Opera Callas loudspeaker

By John Marks • Posted: Oct 30, 2013 • Published: Aug 1, 2013

Colleen Cardas strongly urged me to try the Callas loudspeaker from Opera Loudspeakers (whose products she also distributes in the US), which she claimed was an ideal match for the Unison S6 amplifier I reviewed last August. In my experience, the stand-mounted Callas ($5000/pair) is unique among loudspeakers in being the logical contrapositive (inverted and flipped, so to speak) of the usual D'Appolito driver array of midrange-tweeter-midrange (MTM).

In the well-known D'Appolito array, one tweeter is partnered with two midrange drivers, one each above and below it. Opera's two-way Callas has one vertically centered 5" mid/woofer with a copper phase plug, and identical 1" soft-dome tweeters above and below it. As if that weren't enough, on the narrow

rear panel are three more tweeters, identical to those in front, in a vertical array. The enclosure has two small ports, side by side at the top of the rear panel.

The Callas measures 14.8" high by 9" wide by 13.4" deep, its cabinet symmetrically tapering toward the rear, and weighs about 57 lbs. The cabinet is made of elegant solid woods and veneers in a high-gloss finish of medium-shade cherry (except for the recessed, black-painted base plate), with black leather cladding on the faceted fascia. There's a small brass badge on the base plate. Front grilles are provided, but I didn't use them. A single pair of robust, naked (non–Euro-Nanny) speaker terminals is at the bottom rear. Opera claims for the Callas a frequency range of 32Hz–25kHz, sensitivity of 86dB, and a nominal impedance of 4 ohms. The mid/woofer and front tweeters are crossed over at "around 1500Hz," the rear tweeters at 2000Hz.

Sound Quality

I placed the Callases on 24"-high stands about 5' apart, 2' from the front wall, and toed in to face my listening position, about 8' from each speaker, and toward the nearfield side of midfield listening.

After hooking up the Callases, I braced myself to be bombarded with five times as much treble as normal, even with a tube amp like the Unison S6 that was a bit on the rich side. My fears were totally unfounded. The Callas was very well-behaved, with a genuinely sweet disposition. That just goes to show that a name is not always an omen. (Diva Maria Callas was reportedly a bit of a handful on her bad days.) After quite a bit of listening to the Callas-S6 combination with Parasound's CD 1, via Cardas Clear interconnects and speaker cables, I came to some strongly held conclusions.

First, this is just a great system, ready for you to pack up and take home—a true get-off-the-audio-merry-go-round system. Colleen Cardas was right: the S6 and Callas are hugely synergistic.

Second, I was pleasantly surprised by both the dynamic capability and the bass extension of the Callas-S6 combo. Unlike with many two-way speakers, I never got the sense during most normal listening (as distinct from playing very loud to impress myself or friends) that there was "almost" enough bass—there really was enough bass.

Third, as expected, the Callas-S6 combination was the timbral polar opposite of the Spiral Groove Canalis-AVM receiver system. The latter led with information from the treble, the Callas-S6 with tones from the midrange.

The Callas-S6 combo delivered a sound that was, first of all, widescreen. I think the rear tweeters produced a wider soundstage than conventional speakers (there was no way to turn the rear tweeters off), in a way reminiscent of most Shahinian speakers. There was never a sense of too much treble

unless the recording itself was too hot; the treble and midrange were very well integrated. In addition to being widescreen, the sound was a bit soft-focus, but by no means grainy. Last, tonalities were a bit on the Technicolor side, but always addictively enjoyable.

In addition to the recordings mentioned above and in my last column, the most frequent flyer of which was Aaron Diehl's *The Bespoke Man's Narrative* (CD, Mack Avenue MCD 1066), I spent a lot of time with a new set of old works by Arthur Bliss (5 CDs, EMI Classics 29018); a wonderful set of symphonies and orchestral works by Franz Berwald, performed by Roy Goodman and the Swedish Radio Symphony Orchestra and engineered by Tony Faulkner (2 CDs, Hyperion Dyad 22043); Iona Brown and Josef Suk's underrated recording of Mozart's *Sinfonia Concertante* with the Academy of St Martin-in-the-Fields (CD, Argo/Decca 411 613); Lucia Popp's radiant disc of Mozart opera arias (CD, EMI Classics 09679); David Oistrakh's recording of Brahms's Violin Concerto with Otto Klemperer and the French National Radio Orchestra (CD, EMI Classics 74724), which sounded better than ever through the CD-1–S6–Callas system; Mahler's Symphony 3 with Glen Cortese conducting the Manhattan School of Music Orchestra (2 CDs, Titanic), which did not make the system cry "Uncle"; and, to change things up, Procol Harum's *In Concert with the Edmonton Symphony Orchestra* (A&M/Mobile Fidelity Sound Lab) and L. Subramaniam's *Electric Modes* (2 CDs, Water Lily Acoustics WLA-ES-4&5-CD).

