was very much dictated by mathematical rules governing acoustic operation, and the following year was spent refining the industrial design, with assistance from Alison Risby of the Brighton College of Art. In 1993, the production Nautilus was a reality.

Dickie soon found himself working in the pro-audio world and began exploring the potential of horn loudspeakers. Leaving B&W in 1997 to pursue the development of a range of high-efficiency drivers for studio monitors, he spent the next few years developing transducers that would eventually become the Vivid Audio D26, D50, and C125.

Continually frustrated by an inability to use exponential tube absorption in a bass-reflex enclosure, he decided he needed to learn computer-aided 3D design. From 2006 through 2008, he went through numerous wooden prototypes to test bass loading before eventually hitting upon the combination that would become the basis for Giya. In 2008, Vivid Audio was launched with the unveiling of the original Giya G1, which remained the company's flagship until last April, when the Spirit was introduced in the U.S.

Neoteric

If you've ever seen one of the Giyas, you're not likely to forget its appearance. I'd also go so far as to say that you also likely had a strong positive or negative reaction. From the front, they resemble a large bowling pin; from the side, they have a swirl at the top almost reminiscent of the curl you'd find atop a soft-serve ice cream cone. The most immediately visible difference between the original G1 and the new Spirit are in its form factor. Though only four inches shorter and three-quarters of an inch deeper, the Spirit is slightly wider, and appears even more so because of its lower overall profile and the lowered driver array on the front baffle.

As is the case with all Giya enclosures, the Spirits are fabricated of a very light but stiff, glass-reinforced, balsa-cored sandwich composite, and my review models came finished in a gorgeous metal-flaked midnight blue. This deliberate application of light-yet-rigid materials was chosen by Dickie to drive enclosure resonances to higher than normal frequency ranges, where, Vivid contends, they become less apparent. This is in direct contrast to many other manufacturers today who use aluminum or some dense constrained-layering technique to get a high-mass enclosure, typically incorporating a large essentially flat front baffle and eight more-or-less squared corners.

Rather, Giyas are continuously contoured, with elegant curves in a fluid and sweeping design without a single corner anywhere to interfere with driver radiation patterns. The lack of any flat baffle or sharp edges translates to a lack of interference and an amazingly smooth off-axis response. And, at five-foot three-inches tall, each Spirit seems surprisingly light, weighing in at just

over 175 pounds! This is possible because the Vivid design alleviates the need to restrain or prevent the otherwise reactive motion created by large woofers moving in phase with each other on a single, rigid front baffle.

One of the key design features of the entire Giya series is the use of a pair of opposing woofers, mounted low on the inner and outer sides of the enclosure. They are firmly connected to each other via a solid tensioner mount, using a system Vivid has dubbed a Reaction Cancelling Compliant Mount. Because they are back to back, and mechanically connected to each other, running them in phase, so that both woofers are moving outward, and then inward at the same time, they work to cancel each other's mechanical motion against the baffle, in effect neutralizing the need for an ultra-solid mechanical baffle to hold them firmly in place.

All the drive units used for the Spirit are newly developed specifically for this application. Using a pair of 12" C225-100 bass units, which operate up to 220Hz, are much more massive than the original C225, and mounted in a completely new die-cast structure. Its voice-coil diameter has been increased from roughly 3" to nearly 4"; its length has been increased by 50%; and the magnetic gap has also been lengthened. Vivid claims 30% greater excursion and double the thermal power dissipation, from 300 to 600 watts, over the original C225s.

The new C125-75s lower midrange operates between 220Hz and 880Hz, and has also undergone a major redesign. While carbon-fiber peripheral stiffening rings, used to raise the frequency of the first break-up mode in all Vivid Audio dome drivers, were first developed over twenty years ago by Dickie, they have now been further refined, optimized, and patented. Vivid claims a dramatic improvement here, stating that this allows for raising the frequency of first breakup in the C125-75s from 4.3kHz to 10.5kHz. Further, its voice-coil diameter was also increased from about 2" to nearly 3". The basket and motor structure were also enlarged to accommodate the rest of the design upgrade, and it employs another Vivid Audio signature technology, Tapered Tube Loading.

First pioneered for the Nautilus, this loading technique employs an exponentially tapered tube extending behind and away from the rear of the driver's diaphragm. This greatly diminishes resonant air pockets, the eigentones of the main cavity, and structural modes in the enclosure walls, reducing resonance and reflection from the rear wave of the diaphragm very significantly, and allowing the driver to operate more transparently and with greatly reduced colorations.

