Subject: Pi Aligned Afterburner & Port Calculation
Posted by Observator on Thu, 27 Sep 2001 11:43:44 GMT
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Hello,I'm just started to build a Pi-aligned version of Thorsten's Afterburner. I haven't yet the RS tweeter, but I will try the piezo - maybe KSN1038 ? May this be a good match for the 99dB of Beta 12LT ? I used the values given by PiAlign soft, the same as Wayne gave in this post.I tried to re-do the calculation for the port dimensions (I like verify the things before cutting :). Unfortunately it doesn't work as I supposed. For 2.5" diameter port that's 2.75" long I've got 0.1Hz instead of Wayne's 33Hz . More details, see link. What's wrong ?Thanks in advance,O'Tor

Subject: Re: Pi Aligned Afterburner & Port Calculation
Posted by Wayne Parham on Thu, 27 Sep 2001 16:26:26 GMT
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You used 2.4 as as cabinet volume but you should have used 2.4 x 1728 to convert it to cubic inches. You must use the same terms throughout - If inches in one place then inches must be used everywhere. You can use feet if you wish, but then the port dimensions must be in feet for "Lc" and sq. feet for "Ap".

Subject: Re: Pi Aligned Afterburner & Port Calculation
Posted by AudioLapDance on Thu, 27 Sep 2001 17:57:01 GMT
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Hey Observator,See my post "Crossovers for Delta15 @ 700 Hz, Beta12LT @ 15kHz? " below. There are others as well; just take a look.I tried Wayne's crossover and the KSN1038 but the piezo didn't seem loud enough to me. I was thinking of trying the more sensitive KSN1177--it's basically two piezos side by side!You might want to redo the PiAlign calculations with the "new" Beta12LT specs off the eminence site. The data file in the PiAlign program uses the "old" specs. Good luck,Jeff

Subject: Re: Pi Aligned Afterburner & Port Calculation
Posted by Observator on Sat, 29 Sep 2001 18:02:48 GMT
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Thank you for the response....but my problem persist....> You used 2.4 as as cabinet volume but you should have used 2.4 x > 1728 to convert it to cubic inches. You must use the same terms > throughout - If inches in one place then inches must be used > everywhere. You can use feet if

you wish, but then the port > dimensions must be in feet for "Lc" and sq. feet for "Ap".I suppose I am wrong but I cannot find where :-(Question is : what is eqation Fre = 1/2pi * sqrt(Ap/VeLc) calculating?Using your values and formules from Pi white paper, Ve = 2.45 cu ft = 4242 cu in then Dp = 2.5" => Ap = 4.9 sq in Lp = 2.75" => Lc = 4.872 inFre = 1/6.28 * sqrt (4.9/(4242*4.872))= 0.00245 Hz :-(((Thanks in advance,O'Tor

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Subject: Re: Pi Aligned Afterburner & Port Calculation
Posted by Observator on Sat, 29 Sep 2001 18:36:06 GMT
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Hi there,> See my post "Crossovers for Delta15 @ 700 Hz, Beta12LT @ 15kHz? " > below. There are others as well; just take a look.thanks for the type...> I tried Wayne's crossover and the KSN1038 but the piezo didn't > seem loud enough to me. I was thinking of trying the more > sensitive KSN1177--it's basically two piezos side by side!Thanks for your opinion!> You might want to redo the PiAlign calculations with the "new" > Beta12LT specs off the eminence site. The data file in the PiAlign > program uses the "old" specs. Wayne allready used this new values (Qts/Fs = 1.51/45).How is your Beta 12LT performing ?O'Tor

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Subject: Re: Pi Aligned Afterburner & Port Calculation
Posted by Wayne Parham on Sat, 29 Sep 2001 21:07:39 GMT
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Look closely at the Pi Alignment Theory whitepaper. The formula you've shown above is on page 5. In this formula, the "l" term is a lower-case "L" and not the number "1". This value is used to show the speed of sound in inches per second, or 13548. So multiply your results by 13548 and you'll arrive at the proper and expected answer.

Subject: Thanks a lot ! (nt)
Posted by Observator on Sun, 30 Sep 2001 08:39:28 GMT
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nt
