
Subject: Speaker Screens

Posted by [Nymeria](#) on Tue, 31 May 2011 14:53:51 GMT

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Do you leave the cloth speaker screens (not sure if that's the correct term) on the speakers when you set them up, or do you prefer to take them off?

Subject: Re: Speaker Screens

Posted by [Wayne Parham](#) on Tue, 31 May 2011 15:56:20 GMT

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Depends if there are young kids around. I prefer to leave the grilles off, but if there are kids or pets that might damage them, I'll put the grilles in place.

Subject: Re: Speaker Screens

Posted by [Advser](#) on Wed, 01 Jun 2011 02:26:47 GMT

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I like them. They tend to make the speaker far better at sending out the frequencies out at the right *pace* so everything arrives at closer to the ideal time. I wish (my) speakers were designed to work better without the screen, but they weren't.

I had to have them shipped across country on a bus, so I broke all the bracing off though so that I could insert a few layers of cardboard so the drivers were protected. I think that was there to protect the drivers. In any event now they just have the outer frame and the screen with no other bars of plastic there.

Wayne: What would the sonic consequences be of having a half inch tall, 12 inch long piece of plastic a half inch in front of a driver? I probably didn't write that well, you know, like if you put a ruler in front of a driver just out the reach of the excursion.

Subject: Re: Speaker Screens

Posted by [Wayne Parham](#) on Wed, 01 Jun 2011 02:47:50 GMT

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Anything in front of the speaker will act as a reflector, and will cause self-interference, which in turn, will cause ripples in response. The more acoustically transparent, the better it is (less ripple as well as less loss). But even the most acoustically transparent material makes a measureable reflection and self-interference ripple.

Now, the next thing is, how audible is it? Even though you can measure a couple decibal ripple, most speakers have more than that, even without a grille. So one could make the argument that if it isn't audible, is it really a concern? I suppose that argument would have merit, but as for me, I'd still rather run without the grilles when possible and practical.

Subject: Re: Speaker Screens
Posted by [Adveser](#) on Wed, 01 Jun 2011 04:02:44 GMT
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So to massively oversimplify:

So the choice is in which way phase cancellation occurs then?

This is a fun subject. there's a million different ways the f's can travel and if two hit each other out of phase, it will distort.

Doesn't the grill also smooth frequency response due to the reflections, you know cancels more direct transients and thus makes more radiating transients more apparent? Room reflections would make this more apparent, and cause more problems.

Sounds to me the closer you are to the speaker, the more you're gonna want that grill.

I know very little about this sort of thing because I don't design speakers.

Subject: Re: Speaker Screens
Posted by [Wayne Parham](#) on Wed, 01 Jun 2011 13:38:06 GMT
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Honestly, you can't put a grille or screen in front of a speaker without negative consequences. The benefits in doing so are possible protection for the drivers and maybe aesthetics. Whether the negatives outweigh the positives are probably a personal choice, but the grille will produce some measureable ripple in a frequency range determined by the distance between the drivers and the grille.

Subject: Re: Speaker Screens
Posted by [Nymeria](#) on Thu, 02 Jun 2011 14:09:23 GMT
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I thought perhaps the grill had negative consequences on sound quality, but I have a cat and a toddler, so I think the grills will have to stay on in my house.

Subject: Re: Speaker Screens

Posted by [Adveser](#) on Thu, 02 Jun 2011 21:55:46 GMT

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To be clear, I'm of the opinion that quite a few engineers took all of this into consideration and designed the speakers to operate with a screen.

In other words, the entire thing can't be summed up with a generality. I've seen my ex-roommate drape a thin hand towel in front of the tweeters on my speakers. He had his own vintage high-fi himself, a real one, unlike mine that is reversed engineered from the source to be as close to tonally accurate as possible. If he felt that the practice knocked off a double db from the tweeter and the distortion wasn't an issue, I didn't see the problem either.

Subject: Re: Speaker Screens

Posted by [Wayne Parham](#) on Fri, 03 Jun 2011 00:06:06 GMT

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It's not just attenuation, it's ripple. It may be barely audible or perhaps even inaudible in the best cases, but the fact remains that the abrupt change of impedance created by a semi-transparent barrier causes reflections, and in turn, ripple. The foam spreads it out more, and may be desirable. But I kind of like the look of cloth grilles, so I use them sometimes in spite of their negative effects.
