PRODUCT Focus SPEAKERS

FOCAL-JMLAB ELECTRA 1007BE MINI-MONITOR

Poor Man's MAGICO Mini?

Jonathan Valin

It's easy to understand why so many serious listeners prefer two-way mini-monitors to other loudspeakers. Minis fulfill the first imperative of any piece of stereo gear—to disappear as a sound source—better than any other kind of dynamic speaker (and, when well-designed, better than many 'stats and planars); they're small and compact but often sound large and expansive; with only two small drivers and two small enclosures, they come closer to the point-source ideal than multiways; they are typically flat in frequency response, low in distortion, high in resolution, and well-behaved on transients; and they have the immeasurable advantage of not having much bass.

What's that, you say? Immeasurable *advantage?*

Well, yeah, from a certain perspective having less bass *is* an advantage.

First of all, bass response is highly room-dependent, and there is nothing most small-to-medium-sized listening rooms like better than screwing it up. Where would any self-respecting room be without its 60–80Hz hump in the midbass, repeated an octave higher in the 80–160Hz range, followed, of course, by that delightful power-range rollercoaster ride in the upper bass/lower midband from 160–500Hz? By the time a typical listening room is done with that bass you paid so dearly for, you probably can't hear anything below 60Hz very clearly—and sometimes, not much immediately above it.

Second, too much bass also screws up transient response. Ever wonder why two-ways reproduce the "rip" of forcefully bowed cellos or doublebasses or the tamp of beaters on drumheads so cleanly? Well, it's because those transients, which live in the midrange and not the bass, aren't dulled or veiled or overwhelmed by the sound of the pitches below them being shouted out by an entirely different, larger, slower, louder, less articulate driver. Paradoxically, two-ways are often clearer in the bass—even though they don't have much bass—because they reproduce the upper partials of bass notes with less distortion than three- or four-ways with big, lumbering woofers. Just listen to any cello/doublebass ostinato through a two-way and then through a multiway. I'd be willing to bet that, in the vast majority of cases, the individual notes are clearer through the two-way (though pitches, tone colors, and dynamics will, of course, not be 100% right).

Third, too much bass can also screw up midband timbre. Part of the reason that most voices and many instruments sound so realistic, so freed-up, so "there" on two-way mini-monitors (or 'stats and planars without much deep bass, for that matter) is that two-ways aren't dragging a big, sluggish, resonant, unnecessary woofer around with them (or the big, sluggish, resonant enclosure that houses that woofer). No matter where it crosses over, a woofer (just like a subwoofer) is inevitably adding its own low, slow, lugubrious voice to the human and instrumental voices you're trying to reproduce, unnaturally darkening their timbres by faintly "overlapping" the sound of the midrange driver and, essentially, overemphasizing fundamentals at the expense of harmonics as well as slowing down transient response.

Yup, no question about it. Bass is a bane of stereo systems.

But before you start disconnecting your woofers, consider this: Too little bass is just as destructive of the absolute sound as too much. Too little bass, particularly mid-to-upper bass, means too little foundation on voice and many instruments. (Virtually every instrument, save for some of the highest-pitched winds, has lower-pitched fundamentals in the 60–160Hz region.) Too little bass means the color and body of these notes are thinned out and the entire gamut tipped towards the treble. It makes no difference how well behaved a tweeter is. If the right compensatory weight and

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color in the mid-to-upper bass/lower midrange isn't there to balance it, the tweeter will tend to dominate, creating a thin, fast, hyper-detailed, "analytical" sound. The key to a successful two-way is getting bass-to-treble balance just right.

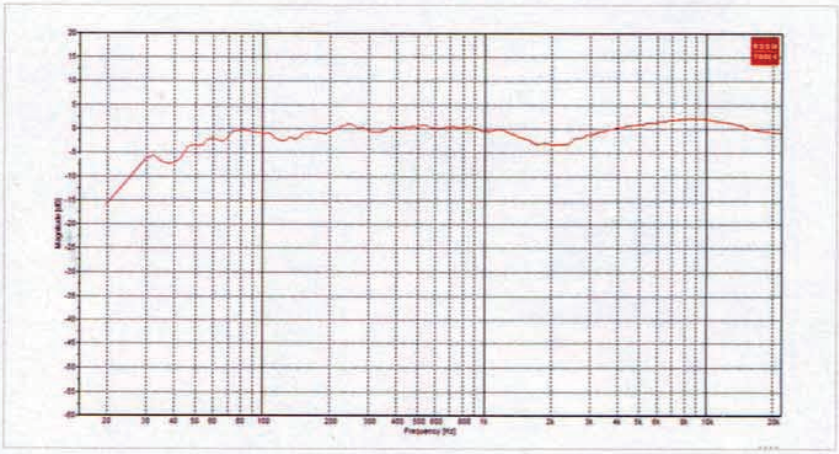
There are different ways to go about this. The venerable BBC school, for example, used an artful bit of psychoacoustic trickery, slightly boosting the upper bass and slightly reducing the low-to-mid treble to achieve an illusion of balanced tonality. For the most part, this deception works beautifully, though, having spent the better part of a decade listening to various LS3/5a's, I can tell you that the absence of genuine low bass and midbass will eventually wear on you with orchestral music, and even with certain chamber music.

