Subject: Re: That's it!
Posted by Paul C. on Sun, 07 Jul 2002 01:23:05 GMT
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Sam and Adam hit it on the head as far as power requirements. This can also be applied to the tweeter driver, but I like overkill on this component.Let's talk power distribution in music... I am a musician. I can tell you of a band I played in, and we were pretty well balanced for power. This was a 5 pc 50's/60's rock and roll band. The synthesizer and guitar each had little Peavey 40W RMS amps with a single 12" spkr. The drummer had NO amping. The PA, with all voices and my sax, was 240 watts, but just barely cranked, about 2 on the 0-10 of the knob. The bass player had a 300 watt amp, and was fairly well in balance with the band.In real music, as opposed to sinewaves, about 90% of the power is in the bass frequencies under about 300 hz. On top of that, the peaks are many times more than the average level. OK, so you are reproducing that music with a 100 watt amp. The amp is just on the verge of clipping, or occasionally does clip slightly at its full 100 watts output. The AVERAGE music power coming out is only about 10-15 watts. And of that, most of that is going into the bass frequencies.So, your tweeter and resistors there are only absorbing a few watts. Just don't do anything stupid like jerking leads out of sockets while cranking on the amp. THAT pop will blow a tweeter in a milisecond. Also, when you drive the amp into distortion, all that energy in the corners of that squarewave being generated is high level, high frequency stuff. And that goes straight to the tweeter and zaps it. That is why you easily can blow a tweeter with too small an amp.Let's talk power now... if you want to sound twice as loud, well, though 3 db increase is a doubling of power, it is barely noticable. To most people, if you want to sound twice as loud, you need to increase around 10 db, which is a 10x increase in power requirement. So, if your 50 Watt RMS amp is not cutting it, forget that 100 or 200 watt amp you have your eye on... better go for 500 watts if you really want to hear a difference.Now, you are running some 100 db/wt/mt very high efficiency Pi Spkrs. In your living room. Well, you will be feeling real pain before you burn out 10 watt resistors.You get into a large hall, say, a civic auditorium, well, you need MORE POWER, but for home use, you are OK, guy.