
Subject: Re: Why won't a single driver speaker do metal?

Posted by [JLM](#) on Fri, 29 Jul 2005 09:42:31 GMT

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Bob, I associate metal with uniformly loud (translate very limited dynamic range) and usually highly distorted "music", none of which is left untouched by various electronics. So I don't connect your thread title with the two questions you pose. IMO the only realistic yardstick to evaluate audio equipment is live, unamplified music. As concert like playback of metal would seem to be the gold standard and arena/stadiums with PA speakers playing at painful spls offer horrible sound, I'm at a loss to explain why anyone would think there is a meaningful relationship between audiophile speakers and metal. Without multiple drivers single driver speakers have a coherency and direct amp connection that provide can greater resolution. Moving from simple to complex musical forms may just be revealing how limited the human brain is to processing all the information being received. I've notice this phenom during live symphonic, orchestral, and choral performances. I just can't separate 30 violins or 100 vocalists. Perhaps the performance level of single drivers reveal this human limitation. The ultimate sound pressure level (spl) concern is simply due to the limit of materials available and the laws of physics. You just can't have a tiny driver with a huge volumetric displacement which would be ideal. And ideally any driver would have zero cone mass, perfectly rigid cones, extremely high magnetic field strength, and extreme efficiency. All that said, I believe that the single driver concept can be the right one for most residential applications. I agree with you that playback spls should average no more than 85 dBs and that lots of amplifier headroom should be available to insure playback of the full dynamic range on the recording. Your example of 20 dB of headroom is not out of line IMO. Like Ed mentions below don't know if you've tried a good, big, high Q amp with your speakers, but many of these limitations go away (try a NuForce amp). I fully believe in the importance of good drivers/speakers in the playback chain but I heard \$4000 worth of pre/power amps make \$5 speakers sound incredibly "decent" (not good, but completely transformed). Imagine what the proper amp could do. If your background noise level is 65 dB you need badly to get a better listening environment. A quick check of spls around the house with my cheapy Radio Shack meter found that I had to be within a foot of the TV to reach 60 dB while my wife was watching 12 feet away and I can hear all the dialogue 30 feet and two 90 degree turns away in the next room. The last time I was at a symphony spls never reached 80 dB from the 4th row. IMO realistic goals for playback are 80 dB average and 105 dB peaks with a background around 20 dB. Continued exposure to more than 85 dB will result in permanent hearing loss and could also produce a lifetime of permanent pain.