Summing Up

It's funny that, 10 years ago, while reviewing Unison's S2K amplifier, one of the speakers I listened to was the late, lamented ASA Pro Monitor, a two-way stand-mount from France that I and a few others (including Sam Tellig) found offered a musical trueness very difficult to describe. The Pro Monitor's recipe was simple: an Esotec rather than an Esotar tweeter, a Dynaudio 6.5" mid/woofer with a magnesium basket, a double-walled cabinet clad in ¾"-thick exotic hardwoods, and a simple crossover with premium parts. Perhaps the real secret, though, was that all of ASA's design decisions, such as using the less swank of Dynaudio's available high-end tweeters, were claimed to have been arrived at by listening. By the time ASA threw in the towel, the US price of the Pro Monitor had risen to $5000/pair.

Opera claims on its website that "every single aspect of the [Callas] design was subjected to intense musical listening tests at Opera." I can believe it—the Callas sounds like that kind of a speaker. So if you regret having missed the ASA Pro Monitor, here's that rare thing in life: a second chance. And the price hasn't even gone up.

To sum up the Opera Callas: luscious midrange, sweet treble, large soundstage, surprising bass, eminently listenable; Class B (Restricted Extreme Low Frequencies).

Opera Callas loudspeaker Specifications

Sidebar 1: Specifications

Description: Two-way, reflex-loaded, stand-mounted loudspeaker. Drive-units: two 1" dome tweeters, one magnesium-cone woofer, three rear-firing dome tweeters. Crossover frequencies: "around 1500Hz," front drivers; 2kHz, rear tweeters. Frequency range: 32Hz–25kHz. Sensitivity of 86dB/W/m.

Nominal impedance: 4 ohms.
Dimensions: 14.8" (376mm) H by 9" (229mm) W by 13.4" (340mm) D. Weight: about 57 lbs (26kg) each.
Serial numbers of review samples: .

Price: $5000/pair.
Manufacturer: Opera Loudspeakers, A.R.I.A. Advanced Research in Audio, via Barone 4, 31030 Dosson di Casier (Treviso), Italy. Tel: (39) 0422-633547. Fax: (39) 0422-633550. Web: www.operaloudspeakers.com. US distributor: Colleen Cardas Imports. Web: www.colleencardasimports.com.

Opera Callas loudspeaker Measurements

Sidebar 2: Measurements

John Marks was impressed by the Callas stand-mounted loudspeaker from Italian manufacturer Opera Loudspeakers. The Callas is unusual in that it has tweeters mounted above *and* below its single SEAS magnesium-cone woofer. The conventional wisdom is that the higher the frequency, the closer together you need to position drive-units covering the same passband if you want to avoid unwanted off-axis lobing. Not only does the Callas break that rule, it also has three rear-firing tweeters mounted vertically in-line on its rear panel, below a pair of reflex ports.

Nevertheless, JM was impressed by what he heard. Driving the Callases with Unison Research's S6 amplifier, he wrote that he "was pleasantly surprised by both the dynamic capability and the bass extension of the Callas-S6 combo. Unlike with many two-way speakers, I never got the sense during most normal listening (as distinct from playing very loud to impress myself or friends) that there was 'almost' enough bass—there really was enough bass. . . . There was never a sense of too much treble unless the recording itself was too hot; the treble and midrange were very well integrated."

