Subject: Re: Usage of Zmin
Posted by Wayne Parham on Thu, 20 Oct 2005 13:33:50 GMT
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The method of impedance determination was one of the things we discussed at the Prosound Shootout. I rarely describe the impedance of a horn being a fixed value because it is too peaky. Instead, I think it's better to look at the impedance curve. So when I wrote the test plan for the shootout, I left final interpretation for each of the participants to agree upon. We made a decision prior to measuring anything, and used the same method consistently for each speaker.We could use any value as long as it was consistent for all speakers tested and we all agreed. But it's nice to choose a figure that is easy to repeat in other tests and appropriate for comparison with other measured datasets. We didn't have time to accurately determine average impedance using the calculated area under the curve but we could have examined each chart and estimated an average over the 20-100Hz range. We considered using (min+max/2), but this would have given an artificially inflated figure. And we considered using Zmin, which is the most conservative method of all.In the end, we chose Zmin. It was the most consistent and least subject to interpretation. Of course, using Zmin as the value to determine RMS voltage for test gave the lowest power and SPL. If we had used some sort of average impedance value, the levels would have obviously been higher. It appears to me that using Zmin resulted in choosing voltage levels that correlated very well with expected SPL values. Zmin was David Lee's suggestion, and I think I agree with him that it is probably the best value to use when testing and when considering subwoofer setups, amplifier choices, etc.