Next up, the D50 upper midrange, operating from 880Hz to 3.5kHz, features a computer-designed, deep-profile, catenary, anodized-aluminum-alloy diaphragm, the carbon-fiber stiffening rings, a radially polarized rare-earth magnet system, and an underhung, edge-wound aluminum voice coil with its thermal stability enhanced by filling the gap with magnetic fluid. The catenary profile, rather than a spherical one, is said to help the D50 maintain pistonic behavior for more than two octaves beyond its operating band, with its first breakup frequency not occurring until an amazing 20kHz, nearly two-and-a-half octaves above the range it is called upon to reproduce. It, too, utilizes Tapered Tube Loading.

Finally, we come to the D26 tweeter, covering 3.5kHz and up, which uses much of the same technology as the D50, including the catenary dome profile (optimized by computer finite element techniques to give an exceptional first break-up frequency above 44kHz!), and radially polarized magnet system. The motor uses eight segments of high-energy neodymium iron boron, an edge-wound aluminum voice coil, specially designed magnetic fluids, again to stabilize the voice-coil temperature, and Tapered Tube Loading. However, because the flux of the D26 is high enough to rip the magnetic particles out of suspension in conventional magnetic fluids, Vivid Audio worked with the U.S.'s Ferrotec Corporation to formulate a ferrofluid capable of withstanding the extreme conditions that exist in the D26.

Both the D50 and D26 have replaced the curved, crossed perpendicular bars used to protect the drivers from physical contact and damage with a new perforated grille system that, at first appearance, would surely seem to play havoc with dispersion and radiation patterns. (As troubling as they were to me visually, I really wasn't sure what to think of them. They really looked as though they must have some form of sonic impact.)

As mentioned previously, the driver array—the C125-75s, D50, and D26—sits approximately 4" lower in the front of the Spirit than the drivers in the original G1. The woofers are ported to the

Specs & Pricing

Type: Four-way, five-driver loudspeaker
Cabinet material: Glass-reinforced, balsa-cored sandwich composite
Drive units: HF, D26 26mm metal-dome unit with Tapered Tube loading; mid, D50 50mm metal-dome unit with Tapered Tube loading; lower-mid, C125-75s 125mm alloy/carbon diaphragm with 75mm voice coil; bass: 2 x C225-100 225mm alloy diaphragm with 100mm voice coil in 45mm gap
Bass loading: Exponentially tapered tube-enhanced bass reflex
Sensitivity: 92dB @ 2.83VRMS at 1m on axis
Frequency response: 29Hz–33kHz –2dB on reference
Harmonic distortion: < 0.3% over frequency range
Power handling: 1600W rms
Dimensions: 17 5/16" x 63" x 32 ¼"
Net weight: 176 ¼ lbs.
Price: $93,000 including external crossovers

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room via two curved slots, approximately 10" tall, just to the rear of each woofer, and are reminiscent of both an automotive fender "grille," and a violin, cello, or doublebass body's F hole.

The Spirits include an exceptional passive crossover, housed in a stylish, external, rounded box, which attaches via an NL8 connection to a matching receiver on the bottom of the speaker through a small channel beginning at the rear of the base. This passive crossover is biwire-ready, and includes short jumper cables for single-wire options. But for the first time now in the Vivid Audio lineup, that input can be used to attach a user's choice of an active crossover, allowing for some serious upgrade potential moving forward.

The Spirit may stand on the floor on its flat base, and that is how it was positioned in my room for the first 10 days or so, until I had located its optimum room placement. The base is fitted with six threaded receivers for the included very shallow profile (less than an inch tall) spikes. I questioned the sanity of using six spikes, and Dickie responded that, given the speaker's already unique appearance, he opposed using an outrigger system to provide added stability. He felt that such an addition would only compound the already extreme aesthetic, and that this was the best alternative. The speakers are relatively stable when resting on their six spikes, but, they are easily tilted side to side, so you must be careful not to lean into one.

I'm sure I sound like the proverbial broken record, but I am adamantly opposed to the use of any more than three footers on any device, and not just speakers. As three points (spikes, for our discussion) are the maximum number of points necessary to describe a plane, the use of any more than this will ensure that only three will be touching the surface beneath them securely at any time. All the others will be floating to some degree, resonating, and thereby detracting from the overall effectiveness of the coupling/decoupling of the system.

Perceptible

I can say without any hesitation that the new C225-100s, in this shorter, deeper enclosure, perform exceptionally well and bring a degree of power and punch to the game that the original G1 could not muster. Bass from the Spirit is, to my ear, significantly improved, both in quality and quantity, over that of the original G1, and is one of the two most significant advances the Spirits offer over its predecessor.