Intrigued, I asked JM to ship the speakers to me when he was done with them, so that I could run them through my test protocol. I used DRA Labs' MLSSA system (www.mlssa.com) and a calibrated DPA 4006 microphone to measure the Opera Callas's frequency response in the farfield, and an Earthworks QTC-40 for the nearfield responses. The Callas is not very sensitive, its estimated voltage sensitivity a low 84.3dB(B)/2.83V/m. However, it is a relatively easy load for the partnering amplifier to drive, its impedance magnitude (fig.1, solid trace) dropping below 6 ohms only in the low midrange and high treble, and reaching a minimum value of 3.7 ohms at 165Hz.

The traces in fig.1 are free from the small wrinkles that would imply the existence of cabinet resonances. However, when I investigated the vibrational behavior of the enclosure, I found a

fairly strong resonance at 586Hz on the sidewalls (fig.2). This is probably high enough in frequency to have no negative effect on sound quality. There was also a lower-level mode at 350Hz on the top of the cabinet, but again, this is unlikely to affect the speaker's sound, given the small radiating area affected by the resonance.

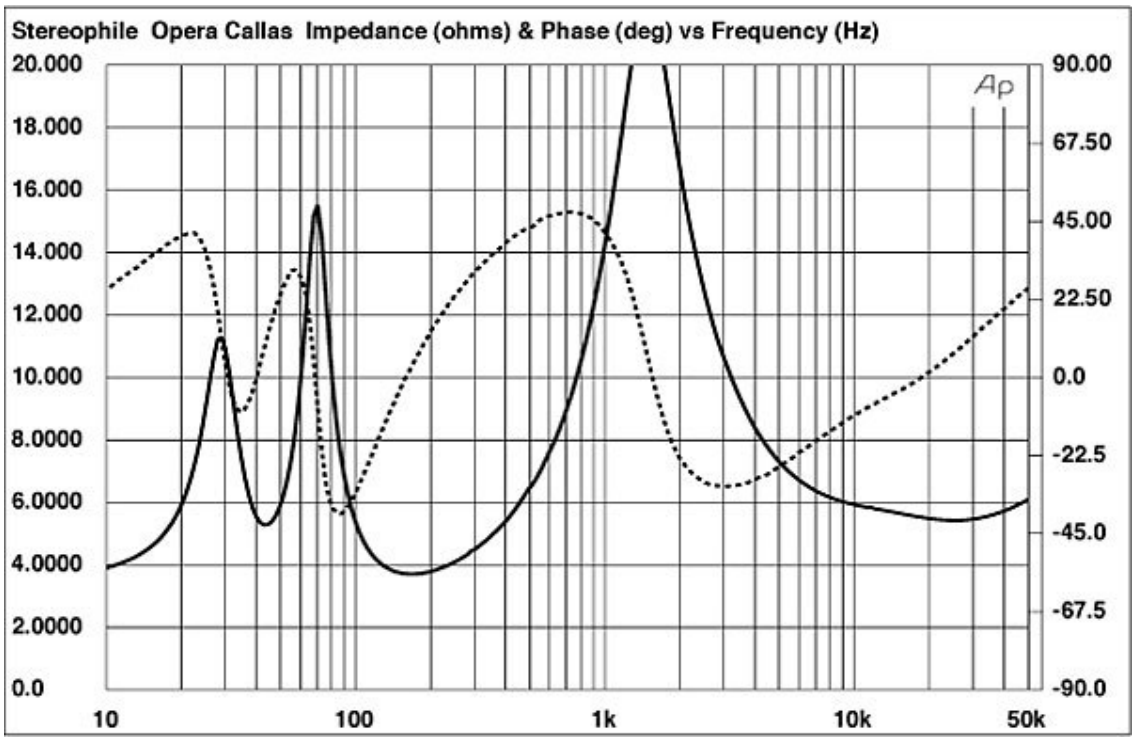

Fig.1 Opera Callas, electrical impedance (solid) and phase (dashed) (2 ohms/vertical div.).

