Subject: Tweeter Change (again !)
Posted by RDLewis on Sat, 26 Feb 2011 21:20:36 GMT
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Hello Wayne

For some time I have been contemplating your Pi2 Towers as a cost effective upgrade for my present speakers. I like the simplicity and efficiency (and price), and it bodes well that you have said that its in regular use in a bedroom system.

Your CD designs and the Philosophy behind them seems right to me but they are out of my price range at the moment, having moved home recently

A tweeter that has intrigued me is the BG Neo3W planar unit. It seems to have a strong following, recently I have seen it being used in a number of new designs. John Kreskovsky uses them on his new Neo system, and on a design on he Hawthorne site. It does seem to have some appealing qualities.

Sensitivity is about the same as the Vifa, but the impedance is essentually flat and resistive through out its range. Being 4 ohms, I could retain the 10 mF cap, (no need for the shunt resistor).

BG say it can be used with 1st order networks as long as it is above 3Khz which should be fine on the Pi2 (and 1). But its the final sentence on the Parts Express site on the Neo3W that caught my attention " When highest efficiency or tightly controlled directivity are the goals, the standard version is stll the unit of choice"

Have you tried these drivers I was wondering whether they would provide a half way point between a dome and a 90x40 horn ???

Your views would be greatly appreciated

Roy

Subject: Re: Tweeter Change (again !)
Posted by steve f on Sun, 27 Feb 2011 00:52:39 GMT
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If you choose to go that route, Hi-Vi makes a similar unit.

Subject: Re: Tweeter Change (again !)
Posted by Wayne Parham on Sun, 27 Feb 2011 01:31:29 GMT

It's just so hard to say without having one in-hand to evaluate, measure and listen to.

That said, the soft dome tweeter is much easier to plug-and-play than the models with the compression driver. The simple crossover and relaxed directivity requirements make them much easier to (re)design. As long as the tweeter has the right bandwidth, in the same sensitivity ballpark and generally well-behaved, it probably can be used.

The thing I would watch out for with a ribbon tweeter is those don't usually like low frequencies.

One thing about that little Vifa is it has a large surround and can handle a first-order crossover.

the crossover region. Of course, you sometimes have to dial in the crossover to meet this requirement but you have some wiggle room.

If you go with a higher-order slope to protect the tweeter, you'll probably also need to go with a higher-order slope on the woofer to get summing right. So it may not be as plug-and-play as you would hope.

Subject: Re: Tweeter Change (again !)
Posted by Bill Epstein on Sun, 27 Feb 2011 02:38:18 GMT

The "BatSpeaker" I built 5 or 6 years ago had a Fountek CD-2 ribbon as a supertweeter. The project didn't work because it turned out the 2123s were "blown".

I tried the CD-2s on their own with the 2226 to 1600 and also the Alpha 10 as in the 2Pi. I never was able to coax any of that purported 'high-efficiency' from them and they were ineffectual as tweeters. I don't know if that is a rap on them or ribbons in general but it led me to feel that ribbons work best with other ribbons.

That said, the S-B Acoustics SB-29 tweeter is physically identical to the Vifa and equally sensitive but way out in front sonically. IF you want to build a killer 2Pi, get the $100/pr SB-29s crossed with just a cap.

http://www.sbacoustics.com/index.php/products/tweeters/sb29rdc-c000-4/

Subject: Re: Tweeter Change (again !)
Posted by steve f on Sun, 27 Feb 2011 15:22:57 GMT

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Neither the B-G or Hi-Vi is a ribbon. They both are planar magnetic types. Both might require a steeper 2nd order crossover. I know that Hi-Vi makes a larger planar tweeter that can be crossed over fairly low. You might get by with a simple crossover. I haven't played with the B-G tweeter, but they are highly regarded. In any case, the available, or reasonably priced units, are a bit low in efficiency. I'd go with the dome. I found a couple of air motion transformer types that could work, but that would put you in 3 or 4 Pi pricing.

Subject: Re: Tweeter Change (again !)
Posted by RDLewis on Mon, 28 Feb 2011 21:31:45 GMT
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Hello again,

Thanks Wayne, Steve F,and Bill for your advice. I have concidered the HiVi unit but I found, so far, more people, manufactures, using the Neo3, as noted above.

Another supplier of B-G units, is GR Research. They have been using Neo3's on about half their kits, so I sent an email asking about the robustness of the "3" and replied that they never had a failure !

Taking note of the comments above I may start with a dome but I have this urge to go for the Neo. I will have to do more contemplating. Wayne may even have tried the above by then (?)

Thanks again

Roy

Subject: Re: Tweeter Change (again !)
Posted by steve f on Wed, 02 Mar 2011 19:11:22 GMT
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Roy,

One problem I've noticed with the B-G is every vendor advertises different efficiency ratings.

Steve

Subject: Re: Tweeter Change (again !)
Posted by RDLewis on Wed, 02 Mar 2011 20:27:49 GMT
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Hello Steve,

Yes , I agree with you. On the PE site it shows the Neo3 W, to have have a 93dB sensitivity and the PDR version at 90.5dB. The latter was tested by Zaphaudio a few years ago and he was impressed, and it shows it to hover around the 90dB level. But on the GR Research site it has the standard version to be 96dB and the PDR at 93dB, all confusing. I intend ask PE for their opinion of the situation.

What I want to know is, where is Wayne when we need him ?
Perhaps I should shine The Pi symbol off the nearest cloud. How is that for a hint.

Desisions, desisions. Its hell out here

Roy

Subject: Re: Tweeter Change (again !)
Posted by Wayne Parham on Wed, 02 Mar 2011 21:04:58 GMT
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Sorry, Roy, I haven't tested that unit. No help there.

Subject: Re: Tweeter Change (again !)
Posted by AudioFred on Wed, 02 Mar 2011 21:16:19 GMT
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steve f wrote on Wed, 02 March 2011 13:11Roy,
One problem I've noticed with the B-G is every vendor advertises different efficiency ratings.
Steve

Danny Ritchie has included links to frequency response curves and other data for the Neo 3 standard and PDR versions. I noticed the sensitivity of the PDR is listed as 93.5dB (2.83V/1M) with the back cup in place, and 90.5dB in dipole mode.

http://www.gr-research.com/index.asp?PageAction=VIEWPROD&ProdID=129

Subject: Re: Tweeter Change (again !)
Posted by Wayne Parham on Wed, 02 Mar 2011 22:12:58 GMT
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Cool stuff, thanks for the link, Fred!

Subject: Re: Tweeter Change (again !)
Posted by steve f on Thu, 03 Mar 2011 17:31:24 GMT
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That explains the differences in sensitivity. It's the faceplate. I have a pair of the larger Hi-Vi tweet on my "speaker junk" shelf. I wasn't all that impressed. With an advertised efficiency of 93 DB, I can't see using them with Eminence Alpha 10. The little Hi-Vi sounds better than the big one too. I don't know why, but it does. Bill probably has something with SB tweeter. I hope somebody tries the B-G planar. After I built the older one Pi speakers, and my son and his wife appropriated them, I've been contemplating a slightly larger floor standing version for myself. I really like Wayne's use of the Alpha 8. Maybe the B-G or SB tweeters would be a really nice upgrade for the one & two Pi models. The cost factor is reasonable.