
Subject: Grills for Eminence woofers, sound implications

Posted by [JCDC](#) on Fri, 10 Feb 2012 19:26:50 GMT

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Hi all, I've got a pair of pseudo 4 Pi's up and running and they sound great. Man can you crank these things!

Also up and running is my 16 month old son! He has many nick-names one of which is Sir Pokes-a-lot (that used to be daddy's nick-name .. BA-doom Tish!)

Wayne, I remember that pic you posted a few years ago of your little super cool man in sunglasses!

To keep his pokey little fingers off my woofers, what grills would you suggest? I bought some 15" Pyramid grills
GW15BK
<http://www.amazon.com/Pyramid-GW15BK-15-Inch-Grills-Brackets/dp/B000DZEN5U>
from my local electronics shop for \$18 and they seem sturdy enough.

Small problem is that they're not made to fit over the front gasket. So the mounting hardware sits off of the baffle a bit instead of being flush--no biggie.

Are there better grills?

Wayne, have you ever done any testing to see if there are changes to the freq response?

Cheers,
Jeff

P.S. For those with little kids, please see my post over at diyaudio and post your kid's favorite songs!

<http://www.diyaudio.com/forums/music/205428-songs-toddlers-young-kids-love.html>

Subject: Re: Grills for Eminence woofers, sound implications

Posted by [Wayne Parham](#) on Fri, 10 Feb 2012 20:45:18 GMT

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I like using the metal grilles for speaker that are going to be used in clubs, where they are most vulnerable. They aren't very attractive, but they're tough and don't do much to affect the sound.

Grille cloth stretched over an attractive frame is usually more popular for home-hifi speakers, but you do lose some acoustics in the trade for aesthetics. The material is never perfectly acoustically transparent, and some there is some sound reflected back, which causes response

ripples from self-interference.

The frequency and amplitude of the ripple depends on the grille material, and on the distance between grille and source. This is the same thing for acoustically transparent screens for theaters. See the post below for an idea of the ripple that results from a screen or grille: Measurement of a speaker with and without a screen (from the "Three 4Pi's in Basic Black for Home Theater Build Thread")

Subject: Re: Grills for Eminence woofers, sound implications
Posted by [JCDC](#) on Fri, 20 Apr 2012 01:44:30 GMT

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Hey Wayne,

The graph of the effects of screen reflection starts at 1.8k but the grills are for the woofer which is rolling off at 3rd order by then. Can I assume that I will get negligible effect on the freq. response on the woofers when using the grills?

Cheers,
Jeff

Subject: Re: Grills for Eminence woofers, sound implications
Posted by [Wayne Parham](#) on Sat, 21 Apr 2012 01:37:39 GMT

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In general, you can expect the effects to be more pronounced up high, so in general, the answer is yes. But do understand that the anomalies are caused by self-interference between sound coming from the source and sound reflected back from the grille. So the distance between source and grille has an effect. The further away it is, the more the problem shifts downward in frequency.