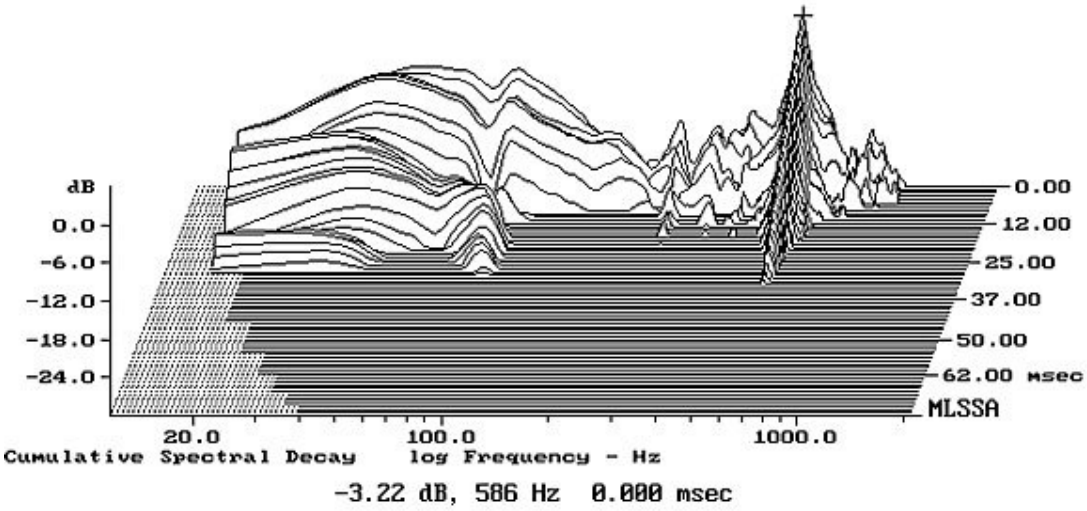

Fig.2 Opera Callas, cumulative spectral-decay plot calculated from output of accelerometer fastened to center of side panel (MLS driving voltage to speaker, 7.55V; measurement bandwidth, 2kHz).

The saddle centered on 42Hz in the impedance-magnitude trace in fig.1 suggests that this is the tuning frequency of the two small ports on the cabinet's rear panel. Measured in the nearfield (fig.3, blue trace), the woofer output's minimum-motion notch (*ie*, where the back pressure from the port resonance holds the cone stationary) is indeed at 42Hz. The ports' output (red trace) peaks in textbook fashion between 30 and 65Hz, but there is also a vicious-looking peak visible at 700Hz. I could hear this peak as a slight whistle imposed on the sound of pink noise when I stood behind the speaker, but it's fair to note that JM didn't remark on any coloration in the upper midrange that could have resulted from this port behavior.

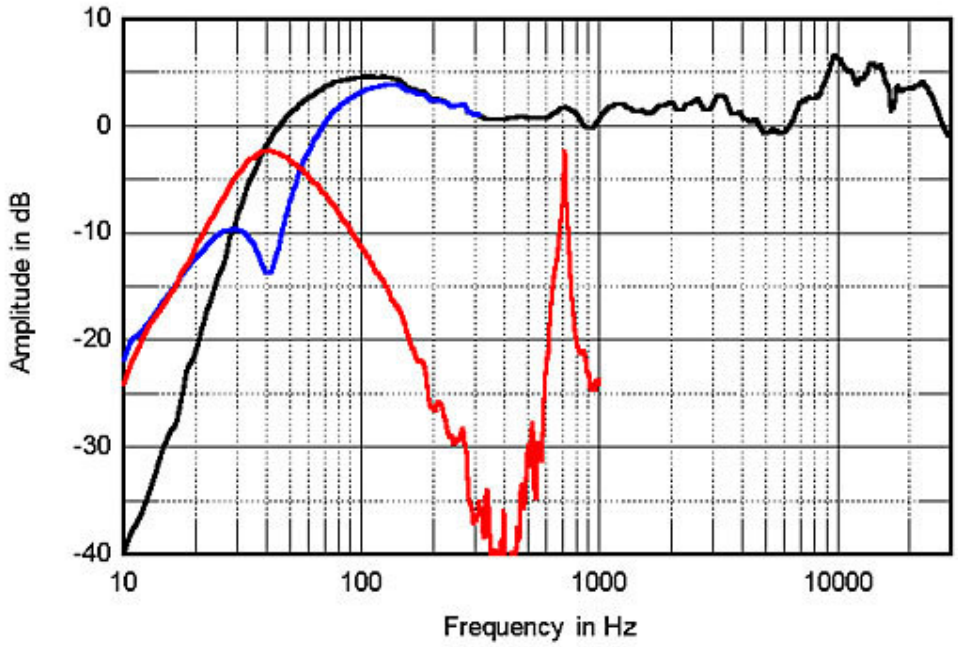

Fig.3 Opera Callas, anechoic response on woofer axis at 50", averaged across 30° horizontal window and corrected for microphone response, with nearfield responses of woofer (blue) and ports (red) and their complex sum, respectively plotted below 310Hz, 1kHz, 310Hz.

