Subject: Port length calculator
Posted by craigha@attbi.com on Thu, 03 Jan 2002 11:24:49 GMT
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Thanks Wayne. I'm getting more comfortable using PiAlignand BoxPlot. Here is an attempt at a port length calculator.From Loudspeaker Design by Vance DickasonFor a tubular vent flush-mounted on a speaker,calculate the length by:Lv = ((1.463*(10**7)*(R**2)) / ((fB**2)*VB)) - (1.463*R)Lv = length in inchesfB = tuning frequency in HzVB = box volume in cubic inchesR = radius of the vent in inchesMy favorite calculator is the Python interpreter. AWindows version is available at:http://www.activestate.com/Products/Download/Get.plex?id=ActivePythonI wrote a function to calculate port length for me:def portlen(diamInches,tuningFreq,boxVolCubFt): radiusInches = diamInches / 2.0 cubInchConv = 12.0 * 12.0 * 12.0 boxVolCubInch = boxVolCubFt * cubInchConv num = 1.463 * (radiusInches * radiusInches) * (10000000.0) denom = (tuningFreq * tuningFreq) * boxVolCubInch term1 = num / denom term2 = 1.463 * radiusInches len = term1 - term2 print 'calc port len diam.=',diamInches,'freq=',tuningFreq,'vol=',boxVolCubFt,'len=',len return lenExample output:calc port len diam.= 0.5 freq= 54.0 vol= 0.23 len= 0.423228647155calc port len diam.= 0.75 freq= 54.0 vol= 0.23 len= 1.2265769561calc port len diam.= 1.0 freq= 54.0 vol= 0.23 len= 2.42441458862calc port len diam.= 1.5 freq= 54.0 vol= 0.23 len= 6.0035578244calc port len diam.= 2.0 freq= 46.0 vol= 1.0 len= 2.53815084366calc port len diam.= 3.0 freq= 46.0 vol= 1.0 len= 6.80808939824calc port len diam.= 4.0 freq= 46.0 vol= 1.0 len= 13.0786033746