Though not above a bit of frequency-response trickery of its own, the new school of two-way mini-monitor design, of which the MAGICO Mini is the current paragon, generally uses more straightforward means. Designers like MAGICO's Alon Wolf mostly aim at supplying not the illusion of mid-to-deep bass and top-to-bottom balance but the actual articles. How can this be done in a small package? Well, driver, enclosure, crossover, and stand technologies have considerably advanced since the heyday of the LS3/5a. (The gold/silver Raimund Mundorf capacitors in the Mini II, for instance, cost a good deal more than a pair of original LS3/5a's. Plus, something like the Mini's enclosure is far bigger, heavier, and more sophisticated than that of an LS3/5a.) Of course, you pay a price, quite literally, for these technological advances. At $26.4k (with stands) for the Mini II versus $1.7k for the latest iteration of the LS3/5a from Stirling Broadcast, the difference in cost goes beyond substantial to stratospheric.

That brings me to the Focal-JMlab Electra1007Be—the speaker under test.

At $4500 (its optional S 1007 dedicated stands add another $700, and, IMO, shouldn't be considered optional), the 1007Be isn't cheap for a two-way. On the other hand, $4500 is about one-sixth the price of a MAGICO Mini II for a speaker that capitalizes on some of the same technological trends as the Mini and offers some of the same sonic virtues.

Let's start with a quasi-anechoic frequency response plot of the 1007Be (taken with the speakers bolted to their stands and spiked to the floor), as it neatly illustrates all that I just said about the new school of mini-monitor design.



Outside of a bit of suckout where the tweeter crosses over to the mid/woof at 2kHz and a slight elevation in the mid-treble, this is exceptionally flat frequency response. Though the 1007Be doesn't have much low bass, its mid-to-upper bass is fairly smooth and substantial for a two-way—down 4dB at 50Hz (referenced to 1kHz) and 7dB at 40Hz. (Focal claims a –6dB point of 41Hz, which pretty well corresponds with this measurement.)

Of course, you probably won't achieve such flat response in the real world of a listening room. Bass, including port output which in the 1007Be is at the rear of the speaker, will be lifted (not necessarily uniformly) by walls and floor, and treble response may be affected as well, depending on room treatment and distance from sidewalls. Nonetheless, the quasi-anechoic plot amply illustrates the design goal of Focal-JMlab and, if on-paper-performance translates to the real world, indicates that, all other things being equal, the 1007Be will likely be an exceptionally high-fidelity transducer.

Technologically, the 1007Be is a very refined mini. Its tweeter and woofer are quite sophisticated (and Focal has the advantage of making its own drivers and thus being able to tailor them to specific applications). The ultrawide-bandwidth tweeter, which uses Focal's "infinite acoustic loading" (IAL) system, is a 1" inverted dome made from beryllium (hence the "Be" in the speaker's name—beryllium is said to be seven times stiffer than aluminum or titanium with two-and-a-half to three times the propagation speed of these other metals); the 6.5" mid/woofer is a patented woven-glass/Rohacell-foam sandwich of exceptional stiffness and very low mass. Focal's 36dB/octave "optimum phase" crossover (OPC), like its drivers the end product of many years of R&D, is said to result in phase-perfect matching of the tweeter and mid/woof. The edgeless, internally braced, "gamma" enclosure—

Specs & Pricing

Type: Two-way, port-loaded mini-monitor
Drivers: 6.5" "W"-cone woofer, 1" IAL beryllium tweeter
Frequency response: 46Hz–40kHz (-6dB at 41Hz)
Sensitivity: 89dB
Impedance: 8 ohms (nominal)
Power handling: 90W
Dimensions: 15-3/16" x 10-3/8" x 10-3/4"
Weight: 33 lbs.
Price: $4500 ($700 add'l for S 1007 stands)

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egg-shaped like that of the Mini—is moulded from resins and six layers of 3mm-thick MDF, with a curved, 50mm-thick MDF front baffle and a parabolic "Turbulence Free" rear port.

As its frequency-response plot would suggest, the 1007Be does sound impressively natural in timbre on most instruments and voices. What the frequency response graph *doesn't* tell you, however, is how extremely detailed the speaker is, how completely it disappears into a soundfield that is large and dimensional, how little sound its drivers have (although I'd have to say that Focal's beryllium tweet draws a bit more attention to itself than the ScanSpeak Revelator in the MAGICO Mini), or how quick and dynamic its treble and midband are (its bass *a bit* less so, but still pretty damn good for a 6.5" driver).