Higher in frequency in fig.3, the Callas's farfield response is impressively flat from the midrange through the mid-treble, though with a vestigial peak at the approximate frequency of the ports' midrange resonance. Though JM didn't feel that the speaker's treble sounded exaggerated, there is actually a significant excess of energy between 8 and 24kHz. To some extent, this will be compensated for by the speaker's increasing directivity in the horizontal plane in this region (fig.4). However, the room's reverberant field will be boosted at high frequencies by the fact that the farfield response at the speaker's rear (fig.5) is also boosted in the top octaves, thanks to the three rear-firing tweeters. An upper-midrange peak can be seen in this graph, though peculiarly, it is a little lower in frequency than the peak in the ports' nearfield output.

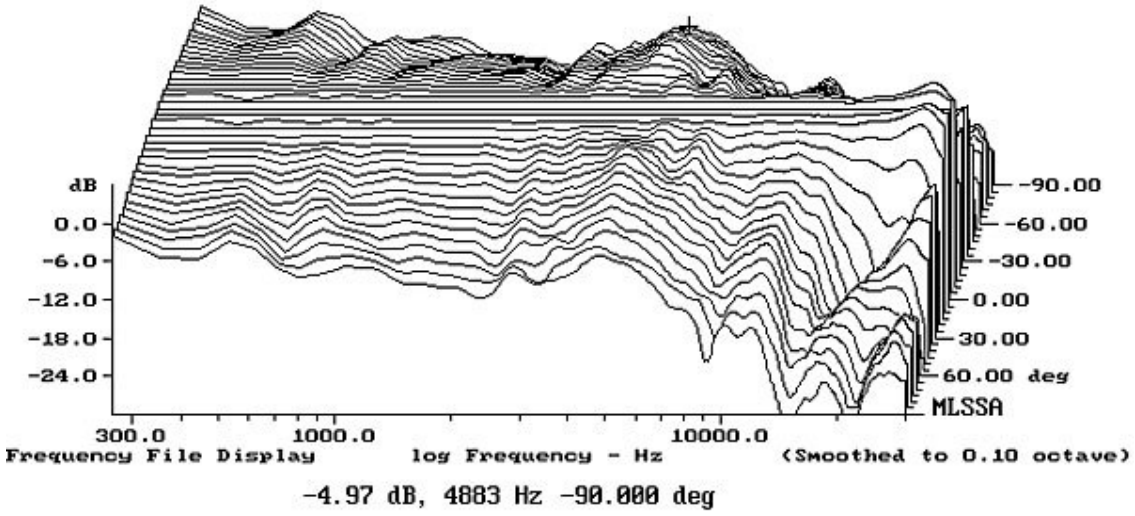

Fig.4 Opera Callas, lateral response family at 50", normalized to response on woofer axis, from back to front: differences in response 90–5° off axis, reference response, differences in response 5–90° off axis.

