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Subject: Re: 4pi build and questions

Posted by [Wayne Parham](#) on Wed, 14 Nov 2018 22:36:45 GMT

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There are two things to consider when substituting a driver with different impedance:

1. Voltage sensitivity
2. Reactive load

The voltage sensitivity is the easier of the two to understand. You need to match the SPL of the woofer and the tweeter at a given drive voltage. If their load impedances are different, then each will receive a different amount of power, because power is a function of the reciprocal of resistance ( $V^2/R$ ). So you have to match their sensitivity at a given voltage level, rather than to

95dB/2.83v/M whereas the 2226H generates 98dB/2.83v/M. Both parts generate 98dB/W/M, but the drive level to dissipate one watt is different.

The load presented to the reactive parts in the crossover is different, so the components must be scaled. Generally speaking, if the load impedance is doubled, then the inductance of the coils should be doubled and the capacitance should be halved. But this is not always exactly the case, so it's best to verify with testing.

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