As I said earlier, even a flat-measuring tweeter like the 1007Be's needs to be balanced by the *right amount* of bass to avoid skewing the speaker's sound toward the treble. In room, bolted to its S 1007 stands, the 1007Be *has* the right amount of bass—sounding surprisingly full, flat, deep, balanced, and never less than highly detailed on well-recorded LPs or CDs. (This thing can separate out the low timpani beats from the equally-low sustained piano chords in the magical Assai lento of Bartók's *Sonata for Two Pianos and Percussion* [Philips] as well as any two-way I've heard short of a Mini—and with decent weight and tone color.) But the 1007Be's bass-to-treble equilibrium is delicate, and given a brightish source, it will reflect what it is being fed, though it'll never tear your ears off. Even on good sources, it adds a bit of energy and sheen in the upper octaves. (The MAGICO Mini I does roughly the same thing, by the way.) Now, this *very* mild coloration happens to be one that I like because, to me, it is consonant with the sound of live music in a lively hall. I *like* the little extra touch of presence, resolution, brilliance, and transient speed—so reminiscent of the sound of ARC or Edge electronics (or live music)—that the 1007Be adds to upper-octave piano, violins, and winds; it is only fair to note, however that, as with the Mini I (but not the Mini II), it is a slight additive.

You could call the 1007Be's balance honest and highly revealing. And you wouldn't be wrong. But it is also a touch toward what the Sage of Sea Cliff would call the "yang" side. If a record or CD is poorly recorded, the 1007Be tells you so (without making it unlistenable). If it is well recorded, like the fabulous Decca Headline LP of John Cage's charming, gamelan-like sonatas on *Mr. John Cage's Prepared Piano*, the 1007Be is purely, realistically, swooningly gorgeous.

As for the music it best serves, the 1007Be, predictably, is better with smaller-scale pieces than larger-scale ones. This is not to say that it can't reproduce a symphony orchestra with considerable fidelity; it can. But it won't reproduce cello and doublebasses going full bore, like those of the Berlin Philharmonic in the majestic Andante of Prokofiev's Fifth Symphony [DG], with the kind of sweep and authority that lovers of this kind of music typically demand. If power music, pop or classical, is typically your fare, then you'll either have to live with any two-way's inevitable limitations in the bass, opt for a subwoofer, or find a different kind of speaker.

The Electra 1007Be is a tremendous improvement over the last Focal-JMlab speaker (the Mini Utopia) I reviewed, better than a decade ago. Back in the late '90s, Focal-JMlab transducers tended to sound rich, authoritative, and opaque, heavily weighted toward the upper bass/lower mids. If the 1007Be is representative, that signature has now come around nearly 180°. The 1007Be is a lively, highly transparent, exceptionally detailed mini-monitor of considerable accuracy, relatively low distortion, and high fidelity. If I were in the market for a two-way and didn't have MAGICO Mini money, I'd certainly give it a long, long listen. No, it won't take you all the way to MAGICO Mini Land, but it'll drop you off in a nearby neighborhood, for one-sixth the dough. For listeners whose musical taste jibes with the virtues and limits of two-ways, it is *highly* recommended. **TAS**

Setup

The Electra 1007Be bolts to its $700 S 1007 stands with supplied hardware (well, supplied to everyone but me—my nuts and bolts were apparently misplaced when the speakers were shipped, some would say when I was born). Do use the supplied hardware and spikes. The difference in overall transparency and resolution and the reduction in midbass thickness are significant. The stands are surprisingly sturdy but only 26" tall. This may or may not present a problem, as the 1007Be's like to be listened to with the tweeter at or just below ear height. If you sit above the tweeter, the sound, which is already delicately balanced, brightens considerably. Be sure your sofa or couch isn't too tall for these numbers. Seating can be raised but, short of a hacksaw, it's hard to lower it.

Setting up the 1007Be's in-room is relatively straightforward. You want them to be well away from sidewalls and the backwall, with the speakers toed-in so you're listening on axis. If you feel the port/room interface is making the bass too "one-note," Focal supplies soft foam bungs that can be inserted into the port to reduce its output by 3dB. (I did not have a problem with the bass.)

As for driving the 1007Be's, the best sound I got was with the Audio Research 610Ts (not a combination anyone would be likely to use, I'll grant, but maybe a smaller ARC amp like the Reference 110 would be). On voices, such as Shawn Colvin singing "Viva Las Vegas" (from *A Tribute to Doc Pomus* [Rhino]) or Aaron Neville singing "Save the Last Dance for Me" (from the same album), the tubes and the Electras made both singers sound three-dimensionally "there" in a way that no solid-state amp did. OTOH, something like GamuT's DI 150 integrated amp, reviewed in this issue, also powers these little Minis quite wonderfully well, with more transient speed and superb low-level detail. Like all speakers, the 1007Be's require substantial break-in. **JV**