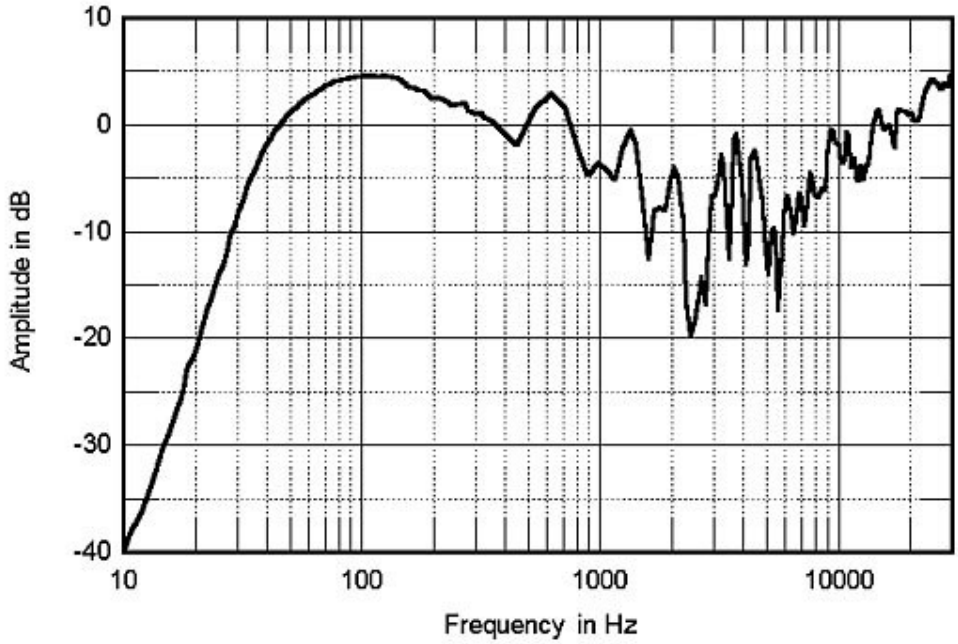

Fig.5 Opera Callas, anechoic response from behind at 50".

In the vertical plane (fig.6), there is the inevitable pattern of off-axis peaks and dips that result from the spaced tweeters. This speaker definitely needs to be listened to on the woofer axis to get the most even balance treble balance, though moving slightly above or below that axis will pull down the top octave a little.

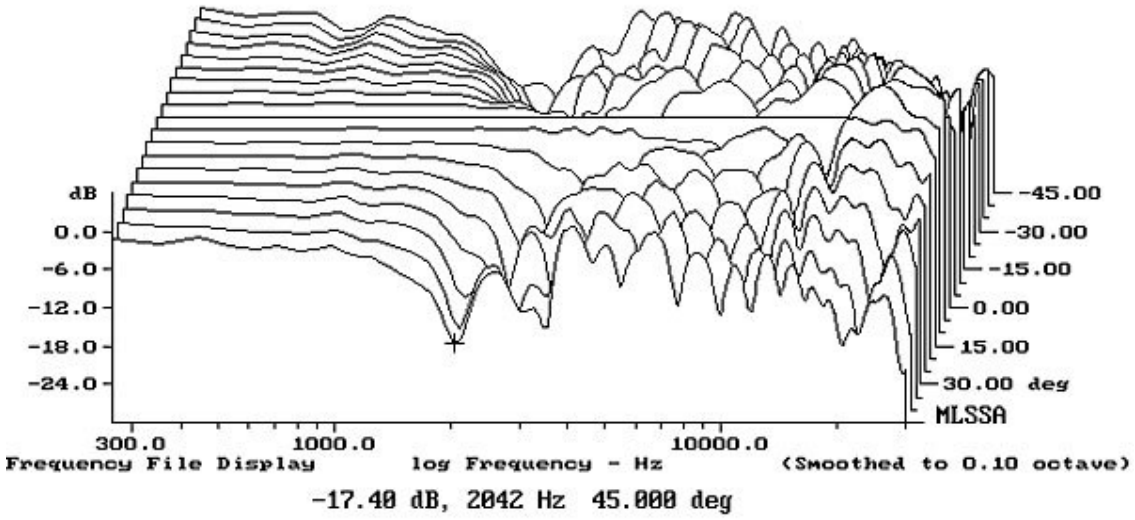

Fig.6 Opera Callas, vertical response family at 50", normalized to response on woofer axis, from back to front: differences in response 45–5° above axis, reference response, differences in response 5–45° below axis.

The Opera's step response on the woofer axis (fig.7) indicates that all three drive-units on the front baffle are connected with positive acoustic polarity, and that the outputs of the tweeters lead that of the woofer by a small amount. Other than a very small amount of delayed energy at 3.2kHz, probably due to a residual mode in the woofer's cone, the Callas's cumulative spectral-decay plot is superbly clean (fig.8).

