Focal Aria 936

LOUDSPEAKER

Founded in 1979 by Jacques Mahul, Focal—formerly known as JMlab and as Focal-JMlab—is one of audiophiles’ favorite brands. Beginning with a single-speaker model produced in a small workshop in Saint Etienne, France, the company is still headquartered there, but has expanded to employ over 250 workers, making products exported to over 160 countries. All Focal products are engineered in France, and a line of lower-priced multimedia models and headphones are assembled in the Far East.

Focal makes products in six categories: 1) high-fidelity speakers, 2) home cinema, 3) multimedia and wireless, 4) headphones, 5) monitors and pro audio, and 6) custom and public address. Of course, our interest here is in No. 1. The 2014 Stereophile Buyer’s Guide lists 21 Focal speakers, with prices ranging from $549 to $3,990 per pair. The Aria 936 is too new to be listed in the Guide, but its price of $3999 per pair puts it at just about the median.

Although Focal makes some very expensive speakers, one of their priorities has been to incorporate the technology developed for their top models into more modestly priced products. This was true for the Focal Chorus 806W 30th Anniversary Edition loudspeaker (1 reviewed in the November 2013 issue), which used the proprietary Wambridge-cone midrange and woofer technology found in Focal’s more expensive speakers.

Focal describes the ideal loudspeaker cone as being: 1) light, to allow rapid acceleration; 2) rigid, for precise movement; and 3) well-damped, for low coloration. In this view, three often conflicting goals are best met by "sandwich" construction of different...
materials. Their W sandwich takes this approach, but its production, labor-intensive, and class costs to a research for a less expensive alternative. Focal developed a new composite material in which fibrils of various densities from the core of the cone, in a sandwich construction with fiberglass. Unlike for the W cone, manufacturing of Focal’s cone can be automated, and France is apparently the largest European producer of flux. (If the cone, you’ve a bit uncertain about what flux is, listen: it’s made of flux fibers.

Having developed the new way making sandwich and composite cones, Focal turned their attention to crossover, and came up with an inverted dome made of an alloy of aluminum and magnesium. It’s similar in these respects to the tweeter used in the Chorus 826W, but in the Aria 936, the suspension between the dome and the brackets is made of Perlon, a “super-mesh” foil of microcellular urethane. This suspension method has been shown by Focal to reduce distortion by a factor of three in the critical range of 2-15kHz. A polystyrene dome with a waveguide is said to improve the new tweeter’s horizontal dispersion.

**Which Aria?**

Focal’s Aria 900 line of speakers comprises five models. I’d heard—and been quietly impressed by—the Aria 926 at the last Toronto Audio Video Entertainment Show. My only reservation was, that while the 926 generally sounded very good at TAVES, one of the demo recordings was Copland’s Rodeo – for the Common Man, and I found that the bass lacked some weight. At 48th Bay 115.5 W by 149.5 D, the Aria 936 is as wide and deep as the 926, but it’s 5” taller, to accommodate a third woofer. The 936’s claimed low-frequency extension is 32Hz to the 926’s 47Hz (both -6dB), and that could make a difference with bass-heavy material. I repeated a pair of Artis 906s.

The Chorus 826W was a nice-looking speaker, but the Aria 904 has a more elegant appearance. The finish is impeccable; Black High-Gloss on the sides and top, with leather front, rear, and bottom. (Also available in Walnut.) There are two ports on the front panel, “for more impact” and a downward-facing port in the base, “for increased depth.”

**Setup**

Because the Aria 936 has roughly the same footprint as the Chorus 826W, which I’ve reviewed, I thought poioning the Aria would not be a problem—and it wasn’t. With the help of audio Bliss amp Ic-McAllister, who delivered them, I placed the speakers in more or less the usual positions, along the long side of my listening room, and played with their distances from the walls, the listening seat, and each other, until we felt that the soundstage and bass character and extension were about right. The Aria 936 comes with a plinth that conveniently allows you to washdown and extend the built-in spikes. First by hand then using the included plastic wrench. This worked very well—I wish other speaker manufacturers had a similar arrangement.

The Chorus 826W has a removable grille that covers the bass and midrange drivers, but not the tweeter, which has its own, apparently fixed grille. Fairly bit in my auditioning.

**MEASUREMENTS**

I used a DN Labs ML54A system and a calibrated DPA 4018K microphone to measure the Focal Aria 936’s frequency response in the lab, and an Earthworks QTC-40 for the nearfield response. The Earthworks microphone has a small, V-shaped capsule, and so presents minimal obstruction in the flow of the air. For logistical reasons, I measured a different sample from those auditioned by Robert Deitrich. The speaker was bolted to its plinth for the measurements, so that the downward-trending port was the specified distance from the floor. All measurements were performed with the grille removed.