What I'm saying is that the Spirits go deep, and do so with authority. While the spec sheet lists 29Hz as the low-frequency extreme, in my room, which is nearly 4000 cubic feet, they had no issues realistically recreating organ, doublebass, and bass gui-

tar information down into the low 20s, using a wide variety of electronics, and at any volume. While not the benchmark in bass performance, they do offer up low end with remarkable transient speed, impressively powerful weight, and clear, articulate pitch definition. While I had never felt that the G1's were particularly lacking in this area, they pale completely in comparison, as they simply do not exhibit the exceptional degree of control and definition that the Spirit now brings to the game.

During the opening of "Nihavent" from Joël Grare's *Paris-Istanbul-Shanghai* [Alpha], Grare's drums and Emek Evci's double-bass are nearly perfectly portrayed in both textural density and dynamic agility, and are rendered with undeniable accuracy of pitch. Skin tone and string snaps are extremely well depicted, and are superbly accurately rendered. The correctness of and expressive manner in which they reproduce the fundamental sound of drums, with their seeming unswerving ability to capture the texture and tone of the skin itself, was quite extraordinary.

Let's talk about slam! You bass freaks out there are going to love this speaker. As with any full-range speaker, solid bass performance is ultimately dependent on the room's size, its resultant nodes, and proper speaker placement therein. But once they are optimally set up in a room large enough to accommodate them, the Spirits have no problem generating substantive impact when called upon. While they maintain good clarity, detail, and focus, they do not provide the last word in dynamic scaling and attack. Yet this newfound bass aplomb was starkly apparent with cuts as varied as Janis Ian's "Tattoo," from *Breaking Silence* [QRP/Analogue Productions], London Grammar's "Hey Now" from *If You Wait* [Metal & Dust], and "Seeya," from deadmau5 *While (1<2)* [Astralwerks].

Likewise, the performance of the newly redesigned C125-75s lower midrange is also exceptional, taking the Spirit to new heights over the G1. Midrange and upper midrange, on up into roughly the treble in the mid-4kHz area, through the provenance of the D50 and into the lower dominion of the D26 drivers, is remarkably open and more transparent, more so than I've noted from many other dynamic loudspeakers in this price range, disarmingly so. In fact, in this area the Spirit's performance approaches and is reminiscent of that of planars or electrostatics.

Pianos were laid bare, and the essence of hammered strings has never been significantly more obviously recreated in my room. Listen to *The Piano Music of Federico Mompou* [Hyperion] with Stephen Hough at the piano for a taste of the vividness I am trying to describe. Even the short piano solo some 3:15 into Supertramp's "School" from *Crime of the Century* [Mobile Fidelity UHQR], soared on the Spirit. Over time, this attribute became only more enchanting. No matter what I listened to, the authentic sense of timbre was a constant.

Any speaker I have heard with even the slightest excess of energy from the upper bass through the lower mids always sounds sluggish and slow by comparison. None of that here. Try as I might (and believe me, I really tried), I could detect not even the faintest hint of overhang, resonance, or driver distress of any kind through this range, no matter how hard I pushed the Spirits, and boy, can you push them! More on that attribute soon.

Full of life, rich in detail and harmonic bloom, instrument fundamentals from piano, violin, guitar, human voice, etc. are rendered wholly realistically, with excellent texture and lifelike dimension, simulating a near "living" quality, even with recordings I consider mediocre. The Spirits afford some of the smoothest, most fluent, and expressive midrange performance in their class.

Uppermost frequencies are well focused and detailed while remaining smooth and free of any notable etched sterility. While the Spirits deliver a comparatively open and spacious top end, they tend to be a bit soft in this department compared to the best available. In all my time with them, using a variety of linestages (the Audionet PRE G2, the Pass Labs XP20, the Dynamic Sounds Associates Pre I, the Constellation Inspiration linestage, and the tube ModWright SL 100), amplifiers (Audionet MAX monoblocks, Pass Labs XA160.8 monoblocks, Constellation Inspiration, Channel Islands Audio D500 MkII Class D monoblocks, and Channel Islands Audio VMB1 monoblocks), and cable looms (Stealth, Audience, MasterBuilt, Furutech), they never exhibited that final degree of effortlessness, air, and shimmer available from the best beryllium tweeters used by Magico and Von Schweikert Audio, or the new BilletDome from YG Acoustics. In fact, while the Spirits best my reference Von Schweikert Audio VR-55 Aktives in some areas such as upper bass transient impact, they were no match for the delicacy, detail, and sparkle the VSA's could produce in the uppermost registers.