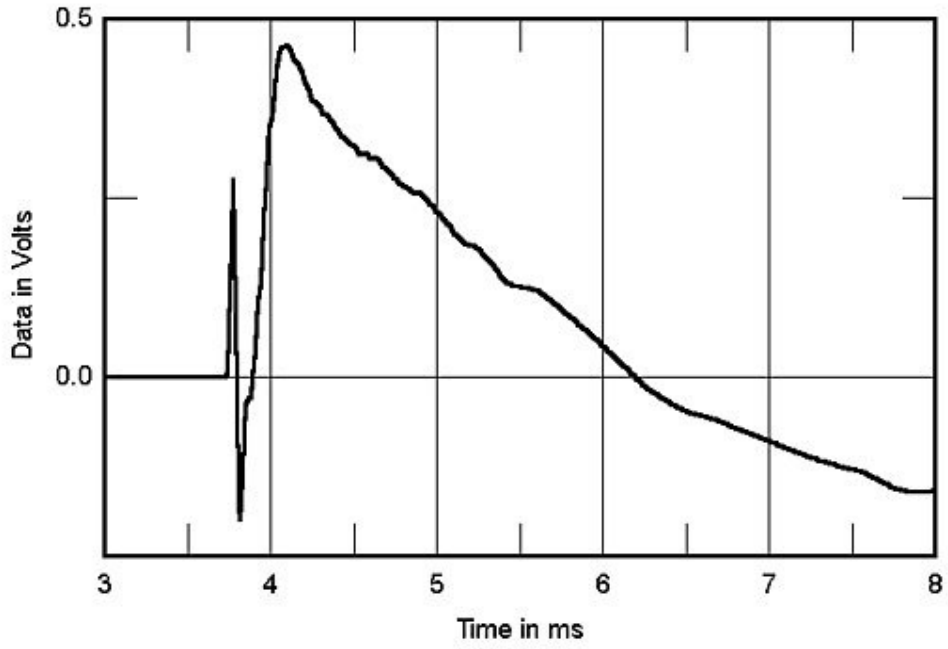

Fig.7 Opera Callas, step response on woofer axis at 50" (5ms time window, 30kHz bandwidth).

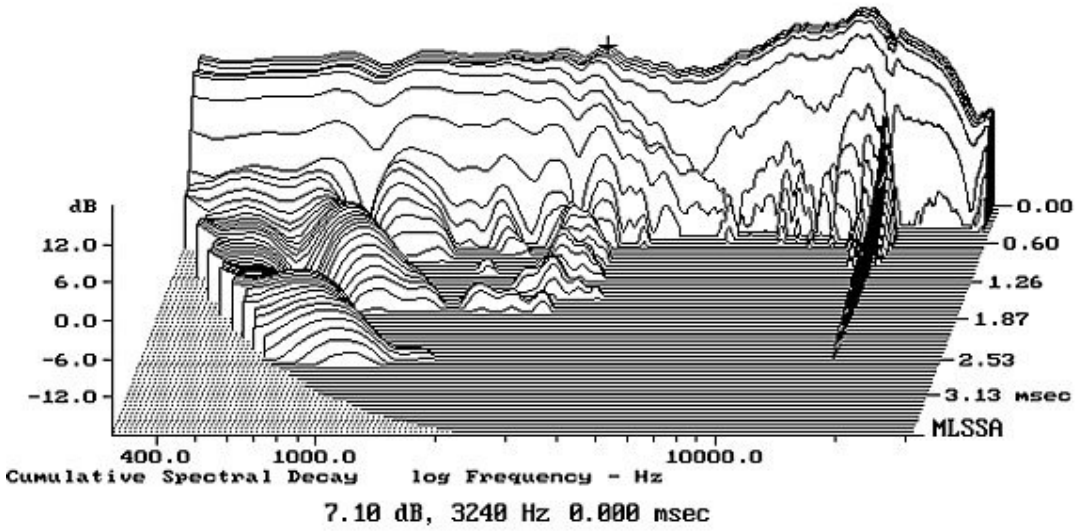

Fig.8 Opera Callas, cumulative spectral-decay plot on woofer axis at 50" (0.15ms risetime).

Again from JM's review: "To sum up the Opera Callas: luscious midrange, sweet treble, large soundstage, surprising bass, eminently listenable; Class B (Restricted Extreme Low Frequencies)." Other than that resonant mode in the ports' output and the excess of high-treble energy, I would say that its measured performance confirms JM's high opinion of the Opera Callas's sound quality.—**John Atkinson**