My estimate of the Focal’s sensitivity was 89.6dB/2.83V/1m—close to the specified 90dB, and useful if a little higher than average. The Aria 936 is specified as having a nominal impedance of 8 ohms and a minimum impedance of 2.8 ohms; my measurement (Fig.4) confirmed the minimum value at 3kHz, but at the impedance stays below 4 ohms from the upper bass through the lower midrange, where music has high levels of energy. I would recommend using a 4 ohm amplifier and setting the crossover at 22kHz.

The small wrinkle at 22kHz in the impedance traces indicates that this is the frequency of the metal-diaphragm tweeter’s primary breakup mode. The traces are otherwise free from the mirage discontinuities that would suggest the presence of enclosure resonance. Nevertheless, investigating the cabinet wall’s vibrational behavior with a plate U-bend accelerometer uncovered modes at 234, 322, and 244Hz. These resonances were lowest in level on the side panels (Fig.2) and highest at the rear and top panels, where their effects will be less audible.

The Focal’s impedance-magnitude trace has a clearly defined minimum value at 40Hz, which would be the tuning frequency of the port in a reflex
of the Chorus 836W1 discovered that the tweeter grille could be sprung with the tip of a ballpoint pen or a paperclip. I did, and was rewarded with greater treble clarity and improved specificity of imaging.

For the Aria 906, Focal hit changed the grille arrangement—perhaps because of customer complaints. A single grille covers all five drivers, and it's attached magnetically. What hasn't changed is the fact that the speaker sounds better with the grille removed, which is how I listened to it (and what Audio Plus recommends).

Ian Maclaurin told me that, as far as he knew, the review samples had come straight off the assembly line, with no break-in. But they sounded good out of the box, with one major improvement after more extensive playing. Focal speakers that use a beryllium tweeter have a reputation for needing a longer-than-normal break-in period if they're not to sound too bright, but that wasn't the case with the Aria 906's aluminum-cone tweeter.

When selecting electronic to use with speakers, I often find myself in a quandary. Should I use equipment as a piece level that represents a typical or likely pairing, or should I use higher-end equipment that lets the speaker really show what it can do? As various audio shows, Focal's Aria models have been successfully demonstrated with Devialet D-Premier DAC-integrated amplifiers, which are also made in France and distributed by Audio Plus. I was sure that Audio Plus would have joined me a Devialet for this review, but that would have introduced a second unknown factor into the equation. Before being able to assess the sound of the nearfield measurement technique, but with the overall between the outputs of the three woofers and the midrange drive-unit in the same region. It's hard to visualize the conclusion that the Aria 936 will have too much upper-bass energy in all but very large rooms. I note that Bob Deutsch found that the Focal's bass sounded extended, but without the low frequencies sounding "bouncy or bloated," which suggests that the woofer alignment is on the overcompensated side. Though the tuning frequencies of the ports bracket 40Hz, close to the frequency of the lowest string of the electric bass and double bass, RD630 comment on the
die Aria 936, I would first have to compare the Devialet with other equipment that I was already familiar with, so that I could get a handle on the Devialet's contribution to the sound (see sidebar, "Confounding Cables, and Room Acoustics"). That would turn the gears into, in effect, a second review—searching I wasn't prepared to do.

So I went with the familiar; my ownouvreur Audio Technology SL1 hermèsence preamp ($7995), McIntosh MC275LE power amp ($3500), and last samples of PrimusUnu’s ProLoge Premium integrated (at $2599, a real-world option) and Simaudio’s Moon Evolution 740P preamp ($9000) and 860A power amp ($14,000). The Simaudio, being new models, weren’t entirely known quantities, but I was familiar with their respective precedences, the Moon Evolution P-7 and W-7. At one point I'd had both sets on hand for comparison, and knew that the pre/power combo was representative of today’s top solid-state electronics, the 740P/860A having even greater finesse than the P-7/W-7. My conviction on the sound of the Aria 936 represent a kind of “averaging” of the sound with the various amplifiers, with differences as noted.

Sound
Smooth, very smooth. Not smooth in the sense of glossing over or blunting the sharp transitions that characterize the sounds of certain instruments, but just not exaggerating or sharpening them. This was my initial impression of the Aria 936, and it persisted throughout extended listening.