Listening to the beguiling chimes from the opening of "Singing Winds, Crying Beasts" on the new Santana *Abraxas* reissue [Mobile Fidelity UD1S], or "Mercy Street," from Peter Gabriel's *So* [Classic Records], left me wanting for some of the detail, specificity, and ethereal air those recordings afford. Listening to ride cymbals with jazz or blues combos, or triangles with classical recordings, you are treated to clear and uncongested detail, with vivid attack and nice ambient decay, recording permitting. But those final touches you get from the very best beryllium and some planar designs, that sense of graceful effortlessness, of unfettered extension, and the perception of the air around the instruments that allows them to regenerate the final measure of trailing ambiance and decay were wanting. My mind wondered back to that bothersome-looking perforated grille, and I kept thinking that perhaps that was somehow impeding the D26's extension and dispersion.

One of the original G1's attributes that had always impressed me was its relatively high level of transparency, and by extension, its distinctive resolution of musical detail. I was pleased to find that Spirits really deliver in this regard. They are even more revealing of details and nuances than the G1's, with no aggressive glare or any fatigue over long listening sessions. This sense of shining an elevated degree of illumination into staging and spatial cues, as well as their enhanced accuracy of tone color, texture, and focus, was apparent on discs as varied as the cacophony that commences the first movement

of Prokofiev's *Scythian Suite* [Mercury] and the driving "Metropolis–Part 1" from Dream Theater's *Images and Words* [ATCO], a recording that exemplifies some the best-recorded material of its genre. The Spirits were able to throw all into sharp, crisp, clear perspective.

Excellent imaging and staging attributes are hot buttons for me. If a speaker can't portray the soundstage accurately, well, it won't matter to me how well it does anything else, 'cause I won't be listening long enough to find out. While I have heard speakers with more holographic and dimensional layering than the Spirits, they did manage to come in near the top of the list in terms completely vanishing from the room. Depth and width were portrayed with great accuracy, with vertical size suffering only slightly in comparison to the very best presentations I've experienced.

One of my decisive tests can be found on *Harp Attack* [Alligator]. In the opening cut, "Down Home Blues," the four voices and harps (harmonicas) of blues legends Carey Bell, Billy Branch, James Cotton, and Junior Wells are lined up, left to right. While I have heard more realistic sizing of the human and instrumental voices on this cut, the Spirits' ability to reproduce their placement within the soundstage was noteworthy.

As expressive and balanced as they are, man, can the Spirits rock! I heard stories from Philip O'Hanlon of absurdly loud SPLs with no distortion, and I have no trouble believing them, as my own rocking-out test had them playing briefly at 110–115dB peaks with absolutely no sign of stress or strain. During this experiment, I kept turning them up, certain that at some point they would start to distort. Good sense took over long before I ever found a breaking point; they do have a 1600-watt power-handling rating, after all! With clean and dynamic power amplifiers (the Audionet MAXes deliver 400 watts into 8 ohms and the CIA Audio D500 MkII's bring 500 watts to the party), these speakers seemed utterly bullet-proof.

While the Spirit can clearly boogie, and believe me, they revel in playing Dream Theater, AC/DC, or Led Zeppelin at full tilt, they have no difficulty being equally engaging at much lower SPLs. I was pleasantly surprised to find out that they were remarkably well informed as to hall ambiance and size, as well as to microdynamic events, with Bach cello suites and a Beethoven violin concerto or piano sonata at levels one would consider almost background listening. They seemed equally expressive at these diminutive volumes, maintaining vibrant tone and tremendous texture. That sadly cannot be said of all loudspeakers in this highly competitive class.

Finally, there was no question that they need a large room in which to come alive. At times I felt as if my 535-square-foot room might be just about as small a space as one might expect to successfully integrate them into. If you have a smaller room, you likely will never realize the Spirit's potential, and would be better served by the G2, or even the G3, depending.

Getting into the Spirit

The Spirit easily represents a new zenith for Laurence Dickie's unique and inspired concepts and designs, first brought forth in the Nautilus. The combination of a squatter enclosure fitted with his newly enhanced drivers clearly elevates the Vivid Audio design concept to a much more sophisticated level.

While I detected no biases or disadvantages with any pairing of gear or cables I had on hand, like most well-designed and well-executed loudspeakers in the $100k price range they are highly revealing of changes in sources, electronics, and wires. I will say that, while they are an efficient design (at 92dB), they do seem to flourish with more power.

Highly transparent, with excellent resolving abilities, they blend musically relevant detail with almost lush tone, credible texture, and dynamic and rhythmic coherence. Detail is finely rendered, and in all my auditioning, never etched or glaring. Their microdynamic sensibilities (save for the top-most registers), pitch definition, and near lockstep recreation of pace and rhythmic drive, combine to yield an overall sense of tempo and articulation that is addictive. If you have a big enough space, and love to feel the drive and power of your music, then you most definitely will get into the Spirit. tas