Subject: Re: resistive load
Posted by Wayne Parham on Fri, 04 Sep 2020 18:25:29 GMT
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Yes, each driver by itself has relatively low sensitivity. But by having several, you'll increase the sensitivity, just like you said. Double the number of drivers and you'll get 3dB increase. So two drivers is 3dB more sensitive than one, four drivers is 6dB more sensitive than one, and so on.

That's if you keep the impedance the same using a series/parallel arrangement. If you run 'em in parallel, the impedance is cut in half which sort of "cheats" by giving higher voltage sensitivity. What I mean by that is your amp will be supplying more current at a given voltage level, because of the decreased impedance, so that gives an SPL increase too - 'cause the power level has increased for the same voltage drive level. So if impedance changes, we're not comparing apples to apples anymore.

So really, if you just connected two drivers, you'd get a 6dB voltage sensitivity increase - provided the two drivers were connected in parallel. That's because you're get 3dB from the additional driver, and 3dB from the decreased impedance.

Anyway, after it's all said and done, by adding a bunch of drivers in an array, you'll increase the sensitivity as well as getting some other benefits.