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Subject: Questions about piezo super tweet  
Posted by [BillEpstein](#) on Sun, 08 Feb 2004 15:25:29 GMT  
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I put an 8 ohm resistor across the posts of the KSN-1038. What did that do? Doesn't seem to attenuate. Is it limiting any frequencies? What about a small cap in series? Will that attenuate or smooth it but still let it go high?Us bats want to know?

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Subject: Re: Questions about piezo super tweet  
Posted by [Bill Martinelli](#) on Sun, 08 Feb 2004 16:39:12 GMT  
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try putting a 1uF or 2uF cap in series to it. Then put the Piezo where it belongs.Go get the little Fostex. I have read good things about them lately.You need the low down on the pizza from Wayne. They are backwards critters and he can tell ya eggzactly how to cross them and attenuated them. amico

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Subject: Re: Questions about piezo super tweet  
Posted by [Wayne Parham](#) on Sun, 08 Feb 2004 20:48:38 GMT  
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To attenuate the tweeters without forming a crossover, put a capacitor in series with them. If you want a resistor in shunt for amp-load purposes, then put it ahead of the capacitor. Placing a resistor directly across the tweeter connector lugs when using a series capacitor forms a first-order crossover. If you want a crossover for the tweeters, then that may be appropriate and there are many other suitable circuits too. But if you want to run 'em "crossoverless" - with mechanical rolloff at 3500Hz - then remove the shunt resistor or place it ahead of the series attenuation cap.

Attenuation capacitor chart of values for KSN 1038

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Subject: Re: Questions about piezo super tweet  
Posted by [Bill Martinelli](#) on Sun, 08 Feb 2004 22:01:28 GMT  
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Good info Wayne, I was off base with 2uF as 1 doesnt doo much attenuation itself1.0uF 1dB0.5uF 2dB0.33uF 3dB0.22uF 4dB0.1uF 7dBDo yo have specs for what resistors will bring the crossover up higher from the natural 3500hz of the device?Bill

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Subject: Re: Questions about piezo super tweet  
Posted by [Wayne Parham](#) on Sun, 08 Feb 2004 22:29:17 GMT  
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If you put an 8-20 ohm resistor across the tweeter, that becomes the most significant load. So you can then treat it like a purely resistive device. For example, if you use an 8 ohm resistor across the tweeter, then a 3.3uF series capacitor will make a first-order crossover set for 6kHz. These values become what you would expect for an 8 ohm speaker. You can also do the same kind of thing with a 16 ohm resistor if you need a 16 ohm load. So pick the resistor you need for the load you want and design your crossover accordingly. The tweeter circuit will actually have a very smooth impedance curve - Better than a voice coil speaker and a Zobel.

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Subject: Re: Questions about piezo super tweet  
Posted by [hurdy\\_gurdyman](#) on Mon, 09 Feb 2004 14:33:52 GMT  
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Wayne, What's your opinion on transformer coupling a piezo (25V line matching transformer) to perhaps increase it's efficiency? Dave

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Subject: Re: Questions about piezo super tweet  
Posted by [Wayne Parham](#) on Mon, 09 Feb 2004 20:19:06 GMT  
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Transformer coupling was a standard practice on the early units. It is still done by some, but be careful not to push the voltage increase too far. High turns ratios - above about 6dB gain - will increase distortion. I use piezo tweeters on the smaller entry level speakers that are only about 96dB/M/W. So I don't need to increase their sensitivity. But if I were to consider the use of transformers, I would not go much past about 100dB/W/M. If higher output is needed, I'd go with a different tweeter than the KSN1038 or similar units.

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