Subject: BMS compression drivers and Pi ?
Posted by andreas paulsen on Wed, 21 Jan 2004 09:45:59 GMT
View Forum Message <> Reply to Message

Hello AllHas anybody tried using the supposedly very good BMS 4590 2" compression driver in a PI system ? it's a dual concentric design so the crossover needs an additional crossover frequency ?. An audiophile Pi seven would then end up as a 4 way system.CheersAndreas

Subject: Re: BMS compression drivers and Pi ?
Posted by Adrian Mack on Wed, 21 Jan 2004 10:56:24 GMT
View Forum Message <> Reply to Message

Hey AndreasThat is a pretty cool compression driver ey! I havn't seen a comp driver with seperate diaphragms to cover different frequency ranges before. It's got two voice coils and each needs a crossover network. Apparantly they act as a point source togethor, so I guess the audiophile series could be termed 3 way system still. Doesn't the audiophile series have a midrange as well? The BMS 4590 can be used 400Hz to 21KHz, just seems a little bit of a waste to use this expensive compression driver when the HF horn in the audiophile series does not need to cover this much bandwidth. This comp driver looks like it doens't need a compensation circuit, so you would have to attenuate it anyway to match midrange sensitivity in the audiophile 7 Pi. I think its a bit of a waste to use the BMS 4590 IMO, but would be great for 2 way system with xover at 400Hz. For Audiophile 7 Pi, I would guess that a 1" exit driver would be best suited practically. It would need compensation, although that should not be a problem as Wayne's got the crossover schematics and it also matches the sensitivity too. Adrian

Subject: See Bill Martinelli's Site
Posted by Dean Kukral on Wed, 21 Jan 2004 12:28:37 GMT
View Forum Message <> Reply to Message

Bill Martinelli has some beautiful examples of his horns (which I assume use BMS drivers because those are what he sells) on Pi - design bases.www.woodhorn.com/completespeakers.htmQuestions:How do I make the above appear as a link in a post? What are the meanings of the "Optional Link URL:" and other boxes at the bottom of the "Post a Reply?"

Subject: Re: BMS compression drivers and Pi ?
Posted by Wayne Parham on Wed, 21 Jan 2004 16:40:10 GMT

View Forum Message <> Reply to Message

They're a pretty neat solution, aren't they?Good stuff!

Subject: Re: BMS compression drivers and Pi ?
Posted by andreas paulsen on Wed, 21 Jan 2004 18:55:47 GMT
View Forum Message <> Reply to Message

Adrian I think you're right. I would be wastefull to use a 4590 in conjunction with a midrange driver. On the other hand it would end up as a really cool system. But maybe one of the 1" compression drivers are a more practical choice.I have heard that the 4590 and the 4592 neodymium should be really awesome. However I haven't personally heard any of them. What i have on shelf is a couple of jbl 2245 and a 8" focal axiom midrange driver which i suspect could be used instead of the jbl 2123 in an audiophile system.cheersandreas

Subject: Re: BMS compression drivers and Pi ?
Posted by Adrian Mack on Thu, 22 Jan 2004 13:27:46 GMT
View Forum Message <> Reply to Message

Hi AndreasWhat's the sensitivity of that focal driver? If I recall, they're L.E stuff. Maybe I'm wrong though, I havn't checked out focal's stuff in years actually. I would love to get my hands on a 4590 or 4592 as well!Adrian

Subject: Re: BMS compression drivers and Pi ?
Posted by andreas paulsen on Thu, 22 Jan 2004 15:20:42 GMT
View Forum Message <> Reply to Message

Hmm the focal high end drivers are quite sensitive, my one is a dedicated pro audio midrange with a sensitivity of 98-99 db/1w/1m. I cannot be to sure as I havent got a spec sheet or a calibrated mic. the fs at 110Hz is a bit high though for a low crossover frequencyIn general the focal stuff is more sensitive than scan-speak og vifa type of drivers.cheersandreas

Subject: Re: BMS compression drivers and Pi ?
Posted by Bill Martinelli on Thu, 22 Jan 2004 15:55:47 GMT

View Forum Message <> Reply to Message

Hi Adrian, and guys,If you wanted to use a driver like a 4590 or 4592 in a pi system it would then become a three way system. This would be a variation of Wayne's Audiophile design that is a 3 way system using a 10" for the midrange. You wouldn't necessarily be wasting the bandwidth of the 4590 or 4592, because this driver is capable of taking the place of the 10" cone driver. BMS recommends a lowest crossover point for these drivers to be 400hz. I have made test and measurements with FFT Spectrum Analyzer and The driver does have very good response to 400 rolling out down to 300. If horn you use will load down to 250 or 300 I would say crossing these drivers at 400 is no problem at all. The BMS recommended crossing point for the mid to hi is 6300hz and there should be no deviation from this. 6.3-6.5khz is the best spot.Aside from all this I have some personal opinions that are purely subjective and just what I like. Generally speaking I like crossing into a 2" format driver around 750hz and a 1" driver at 1600hz. This is largely depending on the woofer. If you look at woofers like a JBL 2226 or kilomax they run up to 1600 with out problems. crossing them over at 600-800 is a great spot. For me this puts less strain on the compression driver where it's working the hardest. Pushing the compression drivers down to the cut off point is is fine and they are design to do so with steep enough crossover slopes. I find they sound nicer when not pushed quite so low.The 4592 IS by far more sonically superior to the 4590. The 4590 sounds fine but 4592 is very very sweet sounding. For that matter I also find that all 3 neodymium models outperform the ceramic magnet counterparts.My favorite driver is the little 4540. This has to be crossed at 1600hz or higher. The recommendation is a little higher but there has been no problem with home stereo use. the 4552 will cross lower is you need but I feel the the small one sounds better.That's all the info and opinions I can offer about the BMS parts. Take it for what it's worth. Free information and I sell them.Bill

