
Subject: How is the One Pi dampened inside?

Posted by [Erik Johansson](#) on Fri, 14 Jun 2002 06:47:26 GMT

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I'm going to build a pair of Studio One Pi and the plans don't show how they should be dampened internally. Also, do the drivers need to be recessed in the front baffle?/Erik

Subject: Throwing in a small question along side Eriks.

Posted by [Mattias S](#) on Fri, 14 Jun 2002 07:03:12 GMT

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Would it be wise to use a resistor to protect the tweeter or is that unnesesary ?Regards // Mattias S - Sweden

Subject: Re: Throwing in a small question along side Eriks.

Posted by [Erik Johansson](#) on Fri, 14 Jun 2002 07:13:25 GMT

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Mattias, looking at pictures of One Pi it looks like they are dampened with an equivalent of Gullfiber (Swedish brand name for yellow glass wool insulation)./Erik

Subject: Piezo stuff

Posted by [Wayne Parham](#) on Fri, 14 Jun 2002 13:42:57 GMT

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For acoustic damping material, use R13 fiberglass insulation. I don't know if you have this designation in Sweden, but you can just find some that's 5-6cm thick. Put it on the bottom, back and the side nearest the port. About the piezo, I don't recommend adding series resistance, at least not the series value that is shown by CTS as a protection device. By the time you get even close to damaging the tweeter, you've long ago destroyed the woofer/midrange. So it isn't necessary. I used to install a very small value resistor in series, but I used it as a fuse and not as a current limiting device. And I was concerned about oscillation when I first considered using them too. But after nearly 30 years of experience, I can assure you that these are unwarranted measures. The kinds of circuits that encourage oscillation are unsuitable for use with piezo devices even with the resistor installed. Notice the previous post called "Don't go into clipping and check

for back-EMF", where Andy reports that his piezo tweeters "buzz" (oscillate) even with the so-called protective resistors installed.

Subject: hmm. piezo efficiency
Posted by [dbeardsl](#) on Fri, 14 Jun 2002 17:23:10 GMT
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How efficient are piezo's in terms of % electrical energy converted to acoustic energy? I know most high eff drivers range 1% to 4 or 5%. But a piezo has MUCH less current with such a high impedance... and they produce very similar acoustic output 92 - 96db vs 96 - 101 db. I don't know what kind of impedances piezos present, I've heard 50 ohms but I've also heard 1kohms, course it depends on frequency (piezo's are similar to a lossy Cap). Anyone ever calculate it?, I'd imagine it's in the 50% and up range.. ?

Subject: Specifications sheet for the KSN-1038
Posted by [Wayne Parham](#) on Fri, 14 Jun 2002 18:57:06 GMT
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The spec sheet for the KSN 1038 is shown below. You can click on the image for a high-resolution version. Motorola Piezoelectric Tweeter KSN-1038, KSN-1041, KSN-1056
