Subject: Is this test valid?
Posted by tolits on Mon, 07 Jan 2008 18:46:37 GMT
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Is this a valid test? I tried measuring 2nd order distortion of my open back array using a tube limiter which reduces the negative going signal and Speaker Workshop to measure it and these are the result. Frequency at 1 power.When there is no limiting, this the value I get from the graph 2nd harmonic distortion at 200 HZ. My stimulus is 100 HZ sine. As I increase the limiting of the signal, it goes down to 1.4db , 1.22, 1.011, .537 , .357 . I am new to this software and it is quite difficult to use. Apparently any limiting to the negative going signal reduces 2nd order distortion ? What do you think? TIALitohttp://picasaweb.google.com/bernardo.lito/OpenBackArrays

Subject: constant power
Posted by lcholke on Mon, 14 Jan 2008 16:02:04 GMT
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Hi Lito,Are you keeping the power constant to the speaker? In other words, does the volume get lower as you limit more? 1/2 wave recifying should reduce the total power and apply a modulated DC supply to the speaker. How are the results with the polarity switched at the speaker.I still would like to hear how this effects the sound. -Linc

Subject: Re: constant power
Posted by tolits on Wed, 16 Jan 2008 07:54:09 GMT
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Hi Linc,Looking at the Vu meter of Speaker Workshop. It appears that signal picked up by the microphone has increased as the limiting signal is increased. Apparently, the speaker is becoming more efficient when there is a reduction on the negative going signal. When the limit is 0 , the 2nd harmonic I get at the 2nd harmonic graph is 4.03 .Vu meter reading for the microphone is 22,873 and -22,610 . With limiting signal increased or the reduction of negative going signal by 50% the 2nd harmonic distortion is down to .762. However, the signal picked by the mic has increased to 28,607 and -27,894 .This increase is proportional to the decrease in the negative signal.As I decrease the signal in small increments, the signal picked up by the mic increases which should not be unless the loudspeaker is becoming more efficient.Input signal is decreased but the output increases. I hope I am using SW correctly.What do you think? Lito

Subject: freq resp?

Posted by lcholke on Fri, 25 Jan 2008 12:46:00 GMT
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Hi Lito,The findings are interesting. I am very curious to see how the frequency plot would look with , and without the limiter. With the limiter between the pre amp and the power amp, you are forcing the power amp into class a mode (if it is a class b amp). This will affect your readings. Using S.W., see how the amp measures for the 2 tests. If there is no change, then the difference is in how the speaker responds with a DC bias in the signal. -Linc

Subject: Re: freq resp?
Posted by tolits on Sun, 27 Jan 2008 00:22:58 GMT
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Hi Linc,With the limiter on, the frequency response is smoother and it increases by 2.2 db.Lito