Subject: Re: BMS compression drivers and Pi ?
Posted by Crazy Dave on Mon, 26 Jan 2004 23:47:58 GMT
View Forum Message <> Reply to Message

Hi Bill,I had some questions regarding the 4590. If one were to use the Eminence crossover (3rd order high-pass, 2nd order low pass @ 1600hz) in a JBL 2370, how much power could it take and how would you equalize it? It seems to have a rising high end above 15KHz. Do you need to compensate for this?Dave

Subject: Re: BMS compression drivers and Pi ?
Posted by Adrian Mack on Tue, 27 Jan 2004 01:12:06 GMT
View Forum Message <> Reply to Message

Sounds cool, Bill, thanks for the info. I really want those 4592's now!

Subject: Re: BMS compression drivers and Pi ?
Posted by Bill Martinelli on Wed, 28 Jan 2004 23:32:30 GMT
View Forum Message <> Reply to Message

Hi Dave,The 4590 is a 2" format driver and 2370 is 1" format horn. Jbl has a 2380 (and many others) for 2"The 4590 could be used quite suitibly on the hi pass of 1k6 Eminence xo. You may find crossing over with something a little lower better suited also. The 4590 is also a coax driver and either needs you to cross the mid to the high at 6300hz or there is a 4590P model which includes the a BMS passive xo at 6300hz. There is no rising responce with this driver above 15K. The driver in a horn will gently roll out around 17K and could even benefit from having a bypass cap in the attenuating circuit. The BMS drivers hold a line past 16K better than any other driver Ive measured.Bill

Subject: Re: BMS compression drivers and Pi ?: OOPS!
Posted by Crazy Dave on Fri, 30 Jan 2004 03:00:38 GMT
View Forum Message <> Reply to Message

Hi Bill,OOps! Keep everything the same in my message with the exception of change 4590 to H4540ND. That's what I get for typing fast. Hopefully now my question will make sense! I have a small room and fear that a 2" exit driver will overpower it.Thanks for trying to make sense of my gibberish and TIA for answering my question.DaveP.S.: Beautiful horns on your web site!

Subject: Re: BMS compression drivers and Pi ?: OOPS!
Posted by Bill Martinelli on Fri, 30 Jan 2004 21:15:56 GMT
View Forum Message <> Reply to Message

Hi Dave,4540 makes perfect sense. You could use this with a 1600hx xo. ITs pushing the limits of the driver si it depends on the the loudness you pland to listen to. If your only going to run a few little watts through it, milliwatts most of the time for home listening then you have no problems. If you need to crank this up for your back yard then your going to need a 4th order xo at 1600. For hom Hi-Fi your going to be fine. Still, your going to get roll off out of the horn and this is not hot above 15k. My testing on this driver show near flat with 14db attenuation with .68uF bypass cap. This is in a 12" horn. These are my favorite BMS drivers. by far the smoothest sounding. they just have limitations and you have to cross them higher. If you have 2370 horns then that's cool. These would also be well served in the Eminence horn Wayne sells with his kits. Its a little small horn and is much less expensive if your crossing over at 1600. Bill

Subject: Great lookin' website!

Posted by Wayne Parham on Fri, 30 Jan 2004 23:07:09 GMT
View Forum Message <> Reply to Message

Your website looks great, man. Real nice indeed.

Subject: Re: Thanks !
Posted by Bill Martinelli on Sat, 31 Jan 2004 03:25:12 GMT
View Forum Message <> Reply to Message

After you redid yours I figured I better clean mine up for the new year

Subject: Re: BMS compression drivers and Pi ?: OOPS!
Posted by Crazy Dave on Sun, 01 Feb 2004 00:16:18 GMT
View Forum Message <> Reply to Message

Hi Bill,Thanks for the respose. Although I generally don't play very loud and my speakers never get used for backyard parties, some of my classical favorits have quite a lot of dynamic range. These peaks are usually short in duration but they can suck a lot of power. The nice thing about the 4540 is that it is cheap enough to experiment with.I'm sure that the Peavy horn goes low enough to cover a 16K crossover. I had read that the JBL has a little better dipersion on the high end. Weather that's worth the large differnce in price is another thing. Dave

Subject: Eminence, not Peavey NT
Posted by Crazy Dave on Sun, 01 Feb 2004 00:19:51 GMT
View Forum Message <> Reply to Message

nt

Subject: Re: BMS compression drivers and Pi ?: OOPS!
Posted by Adrian Mack on Sun, 01 Feb 2004 01:36:58 GMT
View Forum Message <> Reply to Message

> I'm sure that the Peavy horn goes low enough to cover a 16K > crossover. Bill was talking about

the crossover point at the lower limits. What his saying is the Peavy CH3 horn doens't go below 1KHz so well and is best used a little higher than this. But the larger JBL 2370 can be used from a much lower frequency, ~800Hz. Adrian

---

Subject: Re: BMS compression drivers and Pi ?
Posted by andreas paulsen on Wed, 04 Feb 2004 08:35:22 GMT
View Forum Message <> Reply to Message

If i were to combine a corner 7 horn with a 4592 would I be able to crossover at 400 Hz. It sounds a little high for the corner horn in my opinion ?

Subject: Re: BMS compression drivers and Pi ?
Posted by Adrian Mack on Fri, 06 Feb 2004 15:08:57 GMT
View Forum Message <> Reply to Message

400Hz should work fine. I think xover in the Pi Corner horns is around 800Hz. I see no problems in crossing at 400Hz, only benefits. Bill Martinelli seems to really like the sound of the 4592 too, so the two should make a great sounding pair together.