One of my favorite ways of transient response is track 3 of the Chord Royal Jazz Sampler & Audiofile Test CD. The Aria 936’s excellent low-frequency extension I suspect that this is actually equal to the speaker’s exaggerated upper bass.

Fig.5 shows the Aria 936’s horizontal response (response to the tweeter axis). The midrange and treble are extraordinary smooth and even. The rise in response due to the tweeter's primary diaphragm resonance occurs at 5kHz; and it can be seen that there is a sharply defined one octave above 20kHz, but below the frequency of the tweeter resonance. A loudspeaker's perceived tonal balance depends not just on its frequency response but also on how that response changes with frequency.
in the flat (or bypass) position. Bass, midrange, and treble were all present as a well-balanced mix, with no part of the audio being jumping out at me or sounding too muted.

One thing the Aria 936 was not was "bright." I mention this specifically, because in my occasional browsing of Internet audio forums, I've encountered the statement that "Focal speakers tend to be bright." Based on my experience with the Aria 906, 936, and Exaltus, the latter being a Chorus 826W, I must disagree. Extended highs, transparent to the natural characteristics of the recording and of the associated equipment—yes, but what I was able to determine, the Aria 936 did not add significant brightness of its own. I can certainly imagine that with a cheap-and-not-so-charming amplifier, and a particularly "dry" source, the resulting sound could be brighter than ideal. I preferred to set my Ayre Acoustics OK-9 Evolution CD player to go listen rather than in Measure Eight—but then, that was my personal preference as well. While there were differences in the sound depending on whether the electronics were the solid-state Simaudio Moon pair or the tube CAT and McIntosh, in neither case could the sound be described as too bright—or too soft, for that matter. Vocal subtleties are, for sure, the most telling indicators of exaggerated treble—a "gritty" character that I find very annoying. However, the treble of the Aria 936 was clean and extended but not overly bright, with no emphasis added to vocalists—a tribute to the design of Focal's new tweeters. I noted earlier that one of my reasons for choosing the Aria 936 over the smaller Aria 926 was that the 936 has an additional woofer and a claimed bass extension to 32Hz, or 95Hz lower than the 926. I was concerned that the bass might be too much for my room, but that wasn't a problem. (The pair of ASC Bass Traps in the front corners probably helped with this.) The bass sounded extended but not quite as low as or room-filling as the GoldenEar Triton Two, but at least comparable to the PSB Imagine T2. The Aria 936 went lower enough to pass as a very low-frequency test. The 32H synthesizer note at the beginning of "Temple Caves" (from Mickey Hart's Planet Drum, CDE, Inc.) with maybe a 1Hz more than the PSBs. Double basses, bowed or plucked, were firm, not weak or exaggerated, and no obvious unevenness manifested throughout the instrument's range. Crotchettes—a speaker drawing attention to the fact that the sound heard is not being made by musicians playing instruments in the room but are emanating from a box and result from vibrations produced by transducers—are endemic to loudspeakers, and controlling them represents perhaps the greatest challenge in speaker design. The Aria 936 did exceptionally well in this department, mixing very little "speaker sound" in with the music. For the most part, Focal is easy to pretend that the sound is in my head but not coming from a box. I'm not sure whether other speakers accomplish this as well as the Aria 936, and I don't want to go down that road. Usually there are solid technical reasons for not using my usual cables—eg, the speaker needs to see a specific characteristic cable impedance—I prefer to stay with cables whose sound is familiar to me.

For several years now, I've standardized on Nordost Vathella speaker cables, interconnects, and power cables.
Conclusions

"A big, spacious sound, tonally neutral, with impressive dynamics, and powerful bass for the size of the speakers."

That was my capsule description of the sound of Focal's Chorus 826V 35th Anniversary, and it also describes the Aria 936, which is all of those things—and more. As beheld in somewhat larger size and additional woofers, the Aria 936 reaches further down into the bass, without the bass sounding boomy or bloated. No longer having samples of the Chorus 826V on hand for comparison, and thus having to rely on my memory and listening notes, I may be on this set here, but I’m comfortable saying that the sound of the Aria 936 is more detailed and more transparent, and its highs are particularly clear and extended without sounding in any way forward or clinical. Soundstages are bigger, and vocal images within those soundstages are more precisely defined.

The word "stove" has long been associated with the reproduction of music, going back to His Master’s Voice, Electro-Voice, and Altec’s Voice of the Theater. It is thus most appropriate that Focal has named their newest line of speakers Aria, a term that refers to vocal music. With the right source and suitable paring of electronics, the Aria 936 sings with a beautiful voice.